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Meeting Agenda

CCICED 2013 Annual General Meeting
Environment and Society for Green Development

Agenda

Nov. 13-15, 2013

Diaoyutai State Guesthouse, Beijing

November 13, Wednesday

Morning

10:00 **Bureau Meeting** (for Bureau Meeting participants)
Chaired by CCICED Executive Vice Chairpersons

12:00 **Bureau Working Lunch**

12:00 **Lunch** (for other CCICED members and other AGM participants)

Afternoon **Plenary**

15:00 **Opening Session**

Chaired by Mr. Zhou Shengxian,

CCICED Chinese Executive Vice Chairperson,

Minister, Ministry of Environmental Protection of China

1. Introduction of CCICED Progress in 2013 and Work Plan in 2014

By Mr. Li Ganjie, CCICED Secretary General,

Vice Minister, Ministry of Environmental Protection

2. Introduction of the Initial Draft AGM Policy Recommendations to the Government of China

By Mr. Peter Kent, CCICED International Executive Vice Chairperson,

Member of the Canadian Parliament,

Former Minister, Environment Canada

15:30 **Coffee/Tea Break**

15:50 **Addresses and Special Remarks**

Chaired by Mr. Peter Kent, CCICED International Executive Vice Chairperson

1. Address by CCICED Vice Chairperson:

By Mr. Achim Steiner, Executive Director of UNEP

2. Special Speech
By Mr. Zhou Shengxian, CCICED Chinese Executive Vice Chairperson
3. Special Report on Action Plan on Air Pollution Prevention and Treatment
By Mr. Hao Jiming, CCICED Member, Academician of Chinese Academy of Engineering
4. CCICED Issues Paper Presentation: CCICED Chief Advisors
5. General Debate and Comments

18:20 Meeting Adjourned

18:30 Reception

November 14, Thursday

Morning

09:00 – 12:00 Members Parallel Open Forums

Open Forum 1: Green Development and Social Harmony

Open Forum 2: Public Participation in Green Development

Open Forum 3: Practice and Innovation for Ecological Civilization

12:10 Lunch

Afternoon

16:55 Courtesy Call to the State Leader of the Chinese Government (TBC)

(Participants: International Council Members, Policy Research Project International Co-Chairs, invited special guests)

18:30 Dinner

November 15, Friday

Morning Plenary

Chaired by Mr. Li Ganjie, CCICED Secretary General

09:00 Policy Research Reports

1. Environmental Protection and Social Development

2. Sustainable Consumption and Green Development
3. Media and Public Participation Policies on Promoting China's Green Development
4. Corporate Social Responsibility in Green Development
5. Promoting Urban Green Travel

- 10:40** **Briefing on Parallel Open Forum Discussions**
By Co-chairs of the Parallel Open Forums
- 11:00** **Coffee/Tea Break**
- 11:20** **General Debate and Discussion**
- 12:20** **Meeting Adjourned**
- 12:30** **Lunch**
- Afternoon** **Plenary**
Chaired by Mr. Achim Steiner, CCICED Vice Chairperson
- 15:00** **Discussion and Adoption of AGM Policy Recommendations to the Government of China**
1. Introduction of the Final Draft of AGM Policy Recommendations
By CCICED Chief Advisors
 2. General Debate and Discussion
 3. Adoption of the Final AGM Policy Recommendations to the Government of China
- 16:00** **Coffee/Tea Break**
- 16:20** **Closing Session**
1. General Debate and Discussion
 2. Meeting Summary
By Mr. Peter Kent, CCICED International Executive Vice Chairperson
By Mr. Zhou Shengxian, CCICED Chinese Executive Vice Chairperson
- 17:00** **Closing**

Open Forum 1 of CCICED 2013 AGM

Green Development and Social Harmony

Agenda

Nov. 14, 2013

Multi-Function Hall of Fangfei Garden, 1st Floor
Diaoyutai State Guesthouse, Beijing

Co-chair: Achim Steiner CCICED Vice Chairperson, Executive Director of United Nations Environment Programme (UNEP)

Li Ganjie CCICED Secretary General, Vice Minister of Ministry of Environmental Protection of China (MEP)

09:00 Keynote Speech (each 15 min)

Chair: Li Ganjie CCICED Secretary General

1. China Pollution Control Strategy

Zhao Yingmin Director General of Department of Pollution Prevention and Control, MEP

2. EU's Experience in Air Pollution Control

Corrado Clini CCICED Member, Director General for Sustainable Development, Climate and Energy, Ministry for the Environment, Land and Sea, Italy

3. Pollution Control and Corporate Social Responsibility

Lim Haw Kuang CCICED Member, Board Director of BG Group, Former Executive Chairman of Shell Companies in China

4. Harmony of Environment, Resources and Society

Andrew D. Steer President, World Resources Institute

He Jiankun CCICED Member, Dean, Research Institute of Low Carbon Economy, Tsinghua University; Former Executive Deputy President, Tsinghua University

10:30 Tea Break

10:50 Debate and Discussion

Chair: Achim Steiner CCICED Vice Chairperson

1. Leading Comments (each 5 min)

Veerle Vandeweerd CCICED Member, Director of Environment and Energy Group, United Nations Development Program

Xu Dongqun CCICED Member, Deputy Director, Institute of Environmental Health and Related Product Safety, China CDC

Karl Hallding Director of China Office, Stockholm Environment Institute, Sweden

2. Debate and Discussion

12:00 Adjournment

Open Forum 2 of CCICED 2013 AGM

Public Participation in Green Development

Agenda

Nov. 14, 2013

VIP-B Hall of Fangfei Garden, 1stFloor
Diaoyutai State Guesthouse, Beijing

Co-chair: Bindu N. Lohani CCICED Member, Vice-President of Asian Development Bank
Wang Jin CCICED Member, Professor and Director, Resources, Energy & Environmental Law Institute, Law School, Peking University

09:00 Keynote Speech (each 15 min)

Chair: Wang Jin CCICED Member

1. Media and Public Participation in China: Practice & Challenge

JiaFeng Director General, Center for Education and Communications, MEP

2. Human and Sustainable Development

Kandeh K. Yumkella CCICED Member, Special Representative of the UN Secretary General; Chief Executive for the Sustainable Energy for All Initiative; Former Director General of UNIDO

3. The roles of New Media in Promoting Environmental Protection and Green Development

Dong Guanpeng Vice Chairman of China International Public Relations Association, President of Institute for Media and Public Affairs, Communication University of China

4. Public Participation in Policy on Green Development in OECD Countries

Simon Upton CCICED Member, Director General of Environment Directorate, OECD

5. The Value of Public Participation and Green Development

Wang Jin CCICED Member, Professor and Director, Resources, Energy & Environmental Law Institute, Law School, Peking University

10:30 Tea Break

10:50 Debate and Discussion

Chair: Bindu N. Lohani CCICED Member

1. Leading Comments (each 5 min)

Kristalina Georgieva CCICED Member, European Commissioner for International Cooperation, Humanitarian Aid & Crisis Response

Hau Sing Tse CCICED Member, Executive Director of African Development Bank

Roger Beale CCICED Member, Principal, Pricewaterhouse Coopers Australia; Former Secretary of the Department of Environment and Heritage, Australia

2. Debate and Discussion

12:00 Adjournment

Open Forum 3 of CCICED 2013 AGM

Practice and Innovation for Ecological Civilization Construction

Agenda

Nov. 14, 2013
Conference Room of Fangfei Garden, 2nd Floor
Diaoyutai State Guesthouse, Beijing

Co-chair: Bob Hamilton CCICED Member, Vice Minister, Environment Canada
Xu Qinghua CCICED Deputy Secretary General

09:00 Keynote Speech (each 15 min)

Chair: Xu Qinghua CCICED Deputy Secretary General

1. International Perspective on Ecological Civilization

Arthur Hanson CCICED International Chief Advisor Distinguished Fellow and Former President, International Institute for Sustainable Development, Canada

2. Exploration and Practice of Ecological Civilization Institutional Mechanisms: Case Study of Guiyang

Li Zaiyong Mayor of Guiyang city

3. Ecological Footprint and China for a Global Shift

Jim Leape CCICED Member, Director General of World Wild Fund for Nature

4. Green Supply Chain Practice and Innovation

Sun Jian Deputy Director General, Shanghai Environmental Protection Bureau

Li Li Deputy Director General, Tianjin Municipal Development and Reform Commission

10:30 Tea Break

10:50 Debate and Discussion

Chair: Bob Hamilton CCICED Member

1. Leading Comments (each 5 min)

Hu Angang CCICED Member, Professor and PhD Supervisor, Center for China Studies, Tsinghua University

Siebe Riedstra CCICED Member, Secretary-General of the Ministry of Infrastructure and the Environment, Netherlands

Li Xiaoxi CCICED Member, Professor and Deputy Director of Academic Board of Beijing Normal University

Scott Vaughan President, International Institute for Sustainable Development, Canada

2. Debate and Discussion

12:00 Adjournment

Remarks of Leaders

Making a great effort to implement the *Action Plan on Air Pollution Prevention and Control* and achieving more blue-sky days for people

— Special Speech at the Opening Session

Zhou Shengxian, Minister of Environmental Protection;
CCICED Chinese Executive Vice Chairperson

(November 13, 2013)

CCICED members and experts, ladies and gentlemen, and friends,

This AGM will conduct in-depth discussions on the theme of “Environment and Society for Green Development”, and I would like to use this opportunity to share some thoughts on how to implement the *Action Plan on Air Pollution Prevention and Control* for achieving more blue-sky days.

Yesterday, the Chinese Communist Party concluded its 3rd Plenum of the 18th Congress, and adopted the *Decision on Major Issues Concerning Deepening Overall Reforms*. It elaborated on a holistic planning for China’s reform in different areas: correcting institutional shortcomings; speeding up the development of a socialist market economy, democratic politics, social harmony and ecological civilization; and bringing benefits of development to everybody. The 3rd Plenum aimed at achieving an overall well-off society by 2020 and realizing the China Dream. It reviewed experiences from China’s past reform and opening-up, and put forward new thinking and measures in priority areas such as the relationship between government and market, the decisive role markets play in resource allocation, basic socialist economic system, people’s rights, social justice, and institutional innovation.

The 3rd Plenum drafted a comprehensive plan for ecological civilization, covering areas like institutional reform and system building; improving mechanisms for spatial development, resources saving, and environmental and ecological protection; reforming the environmental and ecological management mechanism; and establishing an environmental management system for overall supervision of pollution emissions.

Reform in the eco-environmental protection management system is urgently needed for the promotion of ecological civilization; national economic transformation and upgrading; low-carbon development; resolving environmental problems that have caused harm to people’s health; and transforming government functions. The goal of the reform is the promotion of ecological civilization and the building of a Beautiful China through new industrialization, urbanization, agricultural modernization and the modernization of information technology. To protect the eco-environment is to protect productivity, and to improve ecological environment is to develop productivity. Work needs to be done to establish an integrated and effective pollution supervision system

from the macro-strategic level to the whole production process, from mountains to oceans, and from air to land, following the law of nature and protecting the diversity and sustainability of the eco-environment.

Reform in the eco-environmental protection management system is an extensive and complex system engineering. At present, its focus areas include establishing an environmental protection management system for integrated supervision of total pollution emission, with independent environmental supervision and administrative enforcement; establishing integrated ecological protection and restoration for land and oceans, and a regional mechanism for pollution prevention and control; improving operation and management systems for state-owned forests and the reform for collective rights; strengthening timely disclosure of environmental information and reporting system for public supervision; improving the permit system for pollution emission and executing enterprise pollution total emission control; and enforcing accountability and legal responsibility for those who cause damage to the eco-environment.

This year, guided by the government's major strategic decisions, the following achievements were made in environmental protection.

The first one is the effort made in emission reduction of major pollutants. Major pollutants total reduction statistics and monitoring methods from the 12th FYP were printed and circulated. Strenuous measures for pollution emission reduction are applied in sectors including coal-fired power plants, steel and iron, cement, paper-making, urban waste water treatment, livestock and poultry farms, and automobiles. In the first half of this year, the emission reductions were achieved in COD by 2.73%, ammonia nitrate by 2.15%, SO₂ by 2.48%, and NO_x by 3.02%, compared to the same period last year.

Secondly, environmental protection has played a role in optimizing economic development. Construction projects must now go through a very stringent environmental assessment and approval process. Eighty-eight new national environmental standards, including the *Air Pollutant Emission Standards for the Electronic Glass Industry* have been issued, with air pollutant emission caps issued for coal-fired power, steel and iron, petrochemical and coal-fired boiler sectors.

Thirdly, pollution prevention and control in major river basins is intensified, with emphasis on protection of drinking water and groundwater pollution prevention and control. This includes strengthened implementation of the *National Protection Plan for Urban Drinking Water Sources (2008-2020)*, organizing environmental assessment for urban centralized drinking water source under prefectural levels, issuing the *Hubei Region Groundwater Pollution Prevention and Control Plan*, and implementation of the *Major River Basin Water Pollution Prevention and Control Plan (2011-2015)*. In the 12th FYP, more than 10 billion RMB has been invested for the launching of new pollution prevention and control projects. From January to September this year, surface water reaching Grade III has increased by 2.6% and that below Grade V has decreased by 0.9% compared to the same period the year before. In addition, an eco-environmental protection plan for lakes with technical guidance has been compiled for a pilot project in promoting sound lake ecology protection.

Fourthly, in ecological protection and rural environmental protection, progress has

been made in revision of the indicator system for ecological civilization, and the biodiversity protection strategy and action plan have been implemented with 21 national natural reserves established. The supervision of rural integrated environmental treatment pilot work is underway through an award for good governance system.

With government's approval, we have identified three major environmental protection tasks for the next five years: 1) intensifying air pollution prevention and control with emphasis on PM2.5 prevention and control; 2) intensifying major river basin and groundwater pollution prevention and control with emphasis on drinking water safety assurance; and 3) deepening integrated rural environmental treatment with emphasis on soil pollution treatment. In order to execute the three tasks, action plans need to be developed for air pollution, clean water, and soil protection and comprehensive treatment.

Since early this year, heavy air pollution in the form of smog has dominated large areas for long periods of time, which has had a serious impact on people's health and daily activities. Our current priority is to tackle air pollution with a focus on PM2.5. It is doable, according to past experience both in China and overseas, as long as we have the right measures and enforcement. It is achievable to have both the sound and sustained economic development and the improvement of environment at the same time. Since the 11th FYP, through promotion of energy saving and emission reduction measures, China has cumulatively reduced SO₂ by over 20%, and the emission decreasing of NO_x has reached its breaking point, all of which has to a large extent lowered PM2.5 density. Without the measures, PM2.5 pollution would have been much worse.

The Chinese government issued the *Action Plan for Air Pollution* on September 12, 2013, in which ten measures and 35 items were raised. The *Action Plan* will serve as the guideline for air pollution prevention and control, and for the whole society's participation. The considerations behind the issuance of the *Action Plan* include:

1) Reaction to people's strong request for clean air, the entry point for good environment and ecological civilization.

2) The perspective of national macro strategic top design for air pollution prevention and control, which involves reform and innovation; tackling old pollution and preventing new pollution; decreasing coal and increasing natural gas; policy incentives and constraints; and building a new mechanism involving the government, enterprise, market and the public. The government will enhance its leadership role, take responsibility and oversee general coordination. Enterprises are the main players for pollution control, responsible for costs of treatment and reaching emission standards. The market mechanism will play its role and keep the channel open for investment and pollution control financing. Finally, the public will be led to active participation in the environmental protection.

3) An effort to have a triple-win situation in economic, social and environmental fronts with end results in reduction in pollution and environmental improvement. The indicators should be set with consideration to different regions and stages of implementation. Industrial restructuring, scientific and technological innovation should be combined with quality of economic growth and improvement of people's

livelihood. Environmental protection will be a force pushing for economic, social and environmental benefits.

4) Overall environmental economic and management policies that need to be incorporated into the whole reproduction process, with comprehensive application of economic, scientific, legal and necessary administrative means, especially the application of market mechanism for breakthroughs and innovation in finance and taxation, and pricing policies. This involves coordinated control of multiple pollutants, industrial restructuring, prioritizing energy structure, regional coordination mechanism, and response to heavy air pollution.

5) Prioritizing areas for pollution control, which includes Beijing-Tianjin-Hebei, Yangtze River Delta and Pearl River Delta areas. The unit air pollution emission from these areas is five times more than other regions; therefore they are the most polluted regions for priority control, with a main target at PM_{2.5}. For other regions, the target is to control PM₁₀. Higher environmental targets and more stringent control measures are set for the Beijing-Tianjin-Hebei region and its neighboring areas (Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia and Shandong).

The *Action Plan for Air Pollution* has set objectives and indicators. In the next five years, China's air quality will improve with a significant reduction in heavy pollution days; the air quality for the Beijing-Tianjin-Hebei, Yangtze and Pearl River Delta regions will achieve obvious improvement. In another five years or longer after that, heavy pollution days will be gradually eliminated with an overall improvement in air quality nationwide. By 2017, cities above prefecture level will have a 10% reduction in PM₁₀ compared to 2012 levels, and a 25% reduction in PM_{2.5} for the Beijing-Tianjin-Hebei region, 20% for the Yangtze Delta region and 15% for the Pearl River Delta region, with PM_{2.5} concentration for Beijing kept around 60 µg/m³.

In summary, the *Action Plan* contain measures in six areas:

1. *Upgrading industrial structure and reducing excess capacity.* New capacity in high-energy consumption and high pollution sectors will be strictly controlled, and total capacity control will be applied to sectors like steel and iron. The phasing-out process for 21 major sectors as specified in the 12th FYP shall be completed one year ahead of time. The construction projects with serious excess capacity problems will not be allowed to start, or will be stopped if in operation already.
2. *Expediting energy structure adjustment and controlling total coal consumption.* The proportion of clean energy will be raised through increasing the supply of natural gas, coal gas, coalbed methane and developing nuclear, water, wind and biomass energy. Focus will be given to tighter control of total coal consumption, optimizing the use of natural gas, phasing out small coal-fired boilers and promoting efficient and clean use of coal. The goal is for Beijing-Tianjin-Hebei and neighboring areas to cut down coal consumption by 83 million tons.
3. *Controlling vehicle pollution and upgrading fuel quality.* The total number of vehicles in cities shall be controlled in a scientific manner, and national vehicle emission level V standard shall be applied. China will expedite

phasing out yellow-labeled high-polluting cars, and developing low sulphur fuel. By the end of 2017, China will supply nationwide vehicle fuel meeting Standard V. To tackle city traffic congestion, priority will be given to the development of public transit systems and to the building of a system friendly to walking and cycling.

4. *Strengthening integrated and coordinated control of multiple pollutants.* This includes desulfurization, denitrification and dust removal in coal-fired power plants; pollution control of industrial boilers and kilns; and comprehensive treatment of volatile organic compounds, dust, and air pollution from restaurants and heating in Northern China.
5. *Establishing a monitoring, early warning and emergency response system for heavy air pollution, and disclosing information in a timely fashion.* An emergency response plan should be drafted and made public. The response system shall be activated according to the level of warning with measures including restriction to production, emission or halting production for heavy polluting enterprises; halting construction site operation; and restriction to vehicle operation.
6. *Strengthening leadership for the implementation of measures.* These may include the application of pricing and taxation, increasing financial investment, encouraging and motivating social capital for air pollution control, amending *Environmental Protection Law* and *Air Pollution Prevention and Control Law*, and monitoring and cracking down on environmental violations. Air quality monthly ranking for cities above prefecture level will be published regularly, with the top ten and bottom ten named. Regional coordination mechanisms will be established and responsibility for local governments identified. The provincial government will be accountable for remedy measures for those regions that fail to meet the annual requirement.

Winter is approaching and the northern regions will enter the heating season, which poses a big challenge to the implementation of the *Air Action Plan*. We will do our best for the following:

1. *Strengthening regional integrated pollution prevention and control, coordinating local administration and regional cooperation.* The regional integrated prevention and control mechanism for Beijing-Tianjin-Hebei, the Yangtze River Delta and Pearl River Delta will be improved with information sharing, environmental assessment consultation, joint enforcement, emergency response system, policy implementation coordination, and enforced follow-up examination put in place, in order to achieve results and raise the regional capacity for tackling air pollution.
2. *Preparing for monitoring, early-warning and emergency response for heavy air pollution.* Local EPBs will be mobilized to strengthen air quality monitoring through the establishment of a national environmental air quality monitoring network with stations at city and regional levels. Consultation with meteorological departments will be strengthened. A heavy air pollution warning system for Beijing-Tianjin-Hebei and neighboring areas will be built for analysis of heavy air pollution process and trend, and for timely information disclosure. Local governments will be instructed and guided

through the development of an emergency response plan and its implementation.

3. *Intensifying environmental enforcement, implementing the Air Pollution Prevention and Control Supervision Plan and applying enforcement inspection to priority regions.* Enterprises' environmental violations and individual environmental crimes will be quelled. The MEP will send out inspection teams for monthly inspection and supervision, urging local government to take actions for problems and reporting to the State Council.
4. *Improving environmental laws and regulations, and expediting the drafting of the Air Pollution Prevention and Control Law with a focus on issues like the relationship between "law compliance and cost".* Preliminary feasibility studies for the preparation of emission permit management regulation and motor vehicle pollution prevention and control will be conducted. The related policies for the *Action Plan* will be developed, among which the work plan for energy sector air pollution, coal consumption reduction, and alternate management plan and examination will be published and executed before the end of 2013.
5. *Strengthening scientific and technological support.* The Clean Air Study Plan will be executed for a better understanding of air pollution distribution and cross border movement, with emphasis on dynamic emission inventory, pre-warning and emergency response, and compliance strategies. It will provide support for pollution reduction and improvement of air quality for public health and ecological safety.

China faces a very challenging time, a time critical for dealing with problems old and new. The China Council Phase V will work on major topics that include ecological civilization, environmental financing, and environment and health, and will contribute to building a beautiful China.

Finally, I wish the 2013 AGM a success!

Thank you.

Introduction of the Initial Draft AGM Policy Recommendations to the Government of China

—Speech at the Opening Session

**Peter Kent, Member of the Canadian Parliament, Former
Minister, Environment Canada; CCICED International
Executive Vice Chairperson**

(November 13, 2013)

The China Council believes that supervision by the people is a robust mechanism for building an ecological civilization with a new green development ethic at the core. This point is central to our main recommendations.

Our first recommendation is simple, but it carries a strong message. We suggest changing the name of the 13th FYP to become the National Economic, Social, and Environmental Development Plan, and to make a similar adjustment to the title of the report to the National People's Congress (NPC). These shifts, we believe, would help alter perception of the role of the environment.

In only six years from now, China is expected to become a moderately well off society. We therefore recommend speeding up institutional innovation and the implementation of ecological civilization in order to establish a stronger basis for green development and a more harmonious relationship of environment and society. This effort should focus on practical needs, for example, the performance of air, water, and soil plans. Green governance improvements also will require a broader reach across society covering environmental issues related to health, social justice, social risks, poverty reduction, and employment.

CCICED also recommends a shift in domestic consumption patterns toward sustainable consumption. We believe this would reduce China's ecological footprint and drive green development initiatives, including green market supply chains. The consumers we must reach are China's growing urban middle class. These people require access to green choices about products and services. Sustainable consumption is a new topic for China, therefore considerable work is needed to establish new regulations on environmental standards, legislation that will guarantee quality of goods for consumers, and more efforts to accelerate adoption of green procurement in government and public institutions, and with full participation by the private sector.

State-owned enterprises (SOEs) and private businesses must become much more active on issues related to the environment and green development. They will need to move beyond regulatory compliance to the point where their contributions to China's ecological civilization become a matter of achieving cost savings and realizing profitable green innovations. Thus, government should recognize the key role of SOEs and the private sector by promoting corporate environmental and social

responsibility (CESR). A national strategy and action plan for corporate social responsibility (CSR) and corporate environmental responsibility (CER) would be a good start. We believe that government can provide guidance and enabling measures, but leave the main effort to the enterprises.

One of the most interesting and important elements of our work this year has been on communications, including social media. CCICED recommends promoting more active roles for media and for public participation in order to turn social power into a driving force for green development. We make a number of recommendations to improve public participation. These include further implementation and completion of a public information disclosure system for environment and for development. This expanded system needs to be complemented by awareness raising and the education of the public and officials, in order to address environmental and development risks, and to improve mechanisms for the resolution of disputes.

Finally, we have paid considerable attention to China's rapid urbanization and its essential role in green development. Our efforts have focused particularly on the need to establish urbanization systems that are in line with local resource and environmental capacity. We recommend establishment of urban environmental master plans that take into consideration functional zoning and ecological redlining. We believe that China's cities need to be designed with greater attention to neighbourhoods where people can have ready access to local walking and bicycling routes that minimize their need to use private and even public transport.

To achieve livable cities there must be adequate investment and operating revenues for all forms of urban green travel, so the Council recommends there be greater commitment of central government funds to high-capacity public transport in cities and to a specific commitment for meeting green travel budget needs. This could be done in part through the transformation of existing transfer payments. We believe more guidance from government is needed on public transport pricing mechanisms to eliminate transport deficits and to introduce stable funding patterns.

Speech at the Opening Session

Achim Steiner, Executive Director of UNEP; CCICED Vice
Chairperson

(November 13, 2013)

We are meeting here within a few hours of the Third Plenum of the Chinese Communist Party's Central Committee. This plenum signalled new directions for China's society and economy, but from CCICED's vantage point it made a significant step forward in articulating the concept of ecological civilization. This concept encapsulates many of the ideas and aspirations that the China Council has been trying to express, sometimes through focused policy efforts. These ideas relate to fiscal policy, ecosystems services, mitigation efforts, and pollution, and sometimes to broader principles that could inform a development strategy for China and for many other countries.

If we study the first interpretations and statements made from yesterday's meeting, it shows that in many ways the challenge to the China Council has just grown immensely. This is because China has signalled a systemic effort, something that in the international community we have been trying to reach a consensus about for two decades. How do you begin to integrate sustainable development, the economy, and the social and environmental dimensions? How does development become one process, one policy, one economic strategy that recognizes that progress in one is conditional upon progress in the others? If that fails to happen, then imbalances in development will arise, such as ecological unsustainability, social inequity, and unemployment.

Juan Somavia, former Director-General of the International Labour Organization, has been drawing the world's attention to the fact that our economic development strategy is not one that actually creates new jobs. He refers to the recovery as a jobless recovery. What intrigues us all is that here in China you have, in a relatively short time, reached a point where the challenges of sustainability, balance, and equity within development have reached the centre stage of economic policy making. Under the umbrella of ecological civilization, key concepts form the mainstream policy discourse that will guide China's future: green development, a low-carbon development path, circular economy, resource efficiency, pollution prevention, and environmental protection.

We could not ask for a more auspicious set of circumstances, first to examine the work of the Council task forces over the past year, but also to reflect how the Council can meet the challenge of providing relevant advice that is sophisticated enough to keep pace with the challenges China will address in the years ahead.

Equally, the challenge of air pollution is immense. It has triggered a set of deliberations across the nation that will have a profound, transformative impact on the future of many of the development choices that China makes, whether in terms of the

10-point plan for pollution prevention that has been adopted by government or in terms of the public engagement that this problem has generated. I know of no other nation where the urban middle classes get up in the morning and monitor air quality on their mobile devices.

Thus, citizens are becoming part of the capacity of MEP to monitor decisions at a local and provincial level in a completely different way. You now have millions of allies working with local governments and industry to create a new set of parameters for decision making. With the best laws and norms and standards which China is so rapidly developing, you are also empowering this process. With all the enforcement capacity one could dream of, however, you could never quite match the capacity of citizens to ensure that the laws, regulations, norms, and standards actually can be translated into decisions at the local level.

In the United Nations (UN), many of the issues that China is exploring in its vision of a beautiful China are being discussed also in something known as the post-2015 development agenda. This is a set of sustainable development goals that all nations will share in terms of their ownership and their commitment to achieve. The discussions, policies, and decisions emerging from China will be highly relevant to this global discourse, not in the sense that one nation leads other nations, but that one nation's capacity to rethink development, to articulate a green economy agenda that translates into structural changes — fundamentally reimagining energy, public transport, urban infrastructure — will encourage other countries to take a more ambitious approach. Already China is building partnerships with Peru, South Africa, and Thailand on the concept of ecological civilization. This is the kind of global conversation we need, and the China Council can play a significant role in bringing it forward.

Summary Speech at the Closing Session

**Zhou Shengxian, Minister of Environmental Protection;
CCICED Chinese Executive Vice Chairperson**

(November 15, 2013)

CCICED Council members and experts, ladies and gentlemen,

The 2nd AGM of the Fifth Phase of CCICED (the Council) will come to its conclusion. Premier Li Keqiang, demonstrating the strong support of the government to the Council, met with the Council's international representatives and delivered an important speech following a photo session. He pointed out that China has reached a critical stage where continued healthy economic growth will depend on transformation and upgrading, and environmental protection has become an issue of people's livelihood. The Chinese government will try to better protect the environment in economic development through coordinating and balancing the relationship between development and environment, implementing pollution prevention, control and supervision measures, and developing energy saving and environmental protection enterprises.

Zhang Gaoli, Vice-premier and Chairman of CCICED, met with some Council international members and attended the opening session of the AGM. He stressed that China sees environmental protection as a basic national policy, and that China will adhere to a coordinated approach to environmental protection and development. He gave a brief account of the 3rd Plenum Session of the 18th Party Congress, acknowledged the constructive role the Council has played in China's environment and development, and hoped it will make new contributions to the global sustainable development as an exchange platform for China and the world.

The theme for this AGM is "Environment and Society for Green Development", and all speeches by executive vice-chairs and vice-chairs, as well as the issues paper prepared by chief advisors were all delivered on this theme. Three parallel forums were held on "Green Development and Social Harmony", "Public Participation in Green Development" and "Practice and Innovation for Ecological Civilization" with in-depth discussions. The AGM heard five reports from task forces and special policy studies, including "Environmental Protection and Social Development", "Sustainable Consumption and Green Development", "Media and Public Participation Policies on Promoting China's Green Development", and others. The policy recommendation drafting team collected comments and made revisions to the draft recommendations, which have been adopted in principle by the Council members. After the AGM, the Secretariat will submit the recommendations to the Chinese government according to the procedure.

Each CCICED AGM is like a "pumping station" to fuel China's environment and development. I would like to share some of my thoughts on the topics for this AGM.

1. The report on "Environmental Protection and Social Development" was

prepared as a response to the occurrence of environmental group incidents since last year and on the basis of analysis and research. It indicates that the essence of environmental protection from an ecological civilization perspective is an issue of economic structure, production mode and consumption pattern. In order to tackle environmental problems, environmental and economic policies must be made at the macro strategic level, and incorporated into the whole process of production, circulation, distribution and consumption.

2. The research carried out by the Task Force on “Sustainable Consumption and Green Development” on a new type of urbanization is thought provoking. This new type of urbanization should be about people-centred and low-carbon development.
3. The work done by the “Media and Public Participation Policies on Promoting China’s Green Development” Task Force demonstrates that the new media needs to be fully explored in new situations with open channels for public participation. Insufficient information disclosure will create a barrier between environmental protection agencies and the public and media, leading to misunderstandings and conflicts. Environmental information must be open to the public and media without reservation, responding to the concerns of the society, meeting the public’s rights to know, and for the public to participate in and supervise.
4. The “Corporate Social Responsibility in Green Development” report stressed the roles corporations play in social responsibilities and opportunities brought by new science and technology. All corporations, state-owned, collectively owned, non-public or with mixed ownership, have the social responsibility to protect the ecological environment based on the foundation of trust. This era’s new technology wave will be seen as not only liberating productivity, but also bringing about social changes. The dominant role enterprises play in technology innovation needs to be strengthened in order to promote an overall green development.
5. The report on “Promoting Urban Green Travel” called for attention to this issue. China used to be called a bicycle kingdom, and a sea of bicycles during rush hours was once quite a sight in Beijing. Nowadays, there are more cars and fewer bikes on the road, and Beijing has become one of the most congested cities in the world, a lesson we should all learn from.

Every China Council AGM has its highlights, and what stands out for this AGM are new opportunities and new tasks under new circumstances, which can be summarized as the following:

1. We must deepen reforms. China’s reforms have reached a critical stage, with different sectors interacting and restricting each other. The priority, direction, actions, timetable and road map must be rationalized, with breakthroughs to be achieved in major areas. Environmental protection plays a significant role in sound economic and social development; therefore, it should be considered a major area and entry point in the process of deepening reforms.

The Council, from the perspective of independent environmental monitoring and supervision as well as enforcement, should study how to establish and improve the environmental management system by one department that will

be in charge of monitoring and supervising emissions of all pollutants; and, from the perspective of property rights, how to improve the management institution by one department that will be in charge of monitoring and supervising national natural resource capital.

2. We must speed up building a Beautiful China. Conservation must be given priority and a new path for environmental protection needs to be explored. Environmental protection plays a major role in the drive for ecological civilization. The institution for protecting the eco-environment must be reformed with the goal to raise the overall capacity for environmental governance.
3. We must tackle environmental problems that cause harm to public health. People have displayed very strong reactions to acute environmental problems like the smog. The treatment of air, water, soil and other pollution needs to be accelerated in order to protect people's health and safety. The *Air Action Plan* and other measures must be executed forcefully.
4. We must advocate environmental social responsibilities. Everyone in a society has a social responsibility to the environment, as does the government. Efforts must be made in providing environmental basic public services shared by all equally. Industries need to strengthen their social responsibilities and apply environmental requirements to the whole process of production and business activities. Individuals and social organizations may execute their social responsibilities through green and low carbon consumption. When everyone acts and fulfills his/her environmental responsibilities, China's environmental quality will see an overall improvement.

Finally, on behalf of the Council Bureau and Ministry of Environmental Protection, I would like to give my gratitude to the experts, scholars, officials and those who have worked hard for this AGM.

Thank you.

Meeting Documents

CCICED 2013 Work Report

Li Ganjie, Secretary General of CCICED

(November 13, 2013)

As a high-level policy advisory body for China's environment and development, the China Council for International Cooperation on Environment and Development (hereinafter referred to as "CCICED") has been in operation for 21 years. The Chinese government has attached great importance to and provided strong support for CCICED. Premier Li Keqiang pointed out at the CCICED 2012 Annual General Meeting (AGM) that: *"CCICED has participated in and witnessed China's progress in environment and development, carried out many studies on practical issues in environment and development, facilitated the development of relevant activities in China and made positive achievements. I hope CCICED will give further play to the role as a bridge and tie in international environment cooperation, continue to expand research areas, attach more importance to sharing of achievements and contribute to the sustainable development of China and the world."*

2013 is the second year of Phase V. Under the leadership of the Bureau and with the support and collaboration from domestic and international donors and partners, CCICED has organized various activities successfully, and made remarkable achievements in policy research, demonstration projects, institution building, extension of influence both domestically and internationally, and strengthening of operational management. CCICED has successfully completed its work this year and has met expected objectives. To be more specific, the progress in 2013 is the following:

I. Policy research was carried out as planned

The theme of CCICED 2013 is "Environment and Society for Green Development." Environmental and social issues are the focus of policy research within CCICED Phase V. The theme is mainly based on the fact that, China is now facing a period of significant environmental accidents and high environmental risks, along with rapid economic development; the impact of environmental pollution and ecological degradation on social development has become increasingly prominent. China is now at a critical stage in its developmental transition. Improving people's livelihood, safeguarding public interests, and strengthening social management and innovation will be China's strategic priorities in the coming years. It is important that research on environmental protection and social development is carried out; current and anticipated social and environmental issues are addressed; and forward-looking, strategic and operational policy recommendations for China's transition process in economic and social development are proposed. These actions will significantly contribute to the promotion of an ecological civilization, the realization of a "well-off" society, and the achievement of long-term stability of the society and the state.

In 2013, CCICED conducted a series of policy research projects focused on urgent and complex environmental and social issues that China is currently facing, in line with the government's policy needs for economic and social transformation. The

policy research achievements provide a sound theoretical basis and empirical reference in preparing policy recommendations for the Chinese government, and in preparation for the 2013 AGM.

1. Policy research tasks completed as planned

In 2013, CCICED has completed the following two task forces and three special policy studies; their research reports will be submitted to the 2013 AGM:

A) Task Force on Environmental Protection and Social Development (2012-2013)

B) Task Force on Sustainable Consumption and Green Development (2012-2013)

C) Special Study on Media and Public Participation Policies on Promoting China's Green Development (2013)

D) Special Policy Study on Corporate Social Responsibility in Green Development (2013)

E) Special Policy Study on Promoting Urban Green Travel (2013)

At the same time, as approved by the Council's 2012 Bureau meeting, the Task Force on "Evaluation and Prospects for a Green Transition Process in China" was established. They will report their findings at the 2014 AGM.

During the implementation of the Task Forces and Special Policy Studies, the Chinese and international experts devoted their time and experience, overcame language and cultural barriers, communicated and exchanged views through rounds of lively debate, and finally reached their consensus on research findings and policy recommendations to the Chinese government. This process embodies the unique value and important role of CCICED as a good platform for international cooperation.

2. Contributions made by Council Members, donors and partners to policy studies

CCICED Members, donors and partners have played an important role in this year's policy research projects. Five Chinese and International Council Members served as co-chairs or core members of policy research projects, contributing their time, energy and wisdom through direct involvement. Eleven donors and partners provided support for 16 senior experts and scholars in the fields of social development, economics, environment, consumption, transportation and public policy. They played an effective supporting role in improving the quality of CCICED's policy research.

3. Wisdom of domestic experts in various fields sought to promote policy research

In accordance with the 2013 Work Plan, a Symposium on "Putting People First, Reconstructing China's Environment Discourse" was held in March and a Strategic 'Salon' on "Environment and Society in the Context of Development – Issues and Strategies" was held in September. They were held with the aim of engaging domestic experts and scholars in exchanging information and ideas, seeking advice and suggestions in the field of environment and development, and injecting new thinking

and vitality into CCICED policy research. The participants were comprised of well-known experts and scholars in economic, social, environmental and other fields. Summary reports were produced as a reference for CCICED's policy research, through multidisciplinary, multi-dimensional and multi-angled brainstorming.

4. The direction and focus of CCICED in the next two years further clarified

Proposals for the themes of the 2014 AGM and the corresponding policy research agendas were drawn, from reviews and discussions of the policy research framework for Phase V, for consideration of CCICED Bureau. These proposals took into account such factors as evolving conditions related to global environment and development, China's strategic objectives for economic and social development and ecological civilization, and analysis and study of priority areas for the next two years, as well as comments collected from a wide range of contributors.

II. Greater efforts were made to expand the influence of policy recommendations by CCICED

One of the important objectives of CCICED Phase V is to reach out both domestically and internationally, promote the adoption and application of its policy recommendations, and share its policy research results with the international community. The specific work carried out in 2013 is as follows:

1. Holding CCICED 2013 Roundtable successfully

The CCICED 2013 Roundtable was held in Guiyang on July 20, in conjunction with the Guiyang International Eco-Forum, with the theme of "Regional Balance and Social Harmony in Green Development." The meeting shared the 2012 CCICED policy recommendations and emphasized the promotion of building an ecological civilization, held discussions on issues related to environmental protection and social development, and laid a solid foundation for the 2013 AGM. Meeting attendees included: Zhou Shengxian, CCICED Executive Vice Chairperson and MEP Minister; Achim Steiner, CCICED Vice Chairperson and UNEP Executive Director; Li Ganjie, CCICED Secretary General and MEP Vice Minister; as well as over 120 other representatives from central and local government departments, CCICED policy research project teams and relevant research institutions.

2. Implementing policy recommendations through demonstration projects and promotions

After every year's policy recommendations by CCICED were submitted to and approved by the State Council, MEP would forward them as government documents to relevant departments under the State Council and the governments of all provinces, autonomous regions and municipalities, so as to promote the recommendations' adoption and implementation. Among others, the research and policy recommendations related to green supply chain were well received, and many local governments expressed interest in carrying out policy demonstration projects based on those policy recommendations.

As a result, CCICED selected Shanghai and Tianjin as sites for green supply chain policy pilot projects in 2013 to provide a reference for further application. Shanghai

carried out research and demonstration activities mostly related to green supply chain management guidelines and technical specifications in the area of consumption, and held a high-level seminar with the theme, “Benefit of Action - Developing Green Supply Chain Management System in China,” at IKEA Pudong Store in Shanghai on May 30. The project in Tianjin conducted demonstrations on establishing and improving green product standards, setting up a trading platform for green products, developing green financing, and promoting green procurements.

The project implementation bodies of the two cities jointly held an interim seminar in Tianjin on September 12, 2013, and exchanged their initial findings, achievements, and lessons learned. While testing the practicality and operability of CCICED’s policy recommendations, the demonstration projects effectively supported local government’s efforts to build a green supply chain management system, and achieved significant results.

3. Sharing CCICED’s policy recommendations with other developing countries

CCICED members and donors urged the Council to reach out internationally to share CCICED’s approach and achievements with other developing countries. To this end, CCICED and UNEP cohosted a high-level forum in Nairobi on October 28 during the Global South-South Development Expo. Themed, “Ecological Civilization and Green Transformation,” the forum introduced CCICED’s policy recommendations on promoting China’s green transformation, shared the philosophy and practice of China’s ecological civilization, and strengthened the international community’s understanding of CCICED, particularly that of developing countries. The event proved to be a useful exploration and attempt on the part of CCICED to collaborate and develop mutually beneficial networks within the framework of South-South cooperation.

4. Submitting CCICED special reports to relevant government departments

The Secretariat issued regular bulletins to relevant government decision-makers and published four special reports over the course of the year, combining major domestic and international topics with findings and recommendations flowing from CCICED policy research. These were well received. The special report, *A Study on Recent Heavy Pollution Events and Air Quality Control Policy Recommendations*, based on CCICED’s Special Policy Study on “Regional Air Quality Integrated Control System Research,” had a meaningful impact on the Chinese government’s *Action Plan on Air Pollution Prevention and Treatment*.

5. Publicizing CCICED’s achievements through publications and websites

The Secretariat successfully prepared and published *Proceedings of the 2012 AGM*, *CCICED Annual Policy Report 2012*, and *CCICED Annual Report 2012*, among other publications. Additionally, the Secretariat published a special issue on the CCICED 2012 Annual General Meeting in *Environmental Protection* magazine, as well as articles in *World Environment* magazine on CCICED’s history and on the CCICED Chief Advisors’ interpretation of ecological civilization. With partners’ support and assistance, CCICED published the English version of the *CCICED Annual Policy Report* overseas for the first time. The Secretariat also continued to improve CCICED’s Chinese and English versions of the website, by enriching contents,

uploading information in a timely manner, and making browsing and searching easier. Total website 'hits' reached 2.9 million, an increase of 98.7%, with a total number of visits increasing 173.7% just over the last year.

III. Organizational structures and operational mechanisms further improved and strengthened

1. Expanding partnership and conducting productive cooperation

After active communication and negotiations, CCICED established strategic partnerships with the United Nations Environment Programme (UNEP), World Wildlife Fund (WWF), Stockholm Environment Institute (SEI), World Resources Institute (WRI), and International Institute for Sustainable Development (IISD). CCICED will promote practical cooperation with these partners in such areas as special policy studies, publicity and promotion, and personnel exchanges and training. This will jointly improve CCICED's policy research activities, institutional capacity, and international out-reach in ways that provide mutual benefit and support mutual development.

2. Enhancing membership

The membership composition of CCICED Phase V focuses on geographical balance and field diversification, stressing scientific, academic, and policy-making influence. CCICED aimed to achieve a better balance among Chinese and international membership, in number, region and nationality. Additionally, CCICED aimed to attract representatives from businesses and think-tanks with global influence, as well as representatives from important international organizations and institutions in the field of environment and development. To achieve these two goals, CCICED invited and accepted five new international members to the Council in 2013 through careful selection from self-applications. These individuals come from Environment Canada, World Conservation Union, United Nations Industrial Development Organization, World Resources Institute, and Apple Inc.

3. Chief Advisors and their Supporting Expert Groups playing a more prominent role

The Chief Advisors and their Supporting Expert Groups provide vital quality control functions on policy research of CCICED. Their major areas of work over the past year are the following:

- Provided comprehensive advice to the Secretary General with advice on Task Forces and other policy research projects;
- Provided academic advice, guidance and assistance to the policy team's work to ensure effective collaboration within the research teams;
- Assumed some important additional duties, including drafting new project concept papers and research outlines, examining project implementation plans, strengthening monitoring and guidance, and evaluating interim and final project achievements, in order to improve the quality of policy research reports;
- Proposed CCICED annual themes for 2014 - 2016 and policy research agenda for 2014 and 2015, so as to provide support for the Bureau and the Secretary

General;

- Held four Joint Meeting of Secretariat and Chief Advisors; and held meetings between the Chinese Chief Advisor and the Chinese members of Supporting Expert Group to ensure smooth communication between the Secretariat and Chief Advisors and their Supporting Expert Group; thus smooth implementation of policy research activities;
- Completed the drafting of the CCICED 2013 Annual General Meeting policy recommendation draft for 2013 AGM, the Issues Paper, the report on Progress on Environment and Development Policies in China (2012-2013) and CCICED Policy Recommendations Impact, as well as other documents, thereby providing a sound basis for a successful Annual General Meeting.

4. Strengthening internal management and operation

Over the past year, the Secretariat and its International Support Office have continued to be engaged in capacity development programs to enhance the skills of the Secretariat and Chinese partner personnel and activities to strengthen operational and management procedures and processes.

A) Strengthening policy research quality control and internal management system

The Secretariat developed and gradually implemented *CCICED Policy Research Project Management Measures* (Draft) and, with the support and collaboration of the Chief Advisors' team, strengthened the 'whole-process' management of policy research projects, and further improved the quality of policy research reports. The Secretariat also strengthened internal management. In addition, the Secretariat formulated *CCICED Finance Regulations*, *CCICED Information Disclosure Management Measures*, *CCICED Annual General Meeting Preparation Procedures*, *Measures on CCICED Secretariat Seal Use*, and other regulations.

B) Focusing on communication to improve information transparency

The Secretariat held donors working meetings in January and September, at which the Secretariat shared information on CCICED's progress and future work plans, and solicited advice and recommendations from donors and partners on policy research directions, annual themes and research priorities. A strong effort has been made to reflect donors and partners' input into the CCICED research agenda.

C) International Support Office playing an important role

The International Support Office has played an active and important role in areas including the management of donor funds, communication with and coordination of international experts, partnership expansion, and publicity and promotion.

**China Council for International Cooperation on Environment and Development
(CCICED)
Phase V (2012-2016)**

Report on Funding: 2012-2013

Introduction

The Phase V of the China Council for International Cooperation on Environment and Development (CCICED) was inaugurated at the 2012 AGM held in December 2012. Due to the timing of the AGM and the availability of financial data, this report on funding covers the period from 1 October 2012 to 30 September 2013.

Phase V contributions

The Council's operation and activities for Phase V are supported financially by the Government of China and a wide range of international donors. Details of donors' contributions or commitments as of September 30, 2013, appear in Table 1. Contributions were made in a number of currencies. The USD\$ equivalent amounts shown were calculated using rounded exchange rates valid on 30 September 2013. The real US\$ value of a contribution will vary depending on when it was made available and when it was used over time to meet Council expenses.

Core Funding and Dedicated Funding

As in earlier Phases of the Council's work, funding can be categorized as Core Funding and Dedicated Funding. Generally, Core Funding can be deployed flexibly to finance the full range of the Council's operations, including the Annual General Meetings, Task Forces/Special Policy Studies, Roundtable Meetings, Chief Advisor Group, and the Secretariat, and thus helps ensure that the Council can respond in an unrestricted and prompt manner to changing priorities and circumstances. Dedicated Funds are funds that are provided to the Council for a specific purpose, usually to support the work of a particular Task Force, Special Policy Study, or pilot project. These Dedicated Funds are concentrated on policy studies and help ensure that high-priority policy research activities have access to sufficient resources.

Management of funds

Most funds are administered by the Council Secretariat (SERI) in Beijing or by the Secretariat International Support Office (SISO) situated at Simon Fraser University in Canada. SISO managed the contributions to the Council on the part of CIDA/Environment Canada, AusAID, and Energy Foundation, as well as funds provided by the Secretariat from Norway's and Sweden's contributions that are allocated to meet the international costs of specific task forces. In a few instances, donors manage their contributions through their own offices.

During 2012/13, the Secretariat and SISO have continued to apply standard Guidelines on the use and management of funds used to meet international costs related to task forces. These Guidelines establish standards and limits for reimbursable costs, which were based in turn on the regulations and other conditions

set by major donors on the use of their funds, and are designed to ensure consistency across all task forces. In addition, a number of procedures and contract and other templates are used to facilitate task force financial management.

Expenditures 1 October 2012 – 30 September 2013

Table 2 displays expenditures from 1 October 2012 to 30 September 2013 by donor. Expenditures for this period totalled US\$ 4,557,538. A number of other costs related to this period were processed through donor financial systems either before or after the October 2012 – September 2013 period and were included in last year's data or will appear in the 2013-2014 figures.

Table 1				
CCICED Phase V – Donor Contribution as of September 2013				
	Donor	Amount in original currency	Amount in USD (See Note 1)	Details
1.	China	40,000,000 RMB	6,350,000	
2.	Canada	7,290,000 CDN	7,290,000	
3.	Norway	25,000,000 NOK	4,300,000	
4.	Germany	2,000,000EURO	2,699,500	
5.	Australia	1,500,000 AUD	1,530,000	
6.	Sweden	10,000,000 SEK	1,500,000	Contribution for 2012 - 2013.
7.	Italy	500,000 EURO	650,000	
8.	The Netherlands	500,000 EURO	650,000	
9.	US EDF	650,000 USD	650,000	
10.	Shell (China Limited)	600,000 USD	600,000	
11.	Energy Foundation	200,000 USD	200,000	Contribution for 2012.
12.	Hong Kong University	1,500,000 HKD	200,000	Contribution for 2012.
13.	EU	165,214 EURO	222,998	Contribution for 2013.
14.	World Resource Institute	50,000 USD	50,000	Contribution for 2013.
15.	UNEP	40,000 USD	40,000	
	Total in USD		26,932,498	
<p>Note 1: the value in US\$ of a contribution will vary depending on when it was made available and when it was used over time to meet Council expenses. To provide notional amounts based on a consistent exchange rate, rates valid on 30 Sept. 2013 were used.</p>				

Table 2														
Expenditures: CCICED Phase IV														
October 2012 - September 2013														
US dollars														
Category	CHINA	CANADA	AUSTRALIA	NORWAY	SWEDEN	GERMANY	ITALY	NETHERLANDS	EDF	SHELL CHINA	EU	World Resource Institute	ENERGY FOUNDATION	Total
1. Task Forces / Special Studies														
Green Development					43,922									43,922
Investment and Trade		2,746		58,740	23,496									84,982
Western China E&D			10,258	32,258	83,105									125,621
12th Five-Year Plan				30,000	56,960									86,960
Regional Air Quality										32,634				32,634
Case of Bohai Oil Spill										24,475			77,429	101,904
Green Supply Chain	97,900								150,000					247,900
Sustainable Consumption	65,267	99,438			113,414	163,229								441,348
Environment and Social Development	65,267	160,945	18,827		6,506									251,545
Media and Public Participation	72,042	32,014	27,988										122,571	254,615

Corporate Social Responsibility	89,191	2,898	960			19,966						50,000		163,015
Green Urban Transport	65,267	7,482	7,310								223,039			303,098
Green Transition Process	65,267													65,267
CCICED Strategic Salon	10,000							39,160						49,160
CCICED Project Evaluation	48,950													48,950
Subtotal	579,151	305,523	65,343	120,998	327,403	183,195	-	39,160	150,000	57,109	223,039	50,000	200,000	2,300,921
2. Council AGM	146,797	113,701	108,741		142,722			20,834						532,795
3. Roundtable 2013	63,701	2,053												65,754
4. Chief Advisor Group	65,268	367,951			81,583									514,802
5. Publicity and Promotion	61,433							37,473						98,906
6. CCICED Secretariat (SERI)	369,616				4,520		80,505							454,641
7. SISO Administration		484,632												484,632
8. Training		105,087												105,087
Total expenditures	1,285,966	1,378,947	174,084	120,998	556,228	183,195	80,505	97,467	150,000	57,109	223,039	50,000	200,000	4,557,538

Policy Recommendations to the Government of China

(November 13-15, 2013)

The 2nd Annual General Meeting of the China Council for International Cooperation on Environment and Development (CCICED) Phase V was held from 13 to 15 November 2013 in Beijing with the theme of “Environment and Society for Green Development”.

CCICED members appreciate the shift in green strategic thinking and major initiatives of the new leadership of China’s government. We specifically note: the green development emphasis in the 12th Five-Year Plan (FYP); the significant foothold Ecological Civilization has gained recently in China’s society; and, within the “China Dream”, the vision of a “Beautiful China” which can inspire Chinese green prosperity actions. Members believe that the commitment towards economic reform within China provides substantial opportunities for transformative environmental improvements. The new *Air Pollution Control Action Plan (APCAP)* highlights to us the new level of determination and commitment by China’s government to environmental protection that is urgently needed.

The Council members are particularly pleased to learn of the comprehensive reforms agreed upon at the 3rd Plenum of the 18th Communist Party of China’s Central Committee. These reforms will be of great value for the construction of China’s Ecological Civilization since they effectively link environment with other key domains, including economic, political, cultural and social development. Internationally, CCICED Members also appreciate the incorporation of Ecological Civilization into decision document (Decision 27/8) by the 27th Governing Council of UNEP (First Universal Session). CCICED expects that Ecological Civilization can become a ‘Made in China’ enhanced version of sustainable development and a new path for China’s environmental protection that enlightens and contributes to global sustainable development.

Environmental problems involve social values. Therefore solutions must be to form environment-friendly social values, ethics and culture, thus establishing a new institutional framework and patterns of behavior that encourage harmony between people and nature, and that guide transformation of the entire society towards green development and social harmony. An Ecological Civilization is the only type of civilization that is sustainable in the long term.

Yet CCICED members also recognize the huge environment and development challenges China is now facing. Some are of a global nature such as climate change; others are of a national or local nature. The world has taken note of the large scale, frequent and long-lasting haze/smog pollution occurrences in various regions of China. Despite the significant efforts of China’s government on environmental protection and on mainstreaming transformation of the development mode, the environmental situation is becoming more serious. Problems are becoming more complex, with an array of legacy issues arising from past development and new environmental issues that are often

associated with rising levels of industrial development and modern levels of energy use and domestic consumption; difficulties and lags in changing the development mode. Inadequate implementation of some environmental policies and enforcement limitations of laws and regulations are serious challenges.

When considering people's reaction to smog pollution and public concerns about environmental and health impacts of construction projects, it is apparent that the relationship between environment and society has significantly changed with the progress on social development of China.

On the one hand, environmental issues now have greater impacts on quality of life, for example through the impact of environmental pollution on public health, and there is a need for greater recognition of the rights of environmental pollution victims and more equality of access to environmental public services. On the other hand, there are significant changes in terms of extent, methods and effects of public reaction on environmental issues. It is beneficial for the public to demand environmental information disclosure, to report and monitor environmental pollution and damaging activities and to supervise government performance. China, like other countries will have to set out fair and reasonable protocols for addressing NIMBY ("Not In My Backyard") situations, and for other public responses to proposed projects. These protocols will require greater attention to mechanisms for dispute resolution.

China's decision-makers need to identify key areas and prominent issues that currently and in the future will affect environment and society linkages in China, and clarify new policy directions that can be followed by gradual establishment and improvement of specific policies. Specifically, the following seven areas of social concern require attention: environment and health, environment and social risk, environment and social justice, environment and poverty, environment and employment, environment and sustainable consumption, and NIMBY issues.

At this stage of China's development, and in a time of expanding use of social media and the need for further public information dissemination, what constitutes appropriate environmental rights and public or private sector obligations obviously requires good judgment. There is an apparent need to shift towards a new approach for accurate information dissemination, whether on project planning and environmental assessment, or for more fundamental environmental monitoring and other knowledge. This new approach would make the default decision be to release environmental information on a timely and regular basis so that people could be well informed on important matters that pertain to their daily lives.

CCICED Members believe that great opportunities exist for transformative change in China's relationship between environment and society. A prominent example is the need for setting in place sustainable consumption as part of stimulating domestic consumption. Furthermore, a reasonable foundation already exists for establishing an overall green and coordinated relationship of environment, society and development. Environmental awareness of the Chinese people is increasing in both breadth and depth. Thus, demands of the people for reasonable environmental rights and rational environmental behavior

will become a strong social pressure and driving force to promote environmental protection. Already, there is positive change of understanding on environment and society relationship on the part of China's government, illustrated by a deep understanding statement from Chinese leaders—that “a sound ecological environment is the fairest public good, and most beneficial welfare”.

In 2013 CCICED focused its studies on several key fields of environment and society linkages in China. These studies included the following task forces (TF) and special policy studies (SPS):

- China Environmental Protection and Social Development TF.
- Sustainable Consumption and Green Development TF.
- Media and Public Participation Policies on Promoting China's Green Development SPS.
- Corporate Social Responsibility in Green Development in China SPS.
- Promoting Urban Green Travel SPS.

Based on outcomes of these 2013 studies, discussions during the AGM, and other inputs, CCICED is providing five major policy recommendations to the Government of China.

RECOMMENDATION 1. Speed up institutional innovation and implementation of Ecological Civilization, in order to strengthen green development and to establish a more harmonious relationship of environment and society in China

While China now has clearer strategic thinking and an overall arrangement for Ecological Civilization, the institutional system for implementation lags behind in terms of adequacy and innovation. Implementation at local levels has yet to be embraced across key sectors and deepened in terms of content. Therefore, the Government of China should pay high attention to speeding up top-level design for an institutional system that can construct and implement a coherent and coordinated approach to Ecological Civilization. This institutional system must be capable of shifting values, people's behavior, lifestyle choices, and both production and consumption towards patterns of long-term sustainability and goals of improved environmental use and protection, strengthened ecological services, and due respect for nature.

Institutional innovation is required to redirect decisions from a “sectoral” approach towards a “whole of government” approach that will reduce actions that work at cross-purposes, turn public environmental behavior into positive energy for environmental protection, and enable environmental protection to fulfill its obligations towards safeguarding environmental services and related public goods. Climate change is already causing problems and is a major future risk. Avoiding decisions that lock China into a high emission economy, while charting a future path to a low carbon economy and preparing adaptation responses to climate risks are all part of Ecological Civilization.

CCICED recommends the following actions:

(1) Speed up improvement of top-level design and comprehensively promote practical implementation of Ecological Civilization.

- 1) In line with the Third Plenum reform directions, establish the appropriate institutions and systems for Ecological Civilization implementation. Promptly develop guidelines for strengthening Ecological Civilization construction in the immediate future, and formulate Ecological Civilization mid-term(2015-2030) and long-term (to 2050)vision, objectives and plans, with a greater degree of public participation and expert inputs. This vision will provide a basis for the preparation and establishment of indicators, statistics and accounting systems. Establish a high-level leading and coordination mechanism for construction of Ecological Civilization. The mechanism should receive inputs from various stakeholders; identify implementation actions; identify responsibilities of central and local governments, and among government agencies; and recommend channels for the necessary sustainable financing including new local sources of revenue.
- 2) Create the most stringent and effective as possible resource and environmental protection system. Speed up relevant legislation processes to complete a comprehensive revision of the Environmental Protection Law and specific supporting laws and regulations. Conduct pro-environment modifications to economic and social laws and regulations so they become consistent with Ecological Civilization requirements. Define a comprehensive and credible ecological redlining approach. Establish an accountability and compensation regime for resource and environmental damages, as well as improved mechanisms of payment for resource uses and environmental services; extend the scope and degree of ecological compensation to balance and coordinate equitable distribution of resource and environmental benefits.

Speed up institutional reform for eco-environmental protection management; establish an environmental governance system for unified supervision of all pollutants, all emission sources, all environmental components, and all ecosystems. Establish a regional joint action mechanism that coordinates terrestrial and marine regimes for ecosystem conservation and restoration, and for pollution prevention and control.

China's central government should use economic incentives to encourage local pilot efforts for Ecological Civilization construction, and gradually form an overall pattern of building Ecological Civilization initiatives in line with specific local conditions.

- 3) Carry out a study on green accounting needs for the national economy, and gradually establish a national economy evaluation system incorporating resource consumption, environmental damage, and environmental protection benefits. Incorporate Ecological Civilization progress as an important indicator into the local government official performance evaluation system.
- 4) As China is moving towards the final years of the 12th Five-Year Plan, it is important for the Chinese Government to examine and identify characteristics of economic,

social, and environmental development for the 13th Five-Year Plan, and to set up mid- and long-term goals and measures for green development, environmental protection, energy conservation and emissions reduction, and climate change for the future 5 to 15 years.

(2) Focus greater effort on resolution of prominent environmental issues such as air, water and soil pollution, in order to meet basic public demands for a healthy environment.

Enjoying a healthy environment is a basic right for people. Severe pollution issues that significantly affect public health and life are key factors leading to current tensions and non-harmonious environment and society relationships in China. Therefore, effectively solving these issues is a fundamental approach to reduce societal tensions. The *Air Pollution Control Action Plan (APCAP)* is a good start. However, the Government of China should develop special action plans for other environmental issues that seriously affect public health and life such as water pollution, soil pollution and rural environmental problems.

The key element for an environmental action plan is to have a credible and implementable approach that will result in demonstrable improvement in environmental quality for prescribed time periods. Concerning implementation of *APCAP*, the central government should focus its supervision and coordination efforts on three aspects: (i) strengthening overall action implementation by local governments and step up review and accountability; (ii) fulfillment of responsibilities of central government agencies, especially the development of supporting policies for investment, fiscal arrangements, taxation, finance, price, trade and science & technology; and (iii) joint actions among local governments within each region. The supervision of enterprise actions should fall mainly under the responsibility of local government and environmental authority, with full utilization of public and social organizations.

The fundamental approach to resolve current prominent environmental issues such as air pollution is to change the economic growth mode and adjust the energy structure. Measures such as a cap on the total consumption of coal and improved fuel quality are necessary parts of such a shift. In order to fully realize co-benefits arising from economy, environment and energy measures, it is important to coordinate efforts for reduction of conventional pollutants, energy conservation, and for low carbon development. Market-based long-term mechanisms including pricing, taxation and emissions trading are important instruments for this coordinated effort. It is further recommended that efforts be stepped up in exploring and creating new funding mechanisms and resources for environmental protection and environmental investments. These approaches are not only critical measures for the success of *APCAP*, but also effective mechanisms to ensure long-term effects continue after completion of the action plan.

(3) Improve governance policies for green development and speed up transformation of environmental governance.

1) Government agencies at all levels should explicitly take environmental protection

concerns into account in all aspects of their governance and decision-making, such as economic/social and cultural construction, development of programs and policies, policy implementation and evaluation, and performance evaluation. Government and staff should be evaluated and promoted on the basis of delivery of sustainable/green development.

- 2) Clearly recognize environmental rights as a basic component of citizens' rights. This should be done through legislation, and be considered as a basic principle for policy development in economic, social and environmental fields. Ensure public environmental rights are protected through concrete institutional systems based on the rule of law, including litigation, incentives and compensation.
- 3) Strengthen ecological compensation and pollution damage compensation mechanisms to reasonably solve unbalanced and unjust distribution of environmental benefits and costs between regions, urban and rural areas, and among different social groups.

(4) Reform Environmental Impact Assessments (EIAs) and Social Impact Assessments in a systematic manner.

An environmental and social assessment mechanism for major policies should be implemented and made to work effectively. To be convincing, the approach should be based on principles of openness and transparency and on meaningful public access. Specific actions should include:

- 1) Establishment of a “pre-approval” screening system for major projects with environmental and social implications. Introduce third-party assessment mechanisms for social and environmental impacts. Policies and reforms are needed to ensure public environmental interests are better served.
- 2) In the event of failure by cadres to strictly follow the assessment process, such failures should seriously be taken into account in the regular evaluation of such cadres.
- 3) The building of a more robust and anticipatory environmental emergency response mechanism should be given priority. Review the adequacy of plans for existing facilities, beginning with large projects in proximity to populations or to water resources. Set up hierarchy of priority industries and locations.
- 4) The provision of timely, and accurate information during environmental incidents is important. Full advantage should also be taken of new media platforms to ensure more widespread and accurate knowledge of such incidents.

(5) Improve environmental governance structure by establishing robust green government-public-enterprise partnerships.

In the current environmental governance structure in China, the roles and responsibilities of various actors and stakeholders are not always well defined, and there is sometimes a lack of effective communication and consultation mechanisms. Therefore, a primary task of improving environmental governance is to clarify the roles and responsibilities of

government, enterprises, and the public as key stakeholders in Ecological Civilization construction, green development, and environmental protection. CCICED suggests the following roles, rights and responsibilities for each sector:

- 1) Government –As necessary, develop regulations, policies and an institutional system to regulate behavior of all important actors (including the government itself); enable cooperation among various actors; build trust in the relationship between government and society on environment and green development issues; strengthen environmental awareness and capacity of enterprises and the public; and encourage the role of social organizations in environment and development. Develop a “balanced scorecard” for all SOEs, local and provincial governments and key ministries whereby Corporate Environmental and Social Responsibility can be taken into account.
- 2) Enterprises(SOEs and private sector) –Strictly follow environmental regulations and mandatory standards and implement basic environmental obligations; behave environmentally responsible according to industrial and corporate standards and guidelines; and cooperate with other stakeholders such as media and environmental non-governmental organizations(NGOs)to enhance corporate environmental and social responsibilities. Ensure establishment of an internal environmental management structure within SOEs and large private enterprises. Publically reveal the identity of the corporate officer responsible for these matters.
- 3) Public and social organizations –Explore innovative social governance mechanisms for environmental protection; integrate various social resources and forces to establish more effective communication mechanisms between the public and government through which public opinions can be communicated in a rational and effective way; establish consistent, effective and wide spread public participation mechanisms in environmental decision making; clarify supervision and evaluation roles for citizens in environmental management processes and for performance of government and public sectors; conduct participatory environmental education and awareness raising activities.

(6) Ensure equal standing of environmental, economic and social issues in national and provincial planning and reporting.

- 1) From the 13th FYP, the five-year plan of the Chinese government should be listed as the National Economic, Social and Environmental Development Plan. The National Economic and Social Development Report submitted by the Chinese government to the National People's Congress and the Chinese Political Consultative Conference (NPC & CPPCC) would then also have been changed to the National Economic, Social and Environmental Development Report accordingly. A similar adjustment should be made at the provincial level.
- 2) To support this change, the Government should submit to the National People’s Congress an annual report with the achievements made by the Government and with equal emphasis on the economy, society and environment. In this way the Government will demonstrate responsibility for environmental protection in China,

and clarify the relationship between the three key elements for sustainable development progress.

RECOMMENDATION 2. Change consumption patterns towards sustainable consumption in order to drive green development

In China, economic reform and social development requires stimulation of domestic consumption. This may result in dramatic shifts on the expenditure patterns of China's citizens, especially the rising middle class in both cities and the countryside. It would be disastrous for an excessively high level of per capita consumption based on western levels of energy and materialism to replace the frugal habits of most Chinese. Yet, China's rising ecological footprint and other evidence suggests that substantial numbers of Chinese are already following a path of high consumption.

Sustainable consumption is a topic that has not received sufficient attention in China. It requires urgent consideration in order to identify sustainable consumption patterns appropriate for China, and to encourage people to adopt lifestyles and purchasing decisions accordingly. The Government of China can take various enabling measures, including incentives, laws and regulations and information dissemination relevant to sustainable consumption. Therefore, CCICED recommends:

(1) Incorporate sustainable consumption as an important element of Ecological Civilization construction.

Develop and implement a national sustainable consumption strategy and action plan consistent with Ecological Civilization and Green Development, and formulate a sustainable consumption road map.

The national sustainable consumption action plan should: (i) Select priorities among consumption themes where there are major resource and environmental impacts such as housing, household appliances, travel options, and food. Specific attention should be placed on green building codes and incentives. (ii) For the short-term, incorporate the sustainable consumption concept into the 13th FYP and establish an institutional foundation. For the mid-term (to 2030), establish and improve the legal framework to promote sustainable consumption pattern among the emerging urban middle class in China. For the longer-term (to 2050), further enhance the sustainable consumption capacity and level in the whole society including the transition to an extremely low carbon society successfully adapted to climate change considerations. And, (iii) Develop differentiated sustainable consumption strategies for different regions, cities and consumer groups.

1) Improve laws and regulations that promote sustainable consumption. In the short-term, incorporate the concept of sustainable consumption into the currently being-revised *Environmental Protection Law*, *Consumer Rights Protection Law* and *Government Procurement Law*. For the longer-term, consider development of a special *Sustainable Consumption Promotion Law* to reconcile the relationship among consumer rights protection, food safety, environmental protection and sustainable

consumption.

- 2) Reform and improve pricing, taxation and financial incentive policies that promote sustainable consumption. Strengthen public transport financial support, including increased funding for local public transport development. Redesign government subsidy programs drawing on the “appliance to countryside policy” and “old appliance trade-in policy”, and focus subsidies on the top 10% best performance products. Impose environmental taxes on resource-intensive or emission-intensive consumption products. Link family income tax breaks with sustainable consumption, encourage recycling of product and waste resources, and provide low interest credit for purchasing green buildings.
- 3) Strengthen sustainable public procurement and give preferential purchase treatment to products from green supply chains. Update the current energy-saving products catalog and environmental label inventory, and assign mandatory quotas for government procurement of green products and services. Include green standards of hotels for business travel and meetings into government procurement standards. Revise government procurement systems to include new energy and low emission vehicles, and make green supply chains an important indicator for procurement standards.

(2) Promote innovation through sustainable consumption policy and institutional systems.

- 1) Strengthen the credibility and independence of the Chinese green product certification system and enhance China’s environmental labeling system. Promote consistency of China’s green product certification system with international standards. Establish independent consumer associations and consumer advisory committees, and develop a national database of green products managed by a third-party body charged with collecting and publishing product information.
- 2) Develop a sustainable consumption indicator system at the national, regional and local level and carry out sustainable consumption pilot demonstration. Incorporate sustainable consumption into other programs and plans such as a pilot demonstration of Ecological Civilization construction and low carbon economy. Implement small-scale community pilots and local demonstration initiatives, and a pilot of urban green travel and urban road resources optimization.

(3) Foster sustainable consumption partnerships, with participation by stakeholders.

- 1) Encourage the role of private sector and incorporate sustainable consumption into market-based codes of conduct. Give full play to sectors such as retailers and financial institutions in sustainable consumption. Encourage the establishment of green supply chain management and encourage incorporation of sustainable consumption objectives into the core business of financial institutions.
- 2) Encourage social organizations and consumer groups to participate in development of national and local sustainable consumption policy frameworks. Establish consumer information center in cities to provide dialogue platform for citizen, entrepreneurs and

local governments, and to provide advisory service on recycling, products sharing, water saving and food safety. Include sustainable consumption in the school curricula at a national and local level.

- 3) Promote international cooperation in sustainable consumption. Actively participate in multi-lateral policy framework negotiation on sustainable consumption, participate in UNEP's *10 Year Framework Programmes on Sustainable Consumption and Production* and focus on the topic of sustainable consumption in the WTO government procurement agreement negotiation.

RECOMMENDATION 3. Recognize environmental and social roles of enterprises and promote corporate environmental and social responsibility (CER and CSR)

Enterprises can be the driving force of economic growth but also a primary source of environmental pollution. It is a significant challenge for Chinese enterprises (both SOEs and private sector) to harmonize development and environmental protection, and to explore a green and sustainable development path.

Implementation of corporate social and environmental responsibility has three levels: (i) a basic level of compliance with regulations, (ii) moving beyond compliance by proactive participation, and (iii) taking a leadership level of corporate environmental responsibility. For enterprises at different levels, government should develop corresponding strategies and policies with objectives of punishing enterprises that violate regulations, encouraging voluntary implementation of corporate environmental responsibility, and advancing enterprises where possible to a higher level of green development. Therefore, CCICED recommends:

(1) Developing a national strategy and action plan for corporate environmental and social responsibility.

Address different needs of state-owned enterprises (SOEs) and small and medium-size enterprises (SMEs), and develop differentiated national strategies and action plans to promote CER/CSR; define cooperative relationships involving government, enterprises and society; and clarify responsibilities of various government departments. In boosting CSR and CER practices, implement the polluter pays principle.

(2) Develop a working mechanism for social organizations and industrial associations to press for corporate social and environmental responsibility.

Encourage industrial associations to play an important role in standards development, guidance and self-discipline to support implementation of CER/CSR by enterprises.

Advocate corporate environmental responsibility initiatives, and encourage supervision and active participation of the public. Encourage social organizations, media and internet sources to play a full role in performance evaluation, information disclosure, supervision of behavior and public feedback. Strengthen international cooperation and learn from success stories.

(3) Enhance CSR and CER incentives and other mechanisms for stimulating actions beyond compliance.

Strengthen supporting laws and regulations for implementation of CER/CSR. Enhance coordination of *Corporation Law*, *Environmental Protection Law*, *Consumers Rights Protection Law* and *Labor Law*, increase punishment of enterprises not in compliance with the laws and regulations; promote establishment of local environmental protection courts and improve relevant juridical practices; support environmental public litigation and enable the supervision function of social organizations.

Actively construct the financial investment environment to promote CER/CSR. Promote green investment and credit, for example, through establishment of investment funds that can provide interest discounts or subsidies to enterprises with good CER/CSR performance. Provide priority government procurement support to enterprises with good CER/CSR performance.

Government should give priority to public policies that provide incentives for SMEs to fulfill CER/CSR. In addition, government should pay attention to policy and capacity building for Chinese overseas enterprises to meet CER/CSR requirements. Specific attention needs to be paid to cultural differences in terms of local expectations abroad about corporate responsibility and performance.

(4) Improve information disclosure systems of CSR and CER performance to increase transparency.

- 1) Increase the extent of enterprise's environmental information disclosure. Build a tracking system for enterprise social and environmental information; pay attention to environmental information storage, processing and analysis; regulate enterprise environmental information disclosure; and improve rewards and penalty measures for enterprise information disclosure.
- 2) Develop sectoral reporting requirements based on industrial characteristics.
- 3) Promote industrial associations to build an information platform on Chinese firms' CER/CSR implementation record.

RECOMMENDATION 4. Promote active roles of media and public participation in order to turn social concern for environment into a driving force for green development

The public is the major and essential stakeholder in Ecological Civilization construction, and is the direct beneficiary of green transformation of economy and environmental quality improvement. China's Ecological Civilization will lay a solid foundation and make sustainable progress only when it is widely and effectively supported by the public. While facing the growing public concerns and inspirations on environmental issues, the government is not yet well prepared to transform the public concerns and inspirations into an orderly and rational public participation. There is an urgent need to enhance government functional shifts and capacity building on environmental education,

knowledge dissemination, information disclosure and emergency response so that the roles of media (especially new media) can be fully realized. Therefore, CCICED recommends:

(1) Improvements to the institutional system in order to promote legitimate, orderly and rational public participation.

- 1) Develop measures and mechanisms for early engagement, transparent and effective public participation in planning and project decisions. Effective public participation in early stages will contribute to green development, reduce social conflicts and improve decision-making and its social acceptance.
- 2) Develop a more complete emergency response system for environmental accidents and mass incidents. First, ensure rapid information disclosure and transparency. This includes timely and accurate information provided to media (traditional and new media), online information disclosure tools that the public can access, response guidelines, process transparency, and relevant risk information. Second, provide rational access and channels for public opinion expression. Related laws and regulations need to be issued to encourage and protect whistleblowers, and to ensure that environmental issues, accident and emergency are reported without delay.
- 3) Support development of environmental NGOs. Simplify registration procedures for NGOs and non-corporate social groups, encourage their development and growth; actively guide and standardize the development of different public environmental organizations, give full play of industrial associations in environmental protection, actively encourage and lead environmental organizations and urban/rural communities engaging in environmental protection.

(2) Promote implementation and completion of environmental information disclosure systems.

- 1) Further improve and implement environmental information disclosure systems. Providing real-time and reliable information will help produce better decision and improve public support to government decisions. Integrate currently scattered environmental information and data in different institutions and departments, and develop an accessible national environmental information and data system. Based on the experience gained in implementing *Government Information Disclosure Regulation* issued in 2008, effort needs to be made to develop an information disclosure law. With such a law, the government needs to ensure the right of the public to timely access of information, to embrace the principles of the 1992 *Rio Declaration on Environment and Development*, and to ensure the public can obtain information in line with common international standards.
- 2) Develop a pollutant inventory for industrial point sources and other emission sources, and improve monitoring capacity and transparency of pollution data. Development of pollutant inventory can draw on experience of the *Pollutant Release and Transfer Register (PRTR)* now in use in many countries. Such a system could initially be

piloted in the chemical industry within China, which has had many mass incidents due to high levels of public concern.

(3) Enhance the role of media to form a communication and education system promoting green development.

- 1) Enhance the utilization of new media platforms and public information dissemination activities for green development. New media technology can be more widely used to provide open, detailed, accurate and real-time environmental information and to establish an important platform for collecting public opinions on environmental and development decision-making. Media's social responsibility needs to be enhanced to ensure information authenticity and accuracy.
- 2) Strengthen the environment and green development information dissemination and education systems. Establish specific working organizations and mechanisms for environmental strategy dissemination and public participation to study and predict environmental hot topics for a certain period of time or more generally in the future, and to promote public participation and public acceptance of environmental decisions.

RECOMMENDATION 5. Pay high attention to resource and environment challenges in the process of urbanization, and explore paths to green urbanization including urban green transportation

Urbanization is an opportunity because people's needs can be met more efficiently in urban areas than in rural areas. Cities are the drivers of economic growth but great care is required to ensure that cities remain or become attractive places to live and work. It is predicted that permanent urban residents in China will reach 1 billion and China's urbanization rate will reach around 70% in the coming two decades. About 300 million people will emigrate from rural area into cities. Undoubtedly, this will make many problems become more prominent, such as mismatches in the spatial distribution of urbanization and resource capacity, and other resource and environmental constraints. Thus, the Government of China needs to pay high attention to the environment risks in the coming new round of urbanization. Therefore, CCICED recommends:

(1) Develop urbanization systems and layout in line with resource and environmental capacity.

Strictly control the scale of cities in defined urban areas of the *National Main Functional Zoning Plan*; optimize layout of urban development; and promote coordinated development of cities and small-towns. Place special emphasis on urbanization quality in the rapid development pattern now occurring in Western China. Maintain and reserve adequate ecological spaces, properly handle the relationships among urbanization, new countryside construction, and ecological service and nature reserves, and encourage the adoption of "*compact and multi-centred*" city plans.

(2) Accelerate adoption of an integrated and sustainable urban master plan.

Such a master plan is an important measure to integrate environment elements into urban space, with rational allocation and use of local resources and environments. Expand the scope of pilot demonstrations for creation of urban environment master plans, and establish/improve standards, specifications and an institutional system for these plans.

(3) Improve urban resource and energy efficiency.

Urbanization should facilitate sustainable production and consumption to minimize environmental impacts. Actively promote green building standards, green architecture design and green community construction. Vigorously promote green transportation, enforce urban energy and water conservation management, and increase usage of renewable energy as much as possible.

(4) Build urban environmental infrastructure along with urbanization process.

Construct environmental infrastructure such as waste water treatment, solid waste separation, collection and disposal facilities and hazardous waste management facilities according to population and urban function layout. Enhance operation management of urban environment infrastructure.

(5) Encourage and promote urban green travel.

China's urban transport systems are presently on the wrong course—leading towards low density and socially divisive car dependency. The government should urgently address the promotion of urban green travel as part of the necessary transformation of China's urban development strategies; and facilitate establishment of a modern, low emission, and high efficiency green public transport system. This requires attention to cross-sector coordination and cooperation for better designed policies of car usage and public transport development; strengthening of the ability of the central government to encourage and pressure local governments to develop urban green travel through financial leverage and other means; providing clear guidance for Chinese cities to promote green travel; and enhancing local governments' capacity to finance, supervise and assess the urban transport system.

- 1) Develop the 'Outline of China Urban Green Travel Implementation'. Speed up developing or amending Urban Public Transport and Chinese Cleaner Air Act; carry out pilot projects to promote urban green travel and build a modern urban green transport system with Chinese characteristics.
- 2) Formulate 'Policy Guidelines for the Rational Use of Vehicles and Road Space' to reduce congestion and air pollution. Road user charges should be encouraged in congested areas in mega cities, and greater limitations on car ownership should be implemented.
- 3) Support investment in urban green transport to raise sufficient and sustainable local sources of revenue to fund local public transport companies. The Central Government

should establish a management system for the central fiscal fund that promotes green travel as well as monitor and appraise the usage of the fund, for example shifting the fuel tax collection from a fixed amount of tax to an *ad valorem* basis, so that fuel tax income increases as fuel prices rise.

- 4) The state and city administrations should be required to ensure cross ministry/department policy coordination, as well as enhanced performance appraisal and management accountability. Public participation should be encouraged. Set up a coordinating mechanism to promote urban green travel.

CCICED 2014 Work Plan

Li Ganjie, Secretary General of CCICED

(November 13, 2013)

The year 2014 is a critical year for China as it strives to attain the goals established in the 12th Five Year Plan (FYP), and prepares for the formulation of the 13th FYP. It is also an important year for CCICED to make progress towards its intended Phase V targets, and to establish a firm foundation for the next phase and beyond. To this end, the following work agenda for 2014 is determined.

I. Work Objectives

- to meet the policy needs posed by prominent current environment and development issues in order to promote the green transformation of China's economic and social development, in line with the objectives of the 12th FYP;
- to provide recommendations based on sound scientific analysis for the 13th FYP;
- to develop a long-term strategy for a stable and dynamic CCICED in order to contribute to the construction of ecological civilization and the realization of a well-off society in China by 2020.

II. Work Tasks

- 1) To conduct policy research on environmental management and institutional innovation for China's green development, and to submit related policy recommendations to the Chinese Government.
- 2) To promote the sharing and dissemination of CCICED's policy research achievements, and to facilitate the application and, through demonstration projects, the implementation of CCICED's policy recommendations, thereby expanding the impact of CCICED's work.
- 3) To improve and strengthen CCICED's working mechanisms and to introduce innovations in institution building within CCICED; to continue improving cooperation and collaboration with partners; to improve the operations and management of the CCICED Secretariat; and to create favorable conditions for CCICED's long-term development.

III. Work Content

i. Policy Research

It is important and urgent for the Chinese government to make adjustments to and introduce innovation in environmental management mechanisms in order to realize Ecological Civilization and a Beautiful China through a sustainable and coordinated

development of the environment, the economy, and society. In support of these goals, it is set that the theme of the 2014 CCICED Annual General Meeting be “Management and Institutional Innovation in Green Development.” Within the compass of this theme, the following projects will be conducted in 2014.

1. Policy research to report at the 2014 Annual General Meeting

1.1. To Continue and Complete the Task Force on “Evaluation and Prospects for a Green Transition Process in China”

The Task Force (TF) was established in August 2013 and has commenced its research activities. The objectives of this Task Force are: 1) to assess the progress of China’s green transformation in environment and development in the past decade in order to understand the current status in this respect; 2) to analyze existing bottlenecks and obstacles impeding transformation; and 3) to look ahead to both opportunities and challenges for future green transformation and to set forth a basic strategic framework for further promoting green transformation.

1.2. To Establish and Complete TF on “Ecological Civilization and Innovation of Environmental Management System”

The TF is based on the strategy, determined by the 3rd Plenary Session of 18th CPC Central Committee, that to speed up the building of ecological civilization mechanism and to reform the environmental management system. The TF aims to distinguish the gap between the goals of ecological civilization and the current management system of eco-environmental protection. Through consultation of relevant experiences in developed countries, the TF will provide a general thought, an overall goal and an institutional framework, together with supporting instruments, on how to improve the management system of eco-environmental protection in the building of ecological civilization. The ultimate objective is to offer some reference and support for reform of the national pollution prevention system and improvement of pollution control for some time to come.

1.3. To launch and complete four Special Policy Study (SPS) projects

1) Good City Models under the Concept of Ecological Civilization

The starting point of this work will be a comprehensive analysis to identify challenges and risks in resource conservation and environmental protection during the process of urbanization. The SPS will distinguish and summarize available studies in China and relevant experience in other countries on urbanization model; provide guidance on developing a new model of urban environment management through regulatory establishment, such as environmental planning system; and give recommendations on eco-city construction in context of ecological civilization.

2) Institutional Innovation of Eco-Environmental Redlining

The SPS will, based on relevant studies, identify the policy needs of China on implementation and surveillance of eco-environmental redlining; and determine a

fundamental strategy for implementation of eco-environmental redlining. This work aims to provide recommendations and scientific evidence for the drawing up of relevant content in the 13th FYP.

3) Green Accounting and Environmental Performance Evaluation

The SPS will establish a conceptual framework, centering on green accounting, with an evaluation indicator system, a sound database and evaluation standards of cadre performance, especially of environmental performance. A roadmap of policy implementation to put a green accounting system into place in China will be prepared. The final report will be produced with policy recommendations for green accounting and natural resource and environmental asset audit that could be brought into 13th FYP and other key approaches.

4) Performance Evaluation on the *Action Plan of Air Pollution Prevention and Control* and Regional Coordination Mechanism

The SPS will establish a performance evaluation index system and methodology to evaluate the feasibility of the *Action Plan of Air Pollution Prevention and Control*, help to set medium- and longer-term goals for air pollution control for the 13th FYP and needs to 2030, and propose recommendations on how to build a roadmap, a coordination system and to achieve practical solutions for regional collaborative pollution control.

2. Other research projects between 2014 and 2015

The Bureau authorizes the Secretary General to approve other research projects in line with the AGM theme 2014, based on proposals from the Chief Advisors and the Secretariat of CCICED. The establishment of the projects should take into full account the formulation of the 13th FYP and the priorities related to the target of building a “well-off” society by 2020.

3. Policy seminars

Seminars and Strategic Salons will be held as a platform for invited Chinese experts and scholars in various fields to exchange ideas, and pool experience, with a view to injecting new ideas and vitality into the CCICED policy research process.

ii. Promotional Activities

1. Preparing and organizing the 2014 CCICED Roundtable

CCICED 2014 Roundtable will be held in conjunction with “APEC China 2014” in the first half of 2014, on the theme “*Green Transformation and Institutional Innovation for Investment, Trade and Consumption*”. Representatives from APEC member countries and Chinese governments of all levels, as well as experts and scholars at home and abroad, will be invited to attend. This will serve as an opportunity to exchange views, to share the Council’s findings on investment, trade and environment, and sustainable consumption,

and to discuss key issues related to, for example, the promotion of China's green transformation regarding investment, trade and consumption. Innovation of environmental management mechanisms on green development will also be discussed. The outcome of the Roundtable will become an important contribution to the 2014 AGM.

Some CCICED members and experts from CCICED policy research projects will be invited to the Roundtable.

2. Continuing to carry out policy demonstration projects

Given the successful implementation of policy pilot projects on Green Supply Chain Management in Tianjin and Shanghai, the two following policy demonstration projects will be conducted.

2.1. Sustainable Consumption pilot projects

As follow-up to the Task Force on Sustainable Consumption and Green Development completed by CCICED in 2013, representative regional cities will be selected as pilot project sites for the establishment of appropriate and operable standards and indicators of sustainable consumption.

2.2. Corporate Social Responsibility pilot projects

To demonstrate the findings of the Special Policy Study on Corporate Social Responsibility in Green Development completed by CCICED in 2013, representative enterprises, including state-owned enterprises, will be selected to carry out pilot projects with the objective of promoting institutional innovation guiding enterprises' fulfillment of social responsibilities.

3. Conducting results sharing and information exchange activities

The following will be carried out in 2014:

- 1) Strengthening communication and cooperation with central and local government departments, and carrying out policy seminars of varying scales and at various levels to promote the adoption and application of CCICED policy recommendations.
- 2) Promoting and establishing exchanges and cooperation with developing countries in Asia and Africa in environment and development, and sharing CCICED experiences and achievements.
- 3) Making full use of major international organizations and international platforms in environment and development to expand CCICED's international influence.

iii. Operational Management

1. Preparing and organizing the 2014 CCICED Annual General Meeting (AGM)

The 2014 AGM is planned to be held on November 10-12, 2014 with a theme of “Management and Institutional Innovation in Green Development.”

All CCICED members and co-chairs of policy research projects will attend the AGM to deliberate on policy research reports and findings and to finalize CCICED recommendations to the Chinese government based on policy research results. Representatives from relevant Chinese government departments, CCICED donors and partners, relevant international organizations and media will be invited to attend the meeting.

2. Strengthening institutional mechanisms

During Phase V, CCICED will propose mid- and long-term development strategies that will take account of environment and development trends at home and abroad and future directions of international cooperation. Programs will be created for establishing a long-term mechanism for CCICED’s management and organization in order to create favorable conditions for CCICED Phase VI and CCICED’s long-term stable development.

3. Strengthening partnerships and carrying out practical cooperation

- 1) CCICED will actively develop a wider set of partnerships and strive for increased support and contributions to the CCICED from a larger group of countries and international organizations through flexible and diversified ways of cooperation.
- 2) CCICED will implement and expand upon the Memoranda of Understandings (hereinafter referred to MoU) signed with partners in 2013, further expand areas of cooperative research, and report progress to the 2014 CCICED AGM.
- 3) CCICED will co-host or participate in and support domestic and international meetings and events in environment and development in cooperation with donors and partners.

4. Exploring and mobilizing the potential of CCICED members, donors, and partners

- 1) CCICED will encourage more communication and interaction among Chinese and international members provide support and services to enhance members’ participation in the Council’s work. CCICED will also assist members in the establishment of thematic working groups for carrying out research work in between AGMs, the results of which will be submitted to the 2014 AGM in form of a special research report.
- 2) In conjunction with the policy research framework, CCICED will solicit project proposals from donors and partners and will consider any donor nominations of experts for policy research projects.

5. Expanding the influence of CCICED

- 1) Furthering the development of a CCICED communications and publicity strategy to enhance CCICED’s influence in China and abroad through improved planning and procedures.
- 2) Communicating with relevant government departments on CCICED policy research findings at appropriate times through special reports or other flexible and efficient forms, taking into account prominent international and domestic issues. .
- 3) Disseminating CCICED policy research findings, work progress reports, and other information regularly through inter-departmental documents, publications and the internet, including CCICED’s website, www.cciced.net.

6. Strengthening capacity building to improve operations and management

- 1) Further rationalizing and improving working mechanisms, in particular the working mechanisms of the Chief Advisors and their support expert group, in order to provide strong support for CCICED policy research.
- 2) Implementing the requirements of *the Management Measures on CCICED Policy Research Projects* and its operational rules, and strengthening management and performance evaluation processes to continuously improve the quality of policy research.
- 3) Strengthening the capacity-building of the Secretariat, and enhancing work capacity of the Secretariat staff through training and work exchanges in a variety of forms, so as to effectively improve routine operation and management of CCICED.
- 4) Further intensifying the functions and roles of the International Support Office, particularly with regard to improved sharing CCICED research findings with the international community.

IV. Expected Outputs

i. Policy Studies

1. Completing the six policy research reports including the following:
 - 1) TF on “Evaluation and Prospects for a Green Transition Process in China”
 - 2) TF on “Ecological Civilization and Innovation of Environmental Management System”
 - 3) SPS on “Good City Models of Urbanization under the Concept of Ecological Civilization”
 - 4) SPS on “Institutional Innovation of Eco-Environmental Redlining”
 - 5) SPS on “Green Accounting and Environmental Performance Accountability”
 - 6) SPS on “Performance Evaluation on the *Action Plan of Air Pollution Prevention and Control* and Regional Coordination Mechanism.”

2. Submitting draft policy recommendations to the Chinese government as approved at the 2014 CCICED AGM.

3. Completing 3-5 special reports.

4. Holding two domestic seminars or strategic salons.

ii. Promotional Activities

1. Holding CCICED Roundtable 2014.

2. Completing the following reports of pilot projects:

1) Summary reports of Green Supply Chain Management pilot projects in Tianjin and Shanghai;

2) Progress reports of Sustainable Consumption pilot project and Corporate Social Responsibility pilot project.

3. Holding 1-2 dialogues and exchange events with other developing countries or regions.

4. Co-hosting 1-2 international meetings and events in environment and development with donors and partners.

iii. Operational Management

1. Holding the CCICED AGM 2014.

2. Studying and developing middle and long-term development strategies, as well as a preliminary mechanism for enhanced CCICED organization and management.

3. About CCICED Council members, donors and partners:

1) Assisting Council members in the establishment of 2-3 thematic working groups, completing 3-5 special research reports and submitting the findings to the AGM 2014;

2) Moving forward with implementing all signed MoUs with donors and partners;

3) Carrying out overseas training with the support of donors and partners;

4) Holding 2-3 donors working conferences.

4. Publicity and promotion activities:

1) Developing CCICED's communications and publicity strategy and action plan, and launching its implementation;

2) Printing *CCICED 2013 AGM 2013 Proceedings*, and publishing *CCICED 2013 Annual Policy Report*, *CCICED 2013 Annual Work Report* as well as *Special Issue on CCICED 2013 AGM*;

3) Issuing at least 3 CCICED special reports.

5. Capacity Building:

- 1) Improving the working mechanism for the Chief Advisors and their expert support group and identifying and utilizing external expert resources;
- 2) Optimizing the division of labour and task-setting within the CCICED Secretariat and enhancing the overall operational capacity and working efficiency of the Secretariat;
- 3) Further strengthening and optimizing the functions of the International Support Office of the Secretariat;
- 4) Fully implementing 'whole-process' management and performance evaluation systems.

Progress in Environment and Development Policies in China (2012-2013) and CCICED Policy Recommendations Impact

CCICED Chinese Chief Advisor and Support Team
(November, 2013)

1. ENVIRONMENT AND DEVELOPMENT OVERVIEW¹

In 2012, the Communist Party of China (CPC) held the 18th National Congress and smoothly completed its leadership transition. In the report to the 18th National Congress, for the first time, ecological civilization was elevated to the same level as economic, political, cultural, and social progress and integrated into the "five-in-one" framework for socialism with Chinese characteristics. The vision of "hard work to build a beautiful country, and achieve lasting and sustainable development of the Chinese nation" was also put forward. Government departments at all levels, guided by the concept of ecological civilization, have since then made the utmost effort to achieve new progress in environmental protection.

1.1 New Progress in Environment and Development in 2012

1.1.1 Remarkable results in economic and social development

Faced with a difficult and uncertain international economic situation, China has made new progress in various social undertakings, while maintaining smooth economic development. This has established a solid foundation for building a moderately prosperous society by 2020. In 2012, the gross domestic product (GDP) increased by 7.8% over the previous year to RMB 51.9322 trillion. To break it down, the output value registered RMB 5.2377 trillion in primary industry, RMB 23.5319 trillion in secondary industry, and RMB 23.1626 trillion in tertiary industry, up by 4.5%, 8.1%, and 8.1% respectively, and the added output value accounted for 10.1%, 45.3%, and 44.6% of the GDP growth. At the end of the year, foreign exchange reserves totaled USD 3.3116 trillion with an increase of USD 130.4 billion, and the exchange rate was RMB 6.2855 to one U.S. dollar, making an appreciation of 0.25% over the previous year. In addition, national public revenue rose by 12.8% or RMB 1.3335 trillion to RMB 11.721 trillion, in which the tax revenue expanded by 12.1% or RMB 1.0862 trillion to RMB 10.0601 trillion. Imports and exports added up to USD 3.8668 trillion, an increase of 6.2% year on year.²

¹This paper is prepared annually by the Chinese members of the Chief Advisors support group.

²NBS, Statistical Communiqué of the People's Republic of China on the 2012 National Economic and Social Development, website of the Central People's Government,

1.1.2. Full completion of the targets in energy conservation and emission reduction

In 2012, the targets for emission reduction relative to the level in 2011 were set as follows: both chemical oxygen demand (COD) and SO₂ emissions decreased by 2%, ammonia nitrogen emissions decreased by 1.5%, and NO_x emissions had zero growth. In practice, the reductions of chemical oxygen demand (COD), SO₂, ammonia nitrogen and NO_x are 3.05%, 4.52%, 2.62%, and 2.77% respectively.³ According to the *Statistical Communiqué on the 2012 Economic and Social Development* of the National Bureau of Statistics (NBS), the energy consumption per unit of GDP fell by 3.6% in 2012.⁴ The carbon intensity per unit of GDP fell 3.5%.⁵

From 2008 to 2012, the energy consumption per unit of GDP fell by 17.2%, and COD and SO₂ emissions decreased by 15.7% and 17.5% respectively.⁶

1.1.3. New results in the remediation of outstanding environmental problems

With respect to air pollution prevention and control, *Ambient Air Quality Standards and Technical Requirements on Ambient Air Quality Index (AQI) (Trial)* were revised in 2012. Pursuant to this, the Ministry of Environmental Protection (MEP) issued the *Implementation Program for the First-Phase Monitoring under Ambient Air Quality Standards and Opinions on Building up the Capacity of Environmental Air Quality Monitoring*, specifying the scope, content and requirements for monitoring in the first phase. It also sought to obtain special funds through the active coordination of ministries concerned, including the Ministry of Finance (MOF). In 2012, the central appropriation for financing of the monitoring effort was RMB 519 million, while local investment totaled RMB 430 million. Moreover, the newly amended standards have been applied in 496 monitoring sites in 74 cities, including the Beijing-Tianjin-Hebei region, the Yangtze River Delta, the Pearl River Delta, and provincial capitals and municipalities; monitoring statistics were officially released on January 1, 2013. In addition, the *12th Five-Year Plan for the Prevention and Control of Air Pollution in Major Areas* was approved by the State Council and called for, *inter alia*, comprehensive management, cooperative control, and joint prevention and control. More than 550,000 old vehicles have been phased out in Beijing, which means that the target of 400,000 vehicles was completed three years ahead

http://www.gov.cn/gzdt/2013-02/22/content_2338098.htm, last visit on September 8, 2013.

³MEP, 2012 China Environmental Bulletin: Emission Reduction of Major Pollutants, website of MEP, http://jcs.mep.gov.cn/hjzl/zkgb/2012zkgb/201306/t20130606_253420.htm, last visit on September 8, 2013.

⁴ NBS: Statistical Communiqué of the People's Republic of China on the 2012 National Economic and Social Development, website of the Central People's Government, http://www.gov.cn/gzdt/2013-02/22/content_2338098.htm, last visit on September 8, 2013.

⁵<http://blogs.reuters.com/fulldisclosure/2010/09/27/toward-a-more-thoughtful-conversation-on-stories/>

⁶Wen Jiabao, 2013 Government Work Report of the State Council, website of the Central People's Government, http://www.gov.cn/test/2013-03/19/content_2357136.htm, last visit on September 8, 2013.

of time. In Shanxi Province, due to a special focus on improving air quality, the consumption of raw coal in 11 city-level districts was reduced by 6.74 million tons.⁷

With regard to water pollution prevention and control, the *12th Five-Year Plan for Drinking Water Safety Projects in Rural Areas* was approved by the State Council. An overall picture of 833 water source sites in 321 cities was obtained through the MEP-led nationwide environmental assessment of centralized drinking water sources of prefecture-level cities. Pursuant to the *National Groundwater Pollution Prevention and Control Plan*, MEP worked out the *Implementation Program for the Groundwater Pollution Prevention and Control in the North China Plain*. In addition, the *Water Pollution Prevention and Control Plan for Key Basins (2011-2015)*, approved by the State Council, perfected the indicator system for assessing the completion of the special plan, and an assessment of the plan's implementation was carried out in the middle and lower reaches of the Yangtze River Basin. After years of efforts, the water quality in the basins of key rivers and lakes, such as the Taihu Lake Basin, exhibited initial improvements.⁸

With respect to the prevention and control of heavy metal and hazardous waste pollution, a central allocation of RMB 5.4 billion was used to control heavy metal pollution in 2012, and an assessment was carried out with respect to the implementation of the *12th Five-Year Plan for the Prevention and Control of Heavy Metal Pollution*. During the five years, 2.3 million tons of chromium residue historically left over was treated, at a rate of three times the annual average six years ago, and up to 6.7 million tons of chromium slag stockpiled for decades and up to half a century was disposed of.⁹

1.1.4. Strengthened ecological protection and environmental protection in rural areas

In 2012, biodiversity conservation was elevated to the status of a national strategy. The *China Action Plan for UN Decade on Biodiversity* was reviewed and adopted at the First Meeting of the China National Committee on Biodiversity Conservation chaired by Vice Premier Li Keqiang. An ecological compensation mechanism was established for key ecological function zones and achieved satisfactory results. In 2008, the transfer payments were approved by the Central Government to counties (cities, districts) within the scope of national key ecological function zones across more than 20 provinces (autonomous regions and municipalities), and support funds totaled RMB 110 billion in the last five years. Moreover, annual payments increased from RMB 6.05 billion to RMB 37.1 billion and were extended from 221 to 466 counties (cities, districts). A

⁷Gu Ruizhen, Ecological civilization Shaping the New Landscape of "Beautiful Country, Xinhua net, http://news.xinhuanet.com/politics/2013-01/25/c_114504988.htm, last visit on September 8, 2013.

⁸Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP, http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm, last visit on September 8, 2013.

⁹MEP, 2012 China Environmental Bulletin: Introduction, website of MEP, http://jcs.mep.gov.cn/hjzl/zkgb/2012zkgb/201306/t20130606_253420.htm, last visit on September 8, 2013.

comprehensive monitoring and evaluation shows that the ecological environmental quality in 58 of the 452 counties or 12.8% of the counties improved during 2009-2011, and remained stable in 380 counties or 84.1% of the counties.

In rural areas, the funds for "incentives to promote control" were replenished and extended to cover a wider scope. The Central Government allocated a special fund of RMB 5.5 billion to support environmental protection in rural areas. As of the end of 2012, a total of 23 provinces (autonomous regions and municipalities) were covered for contiguous remediation and demonstration activities, and the cumulative funds invested added up to RMB 13.5 billion, which benefited 26,000 villages and more than 57 million rural people.¹⁰

1.1.5. Significant progress in clean energy

At the end of 2012, the installed capacity for hydropower totaled 249 MW and wind power totaled 63 MW, both the highest in the world, and the annual generating capacity from wind power exceeded 100 billion kWh. PV installed capacity reached 7MW. A total of 30 nuclear power units with a capacity of 32.73 MW were under construction, ranking first in this category in the world, while the in-service units operated in safe and stable conditions. In 2012, natural gas, hydropower, wind power, and nuclear power combined delivered 14.5% of the total power consumption, 1.5 percentage points higher than in 2011.¹¹

1.1.6. Continuous efforts to create a low-carbon and green economy

Green, energy-efficient and environmental friendly industries, green and circular economy are the ways to the green transformation of industrial structure, in which respect, China has made significant achievements in recent years. Different ministries are putting efforts in developing green planning and policies to stride for a green and low carbon economy.

The State Council revealed the *Circular Economy Development Strategy and the Immediate Plan of Action* and sets up the specific objectives to the end of the 12th FYP period (immediate objectives) as follows: 1) the output rate of major resources will increase by 15% from the level in 11th FYP period, and the output value of resources reuse will amount to RMB 1.8 trillion; 2) by 2015, the energy consumption and water consumption per unit of industrial added value will decrease by 21% and 30% respectively from the 2010 levels, comprehensive utilization rate of industrial solid waste will be up to 72%, and more than half of national parks and more than 30% of provincial parks will carry out the circular transformation; 3) by 2015, the effective

¹⁰Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP,

http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm, last visit on September 8, 2013.

¹¹NEA, Study and Implement the Spirit of the 18th CPC National Congress, and Better the Energy Development Reform in 2013, website of NEA, http://www.nea.gov.cn/2013-01/08/c_132089068.htm, last visit on September 8, 2013.

utilization coefficient of irrigation water will reach 0.53, straw utilization rate, 80%, wastewater treatment and utilization rate in facility fishery, 80% or higher, and utilization rate of logging, a forestation and processing residues in forestry, 80% or higher;4) by 2015, a complete and advanced renewable resource recycling system shall be built up, and significant progress will be made in waste separation, with the reuse rate of major varieties up to 70%.

NDRC, Ministry of Science and Technology (MOST), MIIT, MOF, MOHURD, and Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) formulated the *Energy Saving Industrial Plan: Semiconductor Lighting*. According to the Plan, the common 60W-or-above incandescent lamp will be all eliminated in 2015, with the market share down below 10%, and the market share of energy-efficient lamps and other traditional energy efficient lighting products will stable at around 70% and of LED functional lighting, above 20 %. In addition, LED LCD backlighting and landscape lighting will take up 70 % and 80 % or more of the market respectively. Compared with the traditional lighting, LED road lighting reduces electricity power by more than 30%, LED indoor lighting by more than 60%, backlighting by more than 50%, and landscape lighting by more than 80%. It will bring an annual saving of 60 billion kWh, equivalent to the reduction of 21 million TCE and nearly 60 million tons of CO₂emissions.

In January 2013, MIIT, NDRC, and MEP together issued the *Guidance on the Development of Industrial Product Eco-Design*. In 2015, China will initially set up the eco-design promotion mechanism for industrial products to drive ahead eco-design work in an orderly manner through a combination of policy guidance and market incentives. A number of products up to the eco-design standards will be introduced then. Also the eco-design product evaluation, supervision and management mechanism will be in place. Product eco-design pilots will be carried out, and the evaluation results announced. A number of non-toxic harmless or less harmful and toxic materials (products) and cleaner production technologies will be developed, applied and extended.

MOST promulgated the *12th Five-Year Plan for the Development of Carbon Capture Utilization and Storage(CCUS)*.The Plan outlined the objectives as key breakthroughs in basic CCUS theories and techniques, substantial reduction in cost and energy consumption, formation of megaton-level CCUS system design and integration capabilities, foundation of the CCUS system R&D platform and innovation base, and demonstration of an integrated system capable of capturing, utilizing and storing 30-50 tons of CO₂/year.

In March 2013, MIIT formulated the *Implementation Program for the 2013 Action Plan for Industrial Energy Efficiency and Green Development*. In view of more than ten percentage points lower in the motor system efficiency than the international advanced level and frequent lead pollution incidents in the lead-acid battery and secondary lead industries in recent years, the Program envisaged two objectives. 1) The capacity of motors and electrical systems to be extended, eliminated, and renovated will total 100 million kW and the electricity savings will amount to 1% of the national industrial total (30 billion kWh). To this end, efforts are needed to expand the market share of energy-efficient motors, urge the electrical product upgrading and industrial upgrading,

and improve motor efficiency. 2) By strengthening industry threshold management, we should reverse the fragmented and chaotic trend, improve primary lead smelting, lead-acid battery production and secondary lead industrial concentration, optimize the industrial structure, and accelerate the standard production, orderly recycling, rational reuse of lead-acid batteries. An implementation mechanism for the lead-acid battery extended producer responsibility system should be in place and a batch of demonstration projects for lead reuse introduced, to increase the lead reuse rate to 40%, and accelerate the formation of National Lead Resource Recycling and Reuse System.

In April 2013, MOHURD issued the *12th Five-Year Plan for Green Buildings and Green Eco-cities*, explicating the aim to achieve the social acceptance of the green development concept, form basically the economic incentives for green buildings and green ecological urban development, improve progressively the technical standards and the innovative R&D capabilities, shape initially the industrial scale with significant demonstration effect, and realize basically the scientific transformation of the urban and rural construction model. Green buildings with a floor area of one billion m² and a number of green eco-cities and rural farms will be built, to guide the design and construction in rural areas in accordance with the principles of green building.

In August 2013, the State Council issued the *Opinions on Accelerating the Development of Energy-saving and Environmental Protection Industries*. The short-term target is to increase the output value by more than 15% annually, up to RMB 4.5 trillion in 2015 and build the energy-saving and environmental protection industries to a new economic pillar.

1.2. Deepening ecological civilization construction under the new leadership

Following the introduction of the concept of "ecological civilization" in the report to the 17th CPC National Congress in 2007, the 18th CPC National Congress report dedicated a separate chapter to "vigorously promoting the ecological civilization" and elevated it to a higher strategic level. In this way, the four-in-one framework of socialism with Chinese characteristics was extended to a five-in-one framework by adding ecological civilization to economic, political, cultural, and social progress.

To implement the spirit of the 18th CPC National Congress, the new central leadership from a strategic and overall perspective proposed a series of new ideas and requirements, directing and paving the way for realization of the concept of Chinese ecological civilization and progress in ecological environmental protection. In the sixth collective study of the CPC Central Committee Politburo on May 24, 2013, President Xi Jinping talked about the great significance of ecological civilization and other major initiatives. General Secretary Xi's speech and the instructions of other central leaders on different occasions conveyed the following information about the will, orientation, and measures regarding ecological matters:

1) Firm will and strong determination to implement ecological civilization. A vision of a new era of ecological civilization and a beautiful country leading to the rejuvenation of China and the Chinese Dream was articulated. Eco-environmental protection will benefit both the current and future generations. With a highly responsible

attitude the masses and future generations should be determined to control environmental pollution and create a favorable ecological environment.

2) **Important manifestation of the CPC's governing capability.** Ecological civilization is a strategic task for strengthening governing capability and consolidating the governance, and therefore we should strive to achieve tangible results.

3) **Proper response to the relationship between economic development and environmental protection.** Xi's idea that, "to protect the environment is to protect productivity and to improve the ecological environment is to develop the productive forces," explicitly prioritizes protecting the environment, so as to "seek economic development based on environmental protection and protect the environment in the process of economic development."¹²

4) **Awareness of the ecological red line.** Xi stressed that we should be fully aware of, delineate and adhere to the ecological red line, build scientific and rational patterns for urbanization, agricultural development, and ecological security to safeguard national and regional ecological security, and also improve ecosystem services. With respect to ecological and environmental issues, we should keep in mind to never cross the ecological red line.

5) **Road to resource conservation-based ecological and environmental protection.** We should conserve resources and resolutely adopt a fundamental change in the way we use resources, and strengthen conservation management, so as to dramatically reduce the intensity of energy, water, and land consumption. Also we should vigorously develop the circular economy and promote reduction, reuse, and recycling in the production, circulation and consumption process.

6) **Focus on serious environmental problems posing hazards to public health.** A beneficial ecological environment is fundamental to human and social sustainability. People have attached high attention to environmental issues. In the process of environmental protection and governance, we should take a holistic approach to intensifying prevention and control of water, air and soil pollution, putting prevention first and placing emphasis on serious environmental problems that pose health hazards to the people. In particular, vigorous efforts should be made to prevent and control water pollution in major river basins and air pollution in major industrial areas and regions.

7) **Perfect institutional system for ecological civilization.** Only the strictest system with the most stringent rule of law can offer reliable protection of ecological civilization. In this respect, the most important endeavour is to improve the economic and social development evaluation system by integrating indicators reflecting ecological civilization, such as resource consumption, environmental damage, and eco-efficiency, to direct and manage efforts in the ecological sphere. A system of accountability shall be in place, so that those making decisions, disregarding the ecological environment and causing serious consequences, can be held fully accountable. There is also a need to strengthen public

¹²Zhou Shengxian's speech at the 2013 National Director Conference on Environmental Protection http://www.mep.gov.cn/zhxx/hjyw/201308/t20130819_257633.htm

awareness of resource conservation, environmental protection, and the conservation of the ecological environment, so as to create an optimal atmosphere for environmental stewardship.

Box 1

Discourse on ecological civilization in the report to the 18th CPC National Congress

I. Our Work in the Past Five Years and the Basic Experience We Have Gained in the Past Ten Years

...fully implement the overall plan for promoting economic, political, cultural, social, and ecological civilization, ensure coordinated progress in all areas of endeavors in the modernization drive, balance the relations of production with the productive forces as well as the superstructure with the economic base, and continue to expand the path of development that leads to increased production, prosperity and a good ecosystem....

II. Achieving New Victory for Socialism with Chinese Characteristics

...continue to release and develop the productive forces. This is the fundamental task of socialism with Chinese characteristics. We should take economic development as the central task and pursuing development in a scientific way as the underlying guideline, advance in an all-around way through economic, political, cultural, social, and ecological civilization and achieve development in a scientific way that puts people first and is comprehensive, balanced and sustainable....

III. The Goal of Completing the Building of a Moderately Prosperous Society in All Respects and Deepening Reform and Opening Up in an All-Around Way

...move faster to set up a system for ecological civilization, improve institutions and mechanisms for developing geographical space, conserve resources and protect the ecological environment, and promote modernization featuring harmonious development between man and nature....

VIII. Making Great Efforts to Promote Ecological civilization

Promoting ecological civilization is a long-term task of vital importance to the people's well-being and China's future. Faced with increasing resource constraints, severe environmental pollution and a deteriorating ecosystem, we must raise our ecological awareness of the need to respect, accommodate to, and protect nature. We must give high priority to making ecological civilization and incorporating it into all aspects of the whole process of advancing economic, political, cultural, and social progress, working hard to build a beautiful country, and achieving lasting and sustainable development of the Chinese nation.

We should remain committed to the basic state policy of conserving resources and protecting the environment as well as the principle of giving high priority to conserving resources, protecting the environment and promoting its natural restoration, and striving for green, circular and low-carbon development. We should preserve our geographical space, improve our industrial structure, and preserve our way of production and way of life in the interest of conserving resources and protecting the environment. We should address the root cause of deterioration in the ecological environment so as to reverse this trend, create a sound working and living environment for the people, and contribute our share to global ecological security.

1. Improve development of China's geographical space

It is in geographical space that ecological civilization can be advanced, and we must cherish every bit of it. Guided by the principle of maintaining balance between population, resources and the environment and promoting economic, social and ecological benefits, we should keep the pace of development under control and regulate its space composition. We should ensure that the space for production is used intensively and efficiently, that the living space is livable and proper in size, and that the ecological space is unspoiled and beautiful; and we should leave more space for nature to achieve self-renewal. We should keep more farmland for farmers, and leave future generations with a beautiful homeland with green fields, clean water and blue sky. We should ensure the speedy implementation of the functional zoning strategy and require all regions to pursue development in strict accordance with this strategy; and advance urbanization, agricultural development and ecological security in a scientific and balanced way. We should enhance our capacity for exploiting maritime resources, develop the maritime economy, protect the maritime ecological environment, resolutely safeguard China's maritime rights and interests, and build a sustainable maritime economy.

2. Promote all-around resource conservation

Resource conservation is an important way to protect the ecological environment. We should conserve resources and use them efficiently and bring about a fundamental change in the way resources are utilized. We should strengthen conservation efforts all the way, drastically reduce energy, water and land consumption per unit of GDP, and use such resources in a better and more efficient way. We should launch a revolution in energy production and consumption, impose a ceiling on total energy consumption, and save energy and reduce its consumption. We should support the development of energy-efficient and low-carbon industries, new energy sources and renewable energy sources and ensure China's energy security. We should better protect water sources, impose a cap on total water consumption, promote water recycling, and build a water-conserving society. We should ensure that the red line for protecting farmland is not crossed and strictly control land uses. We should strengthen exploration, protection and proper exploitation of mineral resources. We should develop a circular economy to reduce waste and resource consumption, reuse resources and recycle waste in the process of production, distribution and consumption.

3. Intensify protection of the ecosystem and the environment

A sound ecological environment is the fundamental basis for sustainable human and social development. We should launch the following major projects for restoring the ecosystem: increase our capacity for producing ecological products; take integrated steps to control desertification, stony deserts and soil erosion; enlarge forests, lakes and wetlands; and protect biodiversity. We should accelerate construction of water conservancy projects, and enhance our capacity for responding to floods, drought and water logging in urban and rural areas. We should improve the system for preventing and mitigating natural disasters and become more capable of responding to meteorological, geological and seismic disasters. We should take a holistic approach to intensifying prevention and control of water, air and soil pollution, putting prevention first and placing emphasis on serious environmental problems that pose health hazards to the people. We will work with the international community to

actively respond to global climate change on the basis of equity and in accordance with the common but differentiated responsibilities and respective capabilities of all countries.

4. Enhance system building to promote ecological civilization

System building is crucial to protecting the ecological environment. Resource consumption, environmental damage and ecological benefits should be covered by the system of standards for evaluating economic and social development, and related goals; evaluation methods and reward and punishment mechanisms should be adopted in keeping with the need of promoting ecological civilization. We should establish a system for developing and protecting China's geographical space and improve the system for providing the strictest possible protection for farmland and systems for managing water resources and protecting the environment. We should deepen reform of prices, taxes and fees for resource products, and establish a system for paying for resource consumption and compensating for ecological damage - a system that responds to market supply and demand and resource scarcity, recognizes ecological values and requires compensation in the interests of later generations. We should carry out trials for trading energy savings, carbon emission rights, pollution discharge rights and water rights. We should strengthen environmental monitoring and improve the system of accountability for ecological and environmental protection and the system of compensation for environmental damage. We should increase publicity of and education in ecological civilization, raise public awareness of the need to conserve resources, protect the environment and promote ecological civilization, and foster a social atmosphere of practicing moderate consumption and cherishing the ecological environment.

We must treasure nature more consciously, protect the ecosystem more actively, and strive to usher in a new era of socialist ecological civilization.

In addition, the new Government (2013-2018) articulated three priorities in the effort to protect the environment: 1) the prevention and control of air pollution putting emphasis on PM_{2.5}; 2) the prevention and control of water pollution putting emphasis on clean water; and 3) special action putting emphasis on environmental protection and soil pollution in rural areas. To this end, the State Council decided to develop the *Action Plan for Air Pollution Prevention and Control*, *Clean Water Action Plan* and the *Action Plan for Ecological Environmental Protection in Rural Areas*. In June 2013, the Standing Committee of the State Council devoted the meeting to the deployment of ten measures to prevent and control air pollution. The *Action Plan for Ambient Air Pollution Prevention and Control* has been officially unveiled, while the formulation of other two action plans is receiving priority attention.

1.3. Environmental Problems Facing China and Work Priorities in Environment and Development in 2013

Despite the significant achievements in environmental protection, the current environmental situation is very grim. 1) Emission reduction remains an arduous task, given the large emissions of major pollutants. In industries with high pollution and energy consumption and extensive resource use, the investment expansion slows down, but the pollutants from the existing capacity are still a large problem. In addition, NO_x

emissions from vehicles tend to increase along with the annual increase of about 15 million motor vehicles. 2) Environmental pollution remains severe. Approximately 70% of the cities fail to meet the new standards for ambient air quality, and 20% of state-controlled waterway sections are under Grade V for water quality. Groundwater is seriously contaminated in half of the urban areas, with very poor water quality indicated in 57% of the monitored sites. 3) Environmental risks continue to increase and environmental problems posing hazards to human health are becoming more prominent. In the current stage of social transformation, environmental sensitivity, environmental risks and environmental consciousness are increasing. Long-term environmental contradictions are exposed, of which PM2.5, safe drinking water, and chemical pollution have received widespread attention. 4) A dispersed distribution of ecological and environmental protection authorities among different departments of government still exists under the current inadequate environmental management system. More efforts are needed with respect to capacity building, supervision and intellectual development. 5) Environmental protection departments urgently need to further change their style of work and improve their service capacity.¹³

In the next ten years, the country will experience rapid urbanization, and a population of 300 million will have to be integrated into cities by 2030, causing the urbanization rate to rise to 70%. Urbanization is an integral component of Chinese modernization and an important way to sustain economic development by stimulating the domestic demand needed for future economic development. How to solve a series of environmental problems and achieve sustainable urbanization is a huge challenge facing the country. According to the *2013 China National Human Development Report* on "Sustainable and Livable Cities: Towards Ecological Civilization" jointly completed by United Nations Development Programme (UNDP) and Chinese Academy of Social Sciences (CASS), Chinese urbanization has entered a critical stage. Pressures on multiple fronts will increase, including the efficient usage of energy and other natural resources. Pressures will also be felt in such areas as urban governance systems, employment, transportation, housing, and access to basic public services, security, livelihood of migrant workers, population aging, economic restructuring, and air and water pollution. The way China continues its process of urbanization will shape the final outcome of these challenges.

To address these issues, we must have a sense of urgency, but also be mentally ready to fight a protracted war. It is necessary to treat both symptoms and root causes and achieve the goals of environmental protection established each year.

In the field of environment and development, work priorities were basically established at the Central Economic Work Conference held in December 2012 and in the Government *Work Report* delivered by former Premier Wen Jiabao to the National People's Congress in March 2013. Generally, priority will be given to the in-depth strategic adjustment of the industrial structure for sustained and healthy economic development and social

¹³Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP, http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm, last visit on September 8, 2013.

harmony and stability.

Premier Wen clearly stated in the *Government Work Report*: 1) At the macro level, we should accelerate the transformation of the economic growth model and promote sustained and healthy economic development. In response to people's expectations of having a favorable living environment, we should greatly strengthen ecological improvement and environmental protection. Additionally, we should adhere to the basic state policy of conserving resources and protecting the environment and strive to promote green, circular, and low-carbon development. 2) Efforts should be exerted to significantly boost the conservation and reuse of energy and resources, prioritize saving energy in industry, transportation, construction, and in public institutions, restrict total energy consumption, and reduce energy and materials consumption and carbon dioxide emissions. 3) In regards to pollution prevention and control, the pace should be accelerated in adjusting the economic structure and distributing and upgrading of relevant standards, practices, laws, and regulations. Effective measures should be adopted to prevent and control pollution and change the way we work and live. Resolution should be made to solve the problems of serious air, water, and soil pollution that affect the people's vital interests. In addition, we must resolve to improve environmental quality, safeguard people's health, and give the people hope through our concrete action and achievements. 4) In regards to ecological protection, we should optimize development of the country's territory, carry out development at a proper pace and adjust its spatial layout. Also we should strengthen comprehensive maritime management, develop the maritime economy, become better able to exploit maritime resources, protect the maritime ecological environment, and safeguard China's maritime rights and interests.

According to the 2013 National Conference on Environmental Protection, the environmental priorities are as follows: 1) To strive to complete the task of conserving energy and reducing emissions. Relative to the level in 2012, COD and SO₂ emissions shall be decreased by 2%, ammonia nitrogen emissions decreased by 2.5 % and NO_x emissions decreased by 3%. 2) To give priority to the role of environmental protection in economic development. The preparation of the environmental zoning plan must be expedited, and efforts must be made to strengthen and improve the environmental impact assessment (EIA) for construction projects, with tight control of construction projects with high emissions, pollution and resource consumption, and of low-level redundant construction and overcapacity construction projects. Backward production capacity should be eliminated at a rapid pace, and emerging strategic industries, infrastructure and livelihood projects should be encouraged. Better EIA management should be introduced for chemical, petrochemical, heavy metal, iron and steel sectors as well as transportation infrastructure projects. Post-project assessment of major projects should be undertaken. 3) The PM_{2.5} monitoring, information disclosure and integrated treatment should be strengthened. Advancement should be achieved in the linked air quality monitoring of the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta. Through comprehensive measures, PM_{2.5}'s annual average concentration should be reduced by 5% in major areas and by 6% in the above-mentioned three regions.¹⁴

¹⁴ Zhou Shengxian, Implement the Spirit of the 18th CPC National Congress, Promote Ecological

2. IMPORTANT PROGRESS IN ENVIRONMENTAL AND DEVELOPMENT POLICIES RELATED TO CCICED POLICY RECOMMENDATIONS

In a report to the Chinese Government in 2012, the China Council for International Cooperation on Environment and Development (CCICED) highlighted the strategic transformation that should be directed at green transformation, while the 18th CPC National Congress proposed ecological civilization as one of the five components of modern development. The 12th Five-Year Plan stressing green development is a milestone in the exploration of a new road towards environmental protection. Green transformation is of vital significance not only for China, but also for the world's green progress.

CCICED also added that China's green transformation was at a crucial stage. China is confronted with unprecedented challenges and pressures in achieving strategic objectives by 2020, and green development still must address prominent unbalanced, uncoordinated and unsustainable development issues. To this end, in keeping with the 2012 theme of "regional balance and green development," CCICED established the Task Force on Western Environment and Development Strategies and Policies and the Task Force on the Mechanism and Policies for the Realization of the 12th FYP Environmental Goals. CCICED carried out case studies on environmental strategies and policies for the eastern development transformation, regional air quality control system, and maritime environmental management mechanisms, all of which relate to regional balance and green development.

In 2013 China has made significant progress in environment and development. Many policy recommendations submitted by CCICED have been realized, including the following: "to better the top-level design of ecological civilization at the central level and integrate the ecological civilization into the economic, political, cultural and social progress"; "to establish a government performance evaluation, assessment and accountability mechanism favorable to ecological civilization"; "to strengthen joint prevention and control of air pollution, so as to improve regional air quality"; "to build the general idea of and national strategy for balanced regional development to shape the regional pattern of green development"; and "to strengthen maritime environmental protection and build a sustainable maritime economy" (see Box 2). In response to the serious air pollution, the policy recommendations on air pollution prevention and control have been incorporated into the *Action Plan for Air Pollution Prevention and Control* (see Box 3). National leadership affirmed green economic transformation in addressing the relationship between economic development and the environment, which is important to that strategic transformation. In the speech delivered on the 8th G20 Summit in September 2013, President Xi Jinping stressed that China has been firm in advancing economic structural reform, even at the price of slower growth. He re-emphasized economic transformation in the APEC CEO Summit held in October 2013 and noted that "the GDP growth is no longer the only indicator, and the growth quality and effectiveness will also be fundamental"

civilization, and Open up a New Situation -- Speech at the 2013 National Conference on Environmental Protection, website of MEP,
http://www.zhb.gov.cn/gkml/hbb/qt/201302/t20130204_245877.htm, last visit on September 8, 2013.

CCICED’s policy achievements go beyond the policy recommendations raised in 2012. Many of its earlier policy proposals also made new progress in 2013, after years of debate, as also shown in Box 2.. These include promoting a green transformation of the economic development pattern, strengthening ecological protection and ecological compensation, improving public participation and information disclosure, building an emissions trading platform, and actively participating in international environmental cooperation.

Box 2. Major policy recommendations in recent years and the progress in 2013

Year	Policy recommendations	Progress
2008	The Government should disclose environment and health information of public concern in an accessible, understandable, and timely manner via government websites and various news media.	<p>In October 2012, the General Office of MEP issued the <i>Circular on Further Strengthening Environmental Information Disclosure</i>, requiring environmental protection departments at all levels to strengthen the verification and approval of environmental information disclosure, strengthen environmental monitoring information disclosure, comprehensively promote the disclosure of environmental information associated with people's livelihood and high social concerns, and disclose information about major environmental emergencies in a timely fashion.</p> <p>In May 2013, MEP solicited public comments on the drafts for <i>Measures for the Self-monitoring of Key Enterprises and Information Disclosure (Trial)</i> and <i>Measures for the Supervisory Monitoring of Pollution Sources for Key Enterprises and Information Disclosure (Trial)</i>.</p> <p>In July 2013, MEP issued the <i>Circular on Strengthening the Disclosure of Monitoring Information about Environmental Pollution Sources</i>, which requires environmental protection departments at all levels to voluntarily disclose environmental</p>

pollution information.

2009 Intensify efforts to boost the circular economy, and improve the resource and environmental efficiency of economic development.

In January 2013, the State Council announced the *Circular Economy Development Strategy and the Immediate Plan of Action*, noting that the mid-and long-term objectives for a circular economy are wide application of circular production methods, penetration of green consumption patterns, initial establishment of resources reuse system covering the whole of society, substantial increase in resource productivity, and significant improvement in sustainable development capacity.

2010 Accelerate the legislative process of ecological compensation, and improve relevant policies and mechanisms.

In April 2013, NDRC Director Xu Shaoshi delivered the *Report on the Ecological Compensation Mechanism* on behalf of the State Council to the NPC Standing Committee. It is the first time the State Council reported to the NPC Standing Committee specifically on the construction of an ecological compensation system. In the next step, work priorities include effectively intensifying ecological compensation, further clarifying the rights and responsibilities of beneficiaries and protectors, actively exploring diversified compensation and experimental areas, improving supporting institutions, expediting the introduction of ecological compensation policies and regulations, strengthening organizational leadership and supervision and inspection, and enhancing the whole society's awareness of ecological compensation .

2011	<p>Improve energy conservation monitoring, indicators and evaluation systems; strengthen the assessment of responsibilities for meetings targets related to energy conservation, and improve the reward system.</p>	<p>In January 2013, MEP, NBS, NDRC, and Ministry of Supervision of the State Council jointly issued the <i>Statistical Measures for the Total Emissions of Major Pollutants During the 12th Five-Year Plan Period</i> and the <i>Measures for Monitoring the Total Emissions of Major Pollutants During the 12th Five-Year Plan Period</i>.</p> <p>In May 2013, MEP announced the <i>Letter of Accountability for the Reduction of Major Pollutants in the 12th FYP Period</i>.</p> <p>In August 2013, MEP announced that Petro China and Sinopec failed the annual assessment due to inadequate completion of the task of reducing pollutants in 2012, and decided to limit the EIA approval for their new and expanded refinery projects.</p>
2011	<p>Establish an emissions trading platform.</p>	<p>Emission trading pilot projects were inaugurated in Beijing, Shanghai, Guangdong and four other provinces and cities in 2013.</p>
2012	<p>Improve the top-level design of ecological civilization at the central level and integrate ecological civilization into economic, political, cultural and social progress.</p>	<p>In the sixth collective study of the CPC Central Committee Politburo on vigorously promoting ecological civilization on May 24, 2013, Xi called for appropriate harmonizing of economic development and eco-environmental protection and emphasized the concept that to protect the ecological environment is to protect productivity, and to improve the ecological environment is to develop productivity.</p>
2012	<p>Lever government performance evaluation, assessment and</p>	<p>Xi Jinping called for the establishment of a lifelong</p>

accountability mechanisms favorable for ecological civilization to improve decision-making and governance processes and structures at all levels of government.

accountability system in the sixth collective study of the CPC Central Committee Politburo on vigorously promoting the ecological civilization on May 24, 2013. Those making decisions without due regard for the ecological environment and causing serious consequences can be held accountable for life.

To further clarify the overarching requirement stressed by Xi at the operational level, the Ministry of Supervision has initiated research on accountability systems.

The *Environmental Protection Law* currently under modification (second draft) also stipulates in Article 19 that "the state shall implement the accountability and evaluation system for environmental protection targets. The State Council and local governments shall include the completion of environmental protection targets in the evaluation of the competent environmental departments and responsible officials at the same and lower levels, and the evaluation results shall be made public."

2012 Develop and apply timely assessment procedures for quantitative management, such as comprehensive budget management and credit card management.

Authorities in many provinces are experimenting with budget management systems designed to control any increase in pollutants. To date, the system has been implemented in Henan and Guizhou. It will be implemented in January 2014 in Jiangsu, Zhejiang, Tianjin, Hunan, Hubei, Inner Mongolia, Shanxi, Hebei, Shaanxi, and Chongqing with the prior consent of local governments and MEP, and in the first year of the 13th Five-Year

Plan in other provinces.

2012 Intensify joint prevention and control of air pollution to improve regional air quality.

In October 2012, MEP, together with NDRC and MOF, announced the *12th Five-Year Plan for Air Pollution Prevention and Control in Key Regions*.

MEP released the *Announcement on the Special Emission Caps for Air Pollutants* in February 2013, with the focus on thermal power, steel, petrochemical, cement, non-ferrous metals, and chemicals sectors and coal-fired boiler projects.

In June 2013, Premier Li Keqiang announced the ten measures for air pollution prevention and control in the State Council Standing Committee Meeting.

In September 2013, the State Council promulgated the *Action Plan for Air Pollution Prevention and Control* and MEP, NDRC and four other ministries printed and distributed the *Rules for the Implementation of Action Plan for Air Pollution Prevention and Control in the Beijing-Tianjin-Hebei Region and the Surrounding Areas*.

2012 Develop strategies for balanced regional development and that take into account regional green development imperatives. Based on current function zoning, development goals, industrial development trends, and spatial layout, balanced development should be reflected in the specific administrative areas and become more operable. Regions should complement each other in sectors, markets, resources, infrastructure

In June 2013, NDRC issued the *Opinions on Implementing the Strategies and Policies for the Development of Main Functional Zones*, proposing efforts to build scientific and rational patterns for urbanization, agricultural development and ecological security, and promoting the balanced development in urban and rural areas and between regions, and in population, economy, resources and

	and development potential to promote balanced development.	environment.
2012	Strengthen regional maritime environmental protection and improve sustainable maritime development.	At the eighth collective study of the CPC Central Committee Politburo dedicated to the development of maritime power on July 30, 2013, CPC General Secretary Xi Jinping stressed that a sustainable maritime economy and sound management of maritime resources are important components of socialism with Chinese characteristics. He highlighted the need to protect the maritime environment and called for efforts to promote the recycling and reuse. He said that we should be determined to take measures to reverse the worsening trend in the maritime environment in order to make significant improvements, so that the people can enjoy green, safe and secure maritime food resources and a clean sea and seaside environment. He required incorporating the maritime ecological civilization into the general layout of oceanic development and developing and utilizing maritime resources scientifically and rationally with emphasis on development, conservation, pollution prevention and control, and ecological restoration
2012	Develop as soon as possible national planning for maritime development and environmental protection and formulate the necessary policies and strategies, providing guidelines and action plans for sound maritime environmental management.	In January 2013, the State Council approved the <i>12th Five-Year Plan for the Development of the Maritime Industry</i> . In January 2013, the State Council announced the <i>12th Five-Year Plan for National Maritime Economic Development</i> as the program of action for developing the maritime economy.

2012	<p>Establish and improve the legislation, enforcement, and management systems necessary for sound maritime environmental management; strengthen the capacity of national maritime authorities in the enforcement, supervision, and management of maritime environmental protection; establish an integrated national maritime enforcement team and the requisite administrative inspection systems and law enforcement systems.</p>	<p>In March 2013, the NPC approved the program for a new series of institutional reforms under the auspices of the State Council, which includes the re-organization of the State Oceanic Administration (SOA), to promote unified maritime law enforcement. According to the program, SOA shall be re-organized by integrating the teams and responsibilities of the current oceanic administration, maritime surveillance, border defense maritime police under MPS, fishery administration under MOA, and anti-smuggling police of the General Administration of Customs (GAC); the new organization will be supervised by MLR.</p>
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Box 3: CCICED policy recommendations in 2012 and Action Plan for Air Pollution Prevention and Control

<i>Action Plan for Air Pollution Prevention and Control</i>	CCICED policy recommendations in 2012
<p>Desulfurization, denitrification, and dust removal projects should be introduced in key industries at a more rapid pace.</p> <p>Emissions of volatile organic compounds (VOCs) should be prevented and brought under control by means of integrated treatment in petrochemicals, organic chemicals, surface coating, and packaging and printing industries and the technical transformation of "leak detection and repair" in the petrochemical</p>	<p>Introduce methods for total emission control targeted at air quality improvement, and based on a multi-pollutants control strategy introduced to reduce emissions of SO₂, NO_x, PM_{2.5}, and VOCs in order to address the current outstanding photochemical smog and haze issues.</p> <p>Strengthen industrial pollution prevention and control: promote comprehensive SO₂ emission reduction, build industrial NO_x</p>

industry.

Urban traffic management should be strengthened. In the context of urban development planning, the number of motor vehicles on roads should be appropriately controlled and strictly limited in Beijing, Shanghai, and Guangzhou. By encouraging green travel, and raising the cost of use, the usage of motor vehicles should be reduced.

Fuel quality should be improved through rapid technical upgrading of oil refining enterprises.

The elimination of yellow-marked and old vehicles should be realized by delineating the restricted regions and providing economic compensation.

prevention and control system with a focus on the power and cement sectors, strengthen the prevention and control of industrial smoke dust pollution, and VOCs in the sectors concerned.

Comprehensively strengthen the prevention and control of mobile sources of pollution: implement new vehicle emission standards to reduce the emission per kmin a timely manner, carry out pilot studies of motor vehicle control in polluted cities, build a new, sustainable urban transportation system, and delineate low emission zones and zero-emission zones in the urban planning in key areas.

We should intensify the study of the formation, sources, migration, early warning mechanisms, and monitoring mechanisms of haze and ozone to support pollution control and advance researches on the relationship of air pollution and health.

We should amplify the research and development of technologies with respect to desulfurization, denitrification, efficient dust removal, VOCs control, (vehicle) diesel emission purification, environmental monitoring, new energy vehicles, and smart grid, in addition to promoting the application of technological achievements.

Carry out as soon as possible special scientific studies and make breakthroughs in the study of the generation mechanism, source apportionment, and control paths of atmospheric pollution in different regions.

In terms of the comprehensive renovation of small coal-fired boilers, we should accelerate to replace coal with gas and electricity installations using electricity, new energy or clean coal in areas not covered by heating and gas supply pipe

Vigorously promote quality alternative energy, such as natural gas, low sulfur diesel, liquefied petroleum gas (LPG), and electricity, as an alternative to coal, and achieve the diversified supply and consumption of quality energy. Strictly

lines, and promote the installation of environmentally-friendly energy-efficient boilers. In the chemical, papermaking, printing and dyeing, leather, pharmaceutical and other industrial agglomeration areas, cogeneration units should be built on a large scale to phase out coal-fired boilers.

control the growth of total regional coal consumption, define the ban zone of high-polluting fuel combustion and progressively increase the proportion of such zones in urban areas.

Green credit and green securities policies should be perfected to include corporate environmental information into the credit system, and businesses involved in environmental violations should not have access to loans. Pilots for emissions trading and other 'emission paying' systems should be developed.

Promote systems for paying for air pollution and emission trading systems that are conducive to regional air quality improvement.

A business "leader" system should be introduced to encourage leading enterprises to achieve higher standards for energy efficiency and emission intensity.

Establish central special funds for air pollution prevention and control, strengthen technical support for and expedite the implementation of the National Clean Air Action Plan. Direct and encourage local governments and businesses to actively invest resources into air pollution prevention and control.

Reform of the investment and financing system for energy saving and environmental protection should be improved to encourage the involvement of private and public capital and encourage financial institutions to increase credit support for air pollution prevention and control. Mortgage financing models for emission rights should be studied in order to develop financing and leasing services for energy conservation and environmental protection facilities.

With proper environmental law enforcement and clear price mechanisms, special funds for air pollution prevention and control should be established based on the integration of the projects for pollutant reduction to facilitate the "incentives instead of subsidies" to achieve treatment results in key areas.

More central infrastructure investment should be diverted to air pollution prevention and control in the key areas.

The pace of amendment to the *Law of Air Pollution Prevention and Control* should be accelerated, with the focus put on improving systems for overall control, pollution permits, emergency warning and legal liability. The introduction of measures should be considered that hold business and the responsible persons to account under criminal law for malicious sewage discharge and creating serious pollution and hazards, and penalties for violations should be increased. The environmental public interest litigation system should be established and perfected. We should study and draft the environmental tax law, expedite the pace of amending the *Law of Environmental Protection* and of formulating regulations for motor vehicle pollution prevention and control, as well as regulations for pollutant discharge permits. In accordance with local conditions, local regulations and rules for air pollution prevention and control can be introduced.

We should accelerate the pace of designing or revising emission standards for key industries and vehicle fuel consumption, oil standards, and heat metering standards, and improve the policies associated with pollution prevention and control technologies and a cleaner production evaluation system.

Amend the relevant laws to provide the legal basis for regional air pollution prevention and control.

Amend the *Law of Air Pollution Prevention and Control*, which has been unable to correct recent trends, to meet new requirements, and to provide legal support to the corresponding policies and measures. Include PM_{2.5} and O₃ which have a major impact on human health, as the core content of air pollution prevention and control, and strengthen industrial pollution treatment, placing emphasis on small and medium sized boilers, dust, cooking fumes, decorative painting and other non-point sources, as well as vehicles and other mobile sources of pollution. Highlight air quality improvement as the core content of atmospheric environment management, and further clarify the responsibilities and obligations of city governments to meet air quality standards in their jurisdictions. Improve regional joint prevention and control mechanisms to address air pollution transmission across administrative boundaries. Further increase the cost of atmospheric environmental violations by increasing the penalties. Put emphasis on the control of non-road mobile source emissions by including the emissions of ships, aircraft, trains and non-road machinery into the scope of legal jurisdictions and clarify management responsibilities.

A coordination mechanism for air pollution prevention and control in the Beijing-Tianjin-Hebei region and the Yangtze River Delta should be

Based on pollutants transportation among cities within the region and the atmospheric environmental quality and environmental capacity in different cities,

established. The involved provincial governments and the relevant departments of the State Council shall collaborate to solve outstanding environmental problems in the region by organizing joint action on such measures as EIA consultations, joint law enforcement, information sharing, early warning and emergence response, and atmospheric pollution prevention and control measures, and also on information on work progress and the determination of work requirements, priorities and major tasks.

The State Council and the governments of provinces (autonomous regions and municipalities) shall sign letters of responsibility for air pollution control targets, and break down the targets and tasks into those requiring action by local governments and by businesses. PM2.5 levels in priority areas and respiratory particulate matter in non-priority areas will be included as binding targets of economic and social development in the environment-centered target accountability assessment system.

The State Council shall formulate the measures for assessing the completion of targets in provinces (autonomous regions and municipalities) at the beginning of each year. It will conduct a mid-term assessment in 2015, based on which tasks will need to be adjusted, with a final assessment in 2017.

outline the core areas significantly impacting the regional air quality, such as the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta with serious complicated air pollution; strictly implement the differentiated management policies; and promote a concerted relationship between development of industrial, energy and atmospheric environmental function zoning in the region.

Build a joint information mechanism for regional joint prevention and control of air pollution, and improve the consultation and notification system. Implement strictly pollution liability in various cities, strengthen dynamic evaluation assessments, and restrict new construction projects involving air pollutant emissions in cities where air quality is deteriorating seriously.

Improve policies and measures promoting regional integration of air pollution prevention and control, enforce joint examination and approval systems for large projects, and establish a regional pollution emergency response mechanism and a cross-border coordination mechanism for pollution prevention and control.

Environmental protection departments should strengthen cooperation with the meteorological department in the establishment of a heavy pollution weather monitoring and warning system. By 2014, the system should be in place at the regional, provincial and municipal levels for the Beijing-Tianjin-Hebei

Enhance air quality monitoring in major areas, and establish a regional environmental information sharing platform.

region, the Yangtze River Delta, and the Pearl River Delta, and before the end of 2015, for other provinces (autonomous regions and municipalities), sub-provincial cities, and capital cities. Trend analysis of heavy pollution weather should be achieved through improved consultation and decision-making mechanisms. Thus, more accurate monitoring, early warning and timely information disclosure can be achieved.

A regional, provincial and municipal linkage system for emergency response to heavily polluted weather should be established for the Beijing-Tianjin-Hebei region, the Yangtze River Delta, and the Pearl River Delta.

3. CONCLUSION

In 2012, the world economic recovery was fraught with uncertainty and instability amid the lingering deep impact of the international financial crisis. The Chinese domestic economy also faced a severe test. In this difficult context, the Chinese Government expedited the elimination of reduced production capacity forced by the international financial crisis, and successfully addressed emission reduction targets, demonstrating its firm determination to advance the strategic transformation of the industrial structure.

Meanwhile, the report to the 18th CPC National Congress underscored the significance of ecological civilization, signifying that environmental protection efforts have entered a new and higher stage. The concept of a "Beautiful Country" has become an important part of the Chinese Dream. Governments at different levels strived to intensify environmental protection efforts, while expectations for a "Beautiful Country" on the part of the public rose and people became more active in the fight for their environmental rights. A broader consensus and positive interaction developed with respect to issues associated with ecological civilization and a "beautiful country".

In a review of environment and development policies, some policy development trends are worth special attention.

First, China's top leadership has advanced a sophisticated usage of the concept of ecological civilization. President Xi Jinping's discourse that to protect and improve the ecological environment is to protect and improve the productive forces marks a new advancement in grasping the dialectical relationship between environmental protection and economic development. Ever since the judgment that "science and technology constitute a primary productive force" was made by Deng Xiaoping 20 years ago, China

has ushered in rapid development in scientific, technological, and economic sectors. In this sense, we have reason to believe that the current discourse will also drive progress towards realization of ecological civilization.

Second, strategic changes in environmental management are confronted with multiple challenges and difficulties. In 2012, CCICED called for the strategic shift from total emission control to integrated control of total emissions, environmental quality improvement and environmental risk prevention and control. Although we achieved remarkable results in energy conservation and emission reduction during the 11th Five Year Plan, environmental quality did not improve substantially, which creates doubt among the masses about the effectiveness of environmental management. It is urgent to change environmental management approaches; future environmental policy should be targeted at environmental quality, taking environmental quality improvement as the criterion for measuring results. In 2013, MEP proposed more stringent environmental quality standards. In an effort to refine and improve the information content and professional level of environmental protection in a comprehensive way, the following efforts have been made: change from a passive response to an active response in environmental management; shifting from local mechanisms to regional mechanisms for pollution prevention and control; shifting attention from primary pollutants to both primary and secondary pollutants; and expanding the focus on individual pollutants to multiple pollutants. This transformation, however, faces many obstacles in terms of systems, standards, management and even ideological ideas. Such challenges include: promoting environmental quality as a public service equally among regions; updating the basis for environmental standards from economic development to ecology and health; allocating quality targets while maintaining the effectiveness of responsibility systems; and combing the improvement of environmental quality with incentives to take action on environmental protection on the part of departments and staff.

Third, the intensive efforts to crack down on pollution should be underpinned by the legal system. In less than a year, the new central leadership and the new Government have affirmed their basic stance of seeking ecological civilization, protecting the environment, and conserving resources. There have been clear statements of ideas related to the red line and hard constraints, and expressions of low and zero tolerance for environmental violations and administrative omissions. A strong determination has been demonstrated to crack down on crime by judicial means, as well as a strong will to strengthen the discipline of administrative officials engaged in inspection and supervision. These positions not only provide justice and institutional guarantees for environmental management, but also constitute imperatives for environmental protection departments and personnel, urging them to improve their work quality and working style, and to fulfill duties honestly and efficiently according to the law.

Fourth, specific rules for practices in environmental responsibility and a lifelong accountability system should be in place. A deep-rooted weakness in environmental rule of law is that legal liability both for business and government workers is lenient, and even such 'light' liability is difficult to enforce in practice, let alone "lifelong accountability." In this regard, the concept that "those making rash decisions with no consideration to the ecological environment and resulting in serious consequences must be held accountable

and should be held accountable for life" greatly improves the current environmental liability system. Indeed, the "lifetime accountability system", to be solidly carried out, needs better legislation. It demonstrates the firm determination of the top leadership to strengthen the Government's responsibility for environmental protection, and it urges the officials and leaders to be more careful in environmental decision-making.

Fifth, information disclosure and public participation are further strengthened. In light of the mass incidents sparked by environmental problems in recent years, the Chinese Government has become increasingly aware that more adequate information disclosure and public participation will not only prevent the maximum extent of economic damage and social unrest, but will also significantly increase political legitimacy. In the context of CPC leadership re-emphasizing the "mass line," good approaches for environmental protection come from the rich practice of involving the public in the final analysis of environmental issues. Therefore, competent authorities should be down to earth and learn to communicate with the masses in order to respond seriously to their concerns and expectations, as well as to pool their wisdom and efforts. We should listen more to public opinion and address areas of difficulty in environmental protection, so as to solve the problems at the grassroots level before they grow to become larger problems. Information disclosure also needs to be strengthened to protect the public's right to know and supervise. An increasing number of ordinary citizens apply for the disclosure of environmental information to learn about its close connection with their own lives, for instance on soil pollution and groundwater pollution. The public is urging the government to want to respond positively. In this way, the combination of the top-down and bottom-up philosophy and practice will help information disclosure and public participation in the environmental domain move forward.

Sixth, environmental protection departments need to improve their reputation of pursuing ecological civilization. More specifically, their unclear functions, inadequate management, and repeated inspection have incurred significant additional costs in the daily operations of businesses. Moreover, some private transactions between officials and businesses in the process of sewage charges have recently darkened the image of law enforcement. The former Chief of the Environmental Monitoring Detachment, Environmental Protection Bureau of Baoshan District, Shanghai accepted banquets, gifts and cash against the law and action was taken by the Central Discipline Inspection Commission at the end of July 2013; this caused negative publicity. This case reveals deficiencies in the management and personnel of the environmental protection sector. In the near future, the improvement of work style, close ties with the masses, and implementation of the eight provisions and six bans of the Central Government will create an important opportunity to improve the image of the competent authorities. "To address these problems, we must first of all conduct ourselves honorably." Against the backdrop of extremely severe environmental conditions and growing public consciousness of environmental rights, environmental protection departments at all levels should improve their integrity. This is undoubtedly essential to ecological civilization.

2013 is the first year to fully and conscientiously carrying forward the spirit of the 18th CPC National Congress. It is a critical year to usher in the 13th FYP from the 12th FYP, and an important year to lay a solid foundation for building a moderately prosperous

society. A high degree of consensus has been reached between the Government and the people in their efforts to advance ecological civilization and build a beautiful country. In this regard, the Chinese Government should take full advantage of the favorable conditions at home and abroad, and unyieldingly push forward the strategic transformation of the economic structure and the address the cause of environmental protection. A beautiful country will be built, step-by-step.

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(November 13-15, 2013)

I. Introduction

The China Council for International Cooperation on Environment and Development ("the Council" or CCICED) was established in 1992 by the State Council of the Chinese government in order to foster cooperation in the areas of environment and development between China and the international community.

The Council is a high-level advisory body that puts forth recommendations on environment and sustainable development for the Chinese government's consideration. It has so far convened 22 Annual General Meetings (AGM) organized in five-year phases.

The Council supports the development of a comprehensive approach to sustainable development and environment through close cooperation between China and other countries. At present the Council is composed of 25 Chinese members and 25 international members who were chosen for their experience, expertise, and influence.

The Council is chaired by Mr. Zhang Gaoli, Vice Premier of China's State Council and a member of the Politburo Standing Committee. It was at his invitation that the members of the Council attended the second AGM of Phase V.

The CCICED Bureau serves as the executive body of the Council.

The Council's host institution is the Ministry of Environmental Protection (MEP). Previously known as the State Environmental Protection Administration, MEP is responsible for the Council and for ensuring inter-ministerial coordination. It has established the CCICED Secretariat (SERI) to support international and domestic contacts. The Secretariat supports follow-up in China to CCICED recommendations, and deals with routine matters when the Council is not in session.

The Secretariat is assisted by the Secretariat International Support Office (SISO), directed by Mr. Christopher Dagg and located at Simon Fraser University in Burnaby, Canada. Until April 2013 SISO was funded by the Canadian International Development Agency (CIDA), afterwards by Canada's Department of the Environment (Environment Canada).

This Summary Record of the CCICED's second meeting of Phase V was prepared by Patrick Kavanagh for SISO, based on detailed notes recorded during the AGM. Representing SISO's interpretation of the discussions, the Summary Record does not necessarily reflect the views of all participants. To encourage frank and direct dialogue, the Summary Record presents an overview of the points made during comments and discussion sessions without attribution to individual speakers.

II. Annual General Meeting

Item 1. Opening of the Meeting

China's Minister of Environmental Protection and CCICED Executive Vice Chairperson **Zhou Shengxian** called to order the second meeting of Phase V, focusing on the theme Environment and Society for Green Development. He introduced the following dignitaries:

- Vice Premier of China's State Council and CCICED Chairperson **Zhang Gaoli**;
- Canadian Member of Parliament, former Minister of the Environment for Canada, and CCICED International Executive Vice Chairperson **Peter Kent**;
- Executive Director of the United Nations Environment Programme (UNEP) and CCICED Vice Chairperson **Achim Steiner**;
- Deputy Secretary General of China's State Council **Ding Xiangyang**;
- China's Vice Minister of Foreign Affairs **Li Baodong**; and
- China's Vice Minister of Environmental Protection and CCICED Secretary General **Li Ganjie**.

He welcomed guests, Council members, and observers to the 2013 AGM, and declared the meeting open.

Item 2. Secretary General's Progress Report and Work Plan

Secretary General **Li Ganjie** presented to the Council his report on the progress of work during 2013 and CCICED's work plan for 2014. Here are the highlights of his presentation:

First, CCICED has carried out its work smoothly and met its targets on policy research. It has looked at the green economy and society, environmental protection, and green development. It established two task forces and three special policy studies, which have completed their work and have drawn up reports forming the basis of the policy recommendations that will be presented to the Chinese government.

Second, CCICED extended its influence at home and abroad by sharing research results and pushing for implementation. In 2013 the Council hosted a roundtable at the Eco Forum Global, held in Guiyang. In cooperation with the UNEP's Global South-South Development Expo 2013, held in Nairobi, the Council co-hosted a forum on ecological civilization and green transformation. Meanwhile, in Shanghai and Tianjin, demonstration projects addressed the green supply chain.

Third, this year we enhanced the management of CCICED itself. The Council added five

new members from the World Conservation Union as well as from other influential environmental organizations. The Council has set up strategic partnerships to carry out cooperative activities in personal training and promotion. We have also improved the Secretariat's working skills and internal management.

Now, here is the report on the 2014 work plan:

2013 is a critical year for China as it strives to attain the goals established in the 12th Five-Year Plan (FYP). The Council will continue to look at urgent and controversial issues in China today in the context of achieving a green transformation. We will try to provide forward-looking and strategic backing for the new plans in the 13th FYP and work to enhance CCICED so it can contribute even more.

We propose that our work will focus on three areas.

- to meet policy needs posed by prominent current environmental and development issues in order to promote green transformation;
- to provide forward-looking strategies and recommendations based on sound scientific analysis for the 13th FYP, so that the influence of the Council will improve and broaden; and
- to develop a long-term strategy for a stable and dynamic CCICED, to expand our partnerships and collaborations, and to improve the Secretariat's standard of work.

We propose that the 2014 AGM will take place 10 to 12 November, in Beijing, on the theme of Management and Institutional Innovation in Green Development.

Item 3. Introduction of Draft Policy Recommendations

CCICED International Executive Vice Chairperson **Peter Kent** highlighted some of the key points in the draft policy recommendations being prepared for submission to the Chinese government:

The China Council believes that supervision by the people is a robust mechanism for building an ecological civilization with a new green development ethic at the core. This point is central to our main recommendations.

Our first recommendation is simple, but it carries a strong message. We suggest changing the name of the 13th FYP to become the National Economic, Social, and Environmental Development Plan, and to make a similar adjustment to the title of the report to the National People's Congress (NPC). These shifts, we believe, would help alter perception of the role of the environment.

In only six years from now, China is expected to become a moderately well off society. We therefore recommend speeding up institutional innovation and the implementation of ecological civilization in order to establish a stronger basis for green development and a more harmonious relationship of environment and society. This effort should focus on

practical needs, for example, the performance of air, water, and soil plans. Green governance improvements also will require a broader reach across society covering environmental issues related to health, social justice, social risks, poverty reduction, and employment.

CCICED also recommends a shift in domestic consumption patterns toward sustainable consumption. We believe this would reduce China's ecological footprint and drive green development initiatives, including green market supply chains. The consumers we must reach are China's growing urban middle class. These people require access to green choices about products and services. Sustainable consumption is a new topic for China, therefore considerable work is needed to establish new regulations on environmental standards, legislation that will guarantee quality of goods for consumers, and more efforts to accelerate adoption of green procurement in government and public institutions, and with full participation by the private sector.

State-owned enterprises (SOEs) and private businesses must become much more active on issues related to the environment and green development. They will need to move beyond regulatory compliance to the point where their contributions to China's ecological civilization become a matter of achieving cost savings and realizing profitable green innovations. Thus, government should recognize the key role of SOEs and the private sector by promoting corporate environmental and social responsibility (CESR). A national strategy and action plan for corporate social responsibility (CSR) and corporate environmental responsibility (CER) would be a good start. We believe that government can provide guidance and enabling measures, but leave the main effort to the enterprises.

One of the most interesting and important elements of our work this year has been on communications, including social media. CCICED recommends promoting more active roles for media and for public participation in order to turn social power into a driving force for green development. We make a number of recommendations to improve public participation. These include further implementation and completion of a public information disclosure system for environment and for development. This expanded system needs to be complemented by awareness raising and the education of the public and officials, in order to address environmental and development risks, and to improve mechanisms for the resolution of disputes.

Finally, we have paid considerable attention to China's rapid urbanization and its essential role in green development. Our efforts have focused particularly on the need to establish urbanization systems that are in line with local resource and environmental capacity. We recommend establishment of urban environmental master plans that take into consideration functional zoning and ecological redlining. We believe that China's cities need to be designed with greater attention to neighbourhoods where people can have ready access to local walking and bicycling routes that minimize their need to use private and even public transport.

To achieve livable cities there must be adequate investment and operating revenues for all forms of urban green travel, so the Council recommends there be greater commitment of central government funds to high-capacity public transport in cities and to a specific

commitment for meeting green travel budget needs. This could be done in part through the transformation of existing transfer payments. We believe more guidance from government is needed on public transport pricing mechanisms to eliminate transport deficits and to introduce stable funding patterns.

Item 4. Addresses, Special Remarks, Issues Paper

Statement by the Vice Chairperson

With International Executive Vice Chairperson **Peter Kent** presiding, CCICED Vice Chairperson **Achim Steiner** addressed the Council, emphasizing the following issues:

We are meeting here within a few hours of the Third Plenum of the Chinese Communist Party's Central Committee. This plenum signalled new directions for China's society and economy, but from CCICED's vantage point it made a significant step forward in articulating the concept of ecological civilization. This concept encapsulates many of the ideas and aspirations that the China Council has been trying to express, sometimes through focused policy efforts. These ideas relate to fiscal policy, ecosystems services, mitigation efforts, and pollution, and sometimes to broader principles that could inform a development strategy for China and for many other countries.

If we study the first interpretations and statements made from yesterday's meeting, it shows that in many ways the challenge to the China Council has just grown immensely. This is because China has signalled a systemic effort, something that in the international community we have been trying to reach a consensus about for two decades. How do you begin to integrate sustainable development, the economy, and the social and environmental dimensions? How does development become one process, one policy, one economic strategy that recognizes that progress in one is conditional upon progress in the others? If that fails to happen, then imbalances in development will arise, such as ecological unsustainability, social inequity, and unemployment.

Juan Somavia, former Director-General of the International Labour Organization, has been drawing the world's attention to the fact that our economic development strategy is not one that actually creates new jobs. He refers to the recovery as a jobless recovery. What intrigues us all is that here in China you have, in a relatively short time, reached a point where the challenges of sustainability, balance, and equity within development have reached the centre stage of economic policy making. Under the umbrella of ecological civilization, key concepts form the mainstream policy discourse that will guide China's future: green development, a low-carbon development path, circular economy, resource efficiency, pollution prevention, and environmental protection.

We could not ask for a more auspicious set of circumstances, first to examine the work of the Council task forces over the past year, but also to reflect how the Council can meet the challenge of providing relevant advice that is sophisticated enough to keep pace with the challenges China will address in the years ahead.

Equally, the challenge of air pollution is immense. It has triggered a set of deliberations across the nation that will have a profound, transformative impact on the future of many

of the development choices that China makes, whether in terms of the 10-point plan for pollution prevention that has been adopted by government or in terms of the public engagement that this problem has generated. I know of no other nation where the urban middle classes get up in the morning and monitor air quality on their mobile devices.

Thus, citizens are becoming part of the capacity of MEP to monitor decisions at a local and provincial level in a completely different way. You now have millions of allies working with local governments and industry to create a new set of parameters for decision making. With the best laws and norms and standards which China is so rapidly developing, you are also empowering this process. With all the enforcement capacity one could dream of, however, you could never quite match the capacity of citizens to ensure that the laws, regulations, norms, and standards actually can be translated into decisions at the local level.

In the United Nations (UN), many of the issues that China is exploring in its vision of a beautiful China are being discussed also in something known as the post-2015 development agenda. This is a set of sustainable development goals that all nations will share in terms of their ownership and their commitment to achieve. The discussions, policies, and decisions emerging from China will be highly relevant to this global discourse, not in the sense that one nation leads other nations, but that one nation's capacity to rethink development, to articulate a green economy agenda that translates into structural changes — fundamentally reimagining energy, public transport, urban infrastructure — will encourage other countries to take a more ambitious approach. Already China is building partnerships with Peru, South Africa, and Thailand on the concept of ecological civilization. This is the kind of global conversation we need, and the China Council can play a significant role in bringing it forward.

Special Speech by the Minister of Environmental Protection

International Executive Vice Chairperson Peter Kent invited China's Minister of Environmental Protection and CCICED Executive Vice Chairperson **Zhou Shengxian** to brief the Council in a special speech. Minister Zhou made these points:

I wish to share my thoughts on how to implement the air pollution action plan so that people can have more “blue sky and white clouds.”

The Third Plenum of the Chinese Communist Party's Central Committee concluded yesterday with the adoption of decisions on major issues. It determined to further deepen reform, to overcome institutional defects, and to speed up the market economy with socialist characteristics, democratic politics, advanced culture, harmonious society, and ecological civilization, all in order to give more and fairer benefits to the people. Our goal is to set up the well-off society to realize the China Dream on the basis of the achievements we have made since opening to the outside.

The Third Plenum has proposed some new initiatives covering the relationship between the government and the market, in particular the role that the market plays in the allocation of resources. In the past we said that the market played a basic role in resource

allocation. Now at the Third Plenum there is a new phrasing: the market plays the fundamental role, the decisive role, in resource allocation. This is a theoretical breakthrough.

Other initiatives cover the basic economic system, the guarantee of people's benefits, social justice, institutional innovation, and some breakthroughs in priorities. All these initiatives have laid a solid foundation for the development of socialism with Chinese characteristics.

The Plenum has also made comprehensive arrangements for the development of ecological civilization. The focus will be on the mechanism of ecological civilization, the improvements of the mechanism of spatial development, resources saving, and environmental and ecological protection. These are the most important initiatives planned by the Third Plenum.

The Plenum also requires that the environmental and ecological management mechanism be improved. We must set up an integrated supervision mechanism for all pollutants. The reform of the ecological protection and management mechanism satisfies the needs of the development of ecological civilization. It is a breakthrough point for economic transformation, the development of the low-carbon economy, and the settling of the environmental problems that harm public health. The reform of ecological and environmental management means we must promote ecological civilization, to build a beautiful China and to continue carrying out new approaches to industrialization, urbanization, agricultural modernization, and the development of information.

We must realize that protection of the environment is protection of productivity, and improvement in the ecological environment is the development of production. So, we must prioritize the protection of the environment and find new ways to do it. It is important to start at the macro strategic level and integrate the whole process into the production process, so we can have integrated supervision over all kinds of pollutions.

So, reform of the ecological protection mechanism is extensive. It is a kind of complicated schismatic project. The priority is to set up an integrated supervision mechanism over all pollutants as well as an independent law enforcement mechanism integrating a regional joint mechanism to restore the ecological system and prevent pollution. It is important also to have a more efficient forest management system and to improve the collective rights to forests. We must have in-time disclosure of environmental information as well as a reporting system to strengthen social supervision.

As to the pollutants, there must be a permit system so that we can control the total emissions. Those who harm the environment must be punished.

So, these are the important initiatives that have been proposed by the Third Plenum.

Since the beginning of the year the Chinese government has achieved a lot in the protection of the environment:

First, we have substantially reduced the emission of major pollutants. The statistical approach and monitoring message have been stipulated clearly in the document about the implementation of the 12th FYP. It has made the decrease in the emissions compulsory in six industries: chicken farms, wastewater treatment plants, paper-making plants, cement plants, coal-fired power plants, and steel factories. During the first half of this year the emissions decreases were as follows: chemical oxygen demand 2.73%, ammonia nitrate 2.15%, sulfur dioxide 2.48%, and nitrogen oxide 3.82%.

If we had not made such great efforts, if we had not reduced the emissions of sulfur dioxide, the concentration of PM_{2.5} (particulate matter) would be even higher than it is today. Therefore it is important that we take an objective attitude toward what is happening in China. Recently an article was published in the *New York Times*, written by a director of a research institute in America. In this report the author described the air quality in an objective way, supported by statistics. This is in sharp contrast to those who have been verbally attacking China about its pollution.

Second, we have taken an environmental approach to optimize economic development. We have issued about 88 national environmental standards related to emissions from industries like electronic glass industries and other sectors. Although we have been delegating power to local governments, what is more important at present are the national standards. In industries such as coal power generation, steel manufacturing, petrochemicals, and coal boilers, we have also set a cap on emissions.

Third, we have tightened pollution control in the major river basins. We have been trying to implement more effectively the protection of drinking water sources. We have organized the assessment of water sources below prefecture levels. About RMB 10 billion has already been invested in new pollution control and prevention projects. Between January and February the surface water above grade 3 increased by about 2.8% while the surface water below grade 5 decreased by 0.9%. We have also developed protection plans and engineering and technical guidelines so that we will have better demonstration pilot projects to promote the ecologies of lakes and river basins.

Fourth, we have further improved the cultivation of the ecology and protection of the rural environment. The action plan to conserve diversity has been upgraded and we have set up 21 new natural reserves.

Thus, with the approval of the Chinese government we have identified three priorities for the future:

- control of PM_{2.5};
- ensuring pollution control and safe drinking water in major river basins and ground water;
- addressing pollution and ecological degradation in rural areas.

These three important priorities require the formulation of a clean water action plan, an

air pollution action plan, and a soil protection action plan.

Since the beginning of 2013 many cities in China have had longstanding, extensive, heavy smog which has had a bad impact on everyday life and public health. So the priority of priorities at present is the control of PM_{2.5}.

Experience shows that as long as we have the right policy, PM_{2.5} is manageable and controllable. For example, when Beijing hosted the Olympic Games, we took a lot of measures against air pollution. People were skeptical about the effectiveness of these measures, but the average PM_{2.5} concentration was less than 40 during the games. It was a good small scale pilot project, and we can disseminate these results.

Since the 11th FYP we have been taking large scale measures to save energy and reduce emissions. The aggregated sulfur dioxide decreased by about 20% and the nitrogen oxide has been decreasing all the time, contributing to some extent to the decreasing PM_{2.5} concentration in China.

A lot of discussions were based on proposals and policy recommendations and research by the CCICED task forces. On 12 September this year the Chinese government promulgated the *Atmospheric Pollution Prevention Action Plan* with 10 measures and 35 items. This is the guideline for air pollution control and prevention. This important initiative is regarded as the first gunshot against PM_{2.5}.

When this action plan was promulgated there was a good response from across the country. The plan's overall goal is to protect the environment, in particular, to address the serious smog pollution which has aroused public concern. Without blue sky and white cloud we cannot talk about building a well-off society or a beautiful China with ecological civilization, and we cannot talk about the great rejuvenation of the Chinese nation.

Second, at the national macro strategy level we need to do a good job in air pollution prevention and control. We need to pay attention to reform and innovation, and attach equal importance to addressing the old pollution problems and controlling the new types of pollutants. We should reduce the consumption of coal and increase the use of natural gas. We need to pay equal attention to incentives and restraints, and set up a new pollution control mechanism, involving government and enterprises, that is market driven with public participation.

The government needs to strengthen its leadership and to show responsibility in managing the overall situation. Enterprises are the main players in pollution control, and they need to show responsibility too. Market mechanisms need to be brought into full play so as to develop the investment and financing channel for air pollution prevention and control. Financing and investment is very important. China is a big developing country, and it is impossible to rely on government investment alone to address environmental issues. This financing issue should be addressed in CCICED research studies.

Third, our actions should be practically focused and effective to realize a win-win-win in

the areas of the economy, society, and environment. By practical I mean we need to adopt feasible actions and make steady progress. By focus I mean we need to have clear focus and precision control. By effective I mean we need to be heavy-fisted and effective in reducing pollution. We need to conduct scientific studies because different regions have different situations. Our overall requirement is that we reduce pollution and improve the environment.

We will have different policies for different regions, and we will have differentiated targets that will be implemented in a phased way. In terms of the implementation of results, we should try to achieve multiple goals with one single measure. We need to combine the readjustment of the industrial structure, the support of technology, improving the quality of economic growth, and improving people's livelihood and well-being.

If you think about the idea of ecological civilization, then environmental protection work is a kind of development model, a kind of economic structure or pattern of consumption. Therefore we need to focus on this top-level design so as to be well targeted in our action. If you talk about environmental protection without talking about economic development, you cannot achieve any goals. If you just talk about economic development without focusing on environmental protection, then you can achieve nothing. It's as if you drain the river to get the fish.

Fourth, we need to improve all policies related to economic development and environmental management. We need to use various means: economic, technological, legal, and if necessary administrative. In particular we need to use market mechanisms to make breakthroughs and innovations in improving the pricing mechanism and fiscal policy. This involves the integrated control of multiple pollutants and readjustment of the industrial structure. In China if we consume 200 million tons of coal every year (which is greater than the current amount) then there is nothing MEP can do to control the pollution. And so we need to optimize the energy structure.

As well, we need to establish a regional coordination mechanism to tackle pollution. Currently, if Beijing just wished to address the air pollution in Beijing, the result will not be good. Beijing needs to cooperate and coordinate with surrounding regions in order to fix the problem. Nobody can rely on their own strengths in preventing and controlling air pollution.

Fifth, we will focus on pollution control and prevention in Beijing, Tianjin, and Hebei province, the Yangtze River delta, and the Pearl River delta. These three major regions suffer five times as much air pollution emissions as other regions. Here, the main pollutant is PM_{2.5}. In other regions the main target for control is PM₁₀. The overall goal is that after five years of effort there will be an improvement in the air quality throughout the nation, and a reduction in the number of days with serious pollution. In another five years we will gradually eliminate the seriously polluted weather, so as to improve the air quality throughout the country.

By 2017, cities above prefectural level will have a reduction of PM₁₀ concentration by 10%

over the situation in 2012, and they will see an increase of days with fine weather. For the three focused regions, the concentration of PM_{2.5} will drop by between 15% and 25%. Beijing's PM_{2.5} will have its concentration controlled under 60 micrometres per cubic metre.

Generally speaking there are six measures:

The first is upgrading the industrial structure and phasing out overcapacity. We will strictly control the newly increased production capacity in high energy consuming and high polluting industries, and control the overall capacity of steel and other sectors. One year ahead of schedule we will phase out the overcapacity in 21 important industries, and also we will stop those projects in progress that may result in serious pollution.

Second, we will accelerate the pace of adjusting the energy mix. We will increase the use of natural gas and develop nuclear power, wind power, and biomass energy. We will strengthen control of the overall consumption of coal and optimize the ways of using natural gas, and gradually phase out small coal-fired boilers.

Third, we will strictly control auto pollution and improve fuel quality. We will scientifically control the vehicle population and implement the national China V standard. We will accelerate the pace of phasing out yellow label [high polluting] vehicles, and accelerate the development of low sulfur fuel for vehicles. By the end of 2017 we will supply throughout the country the fuel which meets China V standards. Also we will give priority to the development of public transit in order to alleviate traffic congestion.

Fourth, we will have integrated control for multiple pollutants: desulfurization, denitrification, and dust removal measures in the coal-fired power plants, control of pollution from industrial boilers, volatile organic compounds, dust from construction sites, and emissions from restaurants. We will also control pollution during the heating season in northern China.

Fifth, we will establish a monitoring and early warning system to respond to highly polluting weather, and timely release of the information.

In the whole world not many countries can ensure that when citizens turn on their mobile phones they can access air quality information. This gives me great comfort and encouragement. We need to formulate and improve contingency plans and release the information to society based on the level of warning and alert. These plans will help us reduce the production of seriously polluting enterprises, stop the operations of construction sites, and control vehicle transportation.

Six, we will strengthen the leadership to implement the safeguards. We will use pricing and taxation to increase the investment and encourage social capital to join in the effort of controlling air pollution. We will also amend The Environmental Protection Law and the Air Pollution Prevention and Control Law, and we will have stringent supervision and a crackdown on illegal behaviours. Starting next year, the central finance authorities will invest tens of millions of RMB in environmental protection.

We will regularly release the ranking of cities in terms of their air quality, and the top ten and the bottom ten will be publicized to exert pressure on those who lag behind. We will establish a regional coordination mechanism and implement the responsibilities of local governments. If the cities fail to attend the target, then the leaders from the cities or the provinces will be urged to take corrective actions.

Winter is coming, and the northern area has entered into the heating period. We face severe challenges in meeting the requirements of the action plan. We will try our best to do the following work in air pollution prevention and control:

First, as I have already explained, we will strengthen the regional integrated prevention and control mechanisms.

Second, we will monitor, provide early warning, and activate contingency plans in the event of seriously polluting weather.

Third, we will strengthen environmental inspection, enforcement, and supervision. MEP will send out teams to conduct inspections on the implementation of the action plan. If we identify prominent issues we will urge the local government to address them, and important issues we will report to the State Council.

Fourth, we will further improve environmental policy in the regulations, on such issues as the costs of compliance with pollution control laws, emissions permits, and the prevention and control of auto pollution.

Fifth and finally, we will strengthen the technical support of our efforts.

Special Report on the Air Pollution Prevention Action Plan

Next, International Executive Vice Chairperson **Peter Kent** invited academicians of the Chinese Academy of Engineering and CCICED member **Hao Jiming** to brief the Council on China's recent efforts to address the problem of air pollution. These are the main points of his presentation:

We have made great efforts to reduce pollutants, for example, between 2010 and 2012 we greatly reduced emissions. In 2012 we announced new standards for sulfur dioxide emissions, which most cities met. However about 60% of cities still could not satisfy the standard for PM_{2.5} emissions. Since January 2013 many cities have been affected by long-lasting and highly concentrated smog, and it has become a public concern. Since last year about 74 cities have set up monitoring stations for PM_{2.5} and the results show that only a small number of cities in China can meet the requirements. In fact, in most cities the concentration of PM_{2.5} is about three times the acceptable standard.

During the 7th National Conference on Environmental Protection, the requirements for air pollution control were emphasized again. Furthermore, the 18th Party Congress promoted ecological progress to build a beautiful China. It also encouraged cities to set their own goals but to amend their standards to integrate with international standards. It seems however there is still a big gap between standards and reality. So, on the basis of

recommendations and research results from CCICED task forces, policy research on air pollution control, and the responses to environmental emergencies, the State Council has promulgated the *Air Pollution Prevention Action Plan*. This plan is a quick response to public concern.

That is the background to the action plan. Now I would like to talk about some of its features.

First, the plan has a kind of top-level design featuring a national strategy. There are two important targets: to reduce the number of days with heavy smog, and to reduce PM_{2.5} in the priority regions.

Second, different regions have differentiated targets. Economic development in China is unbalanced regionally, so we have identified different priorities in different areas. In the priority areas, Beijing, Tianjin, Hebei, and so forth, the prime goal is control of PM_{2.5}. For other provinces such as Shandong, Inner Mongolia, and Shanxi, different targets have been set so that they can support the decrease in concentration of PM_{2.5} in Beijing, Tianjin, and Hebei.

Third, the action plan has speeded up industrial restructuring in order to reduce emissions that include carbon dioxide, nitrogen oxide, dust, and volatile organic compounds. Reductions in the emissions of these pollutants are important elements in the pre-approval of any project. In the process of industrial restructuring we must adopt higher standards on emissions control, energy saving, and productive quality in order to promote the elimination of outdated, high-polluting capacity.

In addition we have speeded up the supply and use of cleaner energy. The action plan emphasizes the improvement of the energy structure. Already we have lowered the ratio of coal to total national energy consumption. By 2017 significantly more coal will be washed and the use of coal by small boilers and stoves will be restricted. As well, the use of natural gas will rise. Additional supplies of natural gas will be used to reduce part of the fuel for coal-fired industrial boilers, reducing pollutants significantly.

Furthermore, the co-generation of heat and power is an important measure for reducing emissions. If some coal-fired industrial boilers are replaced by thermoelectric coal-fired units, the possible reduction in pollutants such as sulfur dioxide would be 2.34 to 3.24 million tons.

Another important area is vehicle emission control, since China is now the biggest country for auto production and sales. In the megacities of Beijing, Shanghai, and Guangzhou we need to restrict the rapid growth of the vehicle population. Before the end of 2015 we must improve the fuel quality of gas and diesel. Fuel with lower sulfur content will be supplied for key areas, and by the end of 2017 this standard will be met throughout the country. We have put a lot of emphasis on fuel quality, and now this has been incorporated into the action plan.

By 2015 we will also speed up the elimination of five million yellow label vehicles in the key regions, and by 2017 all those vehicles will be gone nationwide. This measure will

provide a lot of space for new vehicles. As well we will enhance annual vehicle inspections, and advance the upgrading of low-speed vehicles. We will promote “new energy” vehicles for use in public transit and government agencies. These bodies will take the lead in using the new energy vehicles while individuals will be encouraged to purchase them too.

The plan reflects four kinds of shifts. The focus of our attention has shifted from the control of emissions to placing equal importance on emission control and on air quality improvement. In the past we merely focused on the control of sulfur dioxide, but now we want integrated control of multiple pollutants. In the past we focused on the point sources and vehicles, but now we carry out integrated control for multiple pollution sources. And in the past the management approach was territorial management, but now we emphasize a new mechanism of joint action and control.

For instance, for Beijing, Tianjin, Hebei province, the Yangtze River and Pearl River deltas, we will have a regional collaboration mechanism. The governments of these regions will set up a working committee to coordinate local environmental issues. They will organize impact assessments, consultations, joint enforcement, and information sharing, and will report to one another on the progress of the responses.

There is a special requirement for Beijing, Tianjin, and Hebei to improve the regional air quality. Together with Shanxi, Inner Mongolia, and Shandong, there will be joint actions for those provinces imposing the highest standards for pollution control. The focus will be on phasing out obsolete production capacities in steel and cement, while total coal consumption will be reduced by 83 million tons.

Beijing and Shanghai have already developed action plans for clean air. Beijing’s plan involves eight important aspects for pollution control: the city’s capacity, energy, transportation, economic structure, end-of-pipe control, fugitive source, ecological systems, and emergency response. It makes use of six important supporting measures: legislation, economic policy, science and technology, organization, clear responsibility, and assessment. And it foresees major undertakings by the general public, involving self-discipline by enterprises, public participation, and public supervision. Shanghai’s action plan, meanwhile, specifies clear targets for the reduction of specific pollutants.

Now I would like to present our four recommendations for future efforts in this area.

First, we wish to emphasize the co-benefits from energy saving on air pollution prevention and control. We need to boost the energy efficiency of heavy industrial processes such as steel, cement, and chemicals. Energy consumption in China from those industries is much higher than in more advanced countries. We can use new materials and good management practices to enhance building energy and conservation. And we can reduce fuel consumption in the transportation sector.

Second, we need to find scientific plans to promote orderly urbanization, taking into consideration the requirement for industrial readjustment and the change in the energy mix. The plan should address the scale of cities, and we should be cautious in developing

cities with populations of more than 10 million. We need to control the use of coal so as to reduce the pollution it brings. Next we need to improve the layout of cities and optimize public transportation systems so as to reduce emissions. And while we must pay attention to PM, we also need to pay more attention to ozone.

Third, we need to make further efforts to control automobile emissions. In one chart I emphasized that soon China will be the country with the highest demand growth for vehicles. In the past few years our efforts have had some success in controlling vehicle emissions, but because of the rapid increase in the vehicle population these reductions have been offset. At the same time we need to promote the prevention of pollution from non-road mobile sources.

Fourth, we need a long-term effort and strategy to improve air quality, involving goal setting, determining emission control targets, control strategies, implementation, and evaluation. These form a kind of cycle that may last five years.

The CCICED Issues Paper

International Executive Vice Chairperson **Peter Kent** introduced CCICED Chief Advisors **Shen Guofang** and **Arthur Hanson** who outlined the 2013 Issues Paper to Council. First, **Shen Guofang** made these brief points:

Following the China Council's customary practice, the Chief Advisors and their support team jointly developed the 2013 CCICED Issues Paper. Our International Chief Advisor, Dr. Hanson, drafted the paper as the leading author. The paper reflects the new situation in the field of environment and development that China currently faces. It sticks to this year's theme of Environment and Society for Green Development, and touches upon some sensitive social issues.

I believe that this Issues Paper will serve as a good reference that will help Council members and partners gain a deeper understanding of environment and development issues in China today.

Then **Arthur Hanson** introduced the Issues Paper at greater length:

Pollution is one of the most difficult environmental problems to crack. It's easy to say that we have seen these situations in London and elsewhere, but when, as in China, economic growth moves like locomotive, pollution control is a huge challenge. For example, Professor Hao has mentioned the possibility of a 20% reduction in pollution. But what would it look like with 20% less pollution? Well it's still really bad.

One of the new expressions is "top level." We have learned in China that green leadership starts at the top and that China's leaders are willing to take environmental problems seriously. When we examine the Third Plenum results, we will be surprised at how much of the work the China Council has been doing in recent years will link nicely with the economic reforms that are being placed before the Chinese people. I hope that our advice will directly influence what happens with this green leadership, and give them some of the ammunition they need to address these very difficult environmental, social, and

economic reforms.

You have already heard our recommendation that we suggest changing the name of China's five-year national development plan to include the word environment. I hope that recommendation holds. I think it could be one of the best things that could happen.

This eloquent quote from President Xi Jinping gets to the heart and core of the issues we face and of what CCICED is all about: "We have to understand that to protect the environment is to preserve our productivity." By productivity we mean employment and the production of goods for domestic or international consumption. We must have transformative change so that we can have jobs and a good economy, but also this change provides the means to protect the environment. We must keep this linkage central in our focus. We never talk about environmental protection on its own. It's always about environment *and* development. I think that is more relevant now than ever before in the work of the Council.

The concept of ecological civilization has opened up a whole new horizon that ties together three levels. One is a broad conceptual framework that deals with aspirations, value systems, behaviour, which is what I take ecological civilization to be. In addition we have a wonderful opportunity to directly address development across a range of sectors within the whole of government, involving this concept of green development, or green economy, or green growth. At the third level we have hardworking Minister Zhou and his ministry sketching out this very vital aspect of environmental protection. The key to these three things is: how can we link them together in a way that will bring out China's path to sustainable development? That's the challenge we face.

As Achim has said, we are at a point where the challenge has never been greater. This is the most difficult time for us to be working. It will demand a higher quality and greater insight and greater linkages among our recommendations. We have to tie together things that relate to the social development side, the environmental side, and other social elements. That was our real starting point for this year's work on the Environment and Society for Green Development.

I have chosen some photos to show you, of small things: birds, dragonflies, butterflies, and bees. All of these creatures depend on water and air quality and habitat protection, so they function as early warning systems, like canaries in the mines. China like other places is facing crises of bee populations. Nobody understands this, but there are already tales of people having to pollinate apple orchards by hand. The point is that ecological services are vital.

How do we innovate for green development? In the Taklamakan Desert they have been working to establish a "great green wall" of vegetation so you can maintain a highway across the desert. This isn't just about greening — about saving this highway for oil development and such things — but it is also a good thing for the local economy. When you establish this vegetation you can produce medicinal plants, for example. This is an inspiring example of the Chinese capacity to innovate and one that is being used in other countries. In places like the Sahara Desert this kind of approach would be great.

What exactly is “green mobility”? Here is a photo of a new high-speed railway linking Beijing and Xinjiang — a 13-hour trip versus much longer in the past. Is that green mobility? Maybe yes, maybe no. But here you have also a small car, a kid on roller blades, a woman on a bicycle. The point is this issue of what is or is not green mobility or sustainable consumption is all about consumer behaviour.

In the international press China is being called “the world’s worst polluter.” Despite the country’s efforts to clean up, this is what the world thinks of China right now. In my home in western Canada, and in many other parts of the planet, people are aware of China’s PM_{2.5} problem. Tourism is down in Beijing and other cities, evidently because of air pollution issues. Pollution is giving China an image it does not want — of not being a clean place, or a nice place to visit, or a healthy place to live. And it’s as much perception challenge as a reality challenge.

So, for the first time ever in all the work I’ve done in China, I have decided it is time to talk about China’s environmental crisis. Nobody wants me to be using these words but, as a Chinese government official: “It is a crisis of governance created by the environmental problem, and the central part of the crisis is whether trust is being lost between the government and the people.” That is a vital thing to recognize, because once trust is lost it is difficult to regain. My own view is that China will make a huge effort. I’m very happy, for example, to see the air pollution action plan.

This environmental crisis is not only about air quality but about many other things. Despite rhetoric we have heard for years about the relationship between environment and development, fundamentally it comes down to the fact that development and economic growth still outpace environmental protection. MEP is making a fantastic effort, but on the other hand others are making a fantastic effort that makes their job more difficult.

In addition there are new threats. Despite some strengthening over the years, China’s environment and development institutions are weak. That’s the challenge we face as the China Council: to give wise guidance how these things can be improved. We have to talk in terms of *crisis*. We can change the word to *challenge* if we wish. But we have to recognize that in the short run, before all these good things happen, there may be some very bad times ahead as China tries to come to grips with these immense problems.

For years we have talked about transformative change. As well, the Third Plenum talked about transformative change — in the economy. So we have two kinds of transformative change taking parallel paths. The transformations through economic reform and social development are not well tied in yet with environmental transformation. We have to start thinking about new and flowery language, about an “ecologically respectful consumer and conserver society.” I think that is what the Third Plenum calls for: green growth, green economy, and green development. Those are different terms, well studied and increasingly well understood here in China. But how do we create transformative change from the use of those terms? I don’t think we know that well enough yet. As Minister Zhou has mentioned often, productive efforts are being made to establish a new path of environmental protection, but it’s still fragile.

Last summer we met in Guizhou at a forum on “Building Eco-Civilization: Green Transformation and Transition.” In Guizhou, a poor province, we discovered that the idea of transformative change in the environment and environmental protection for green development has seized the nation as an opportunity and as something well worth doing. We would like places like Guizhou to become pilot activities where we can see how green decision making is actually working. For example, Guizhou is moving to change its environmental protection bureaus to something labeled “ecological civilization.” In that province and capital city you cannot escape the notion that that place is committing itself to ecological civilization and green development. So we need to be looking carefully at China’s local areas, since they are quite different from one another.

I wish to mention briefly ten issues from the Issues Paper:

Managing gaps. A huge gap in China is caused by rising expectations, particularly of the middle class. There are wants, and there are needs, and many of these are unsustainable. Another gap is between environmental perception and realities — the “not in my backyard” syndrome where people perceive risks, where everything seems wrong, and so forth. At the same time you get other gaps in trust and credibility in terms of statements and numbers coming out of the government.

Balancing values. China is a society caught between values. It wants to embrace some traditional Chinese values, but if you walk through any Chinese city, contemporary values will be quite different. And there are strong international influences, for example in the advertising industry which is promoting automobiles and luxury products.

Improved governance. The issues of inclusive, effective, and efficient governance patterns are ones we must deal with not only now but also in the next couple of years. When I talk about governance I mean not just government, but the relationships among government, society, the public sector, the private sector, and so forth. The environmental crisis, after all, is a crisis of governance. And as we saw in remarks published yesterday in the Third Plenum, we must take whole-of-government approach to problems. Looking only at one aspect in one department and another aspect in another department is how China got into problems with water, energy, and the environment as a whole.

Transformative change. In western China you likely will see a constant stream of new vehicles being transported, on railways, trucks, and so forth, from factories in the east. This is sending a strong signal of what the future should be like. Is that a good thing? Those are the judgments that will have to go into considerations of transformative change. But the most critical point is that confusing signals are being sent. There are too many situations where one branch of government or the private sector is working at cross purposes with another. Protecting the environment in some instances may work against economic considerations, and vice versa. The confusion has to be sorted out.

Fiscal/tax reform. In Xinjiang, windmills are not working because the grid system still favors coal over wind power. So we have to reform fiscal and tax issues. The Council has called for green tax reform, but it has never been quite the right time for that. Also there are issues surrounding health and quality of life which relate to the non-pricing of

ecological services.

Choices and participation. The work we started this year on sustainable consumption is all about choices and participation — public participation in development, the supervision of development decisions, the capacity, knowledge, and choices that are available to consumers who want to be green but who do not have the means to do so.

First low-carbon day. In 2009 we did our report on low carbon, and it was still a controversial subject. Now here we are having the first low-carbon day in 2013, and people are publicizing the need to think of low-carbon lifestyles here in China.

Corporate social responsibility and corporate environmental responsibility. These are happening in China, but far too slowly, and the effort is not being backed by strong government action. There is a basis for CSR here, and we could see much more happen in future.

Agriculture impacts. One sector that sometimes escapes attention is agriculture. Agriculture is a big problem in terms of water use. For example, a Chinese Academy of Sciences field station near Beijing monitors everything that goes into agriculture and everything that comes out. It found that the water demand is unsustainable. The groundwater in this area is declining by one metre per year. About 20% to 30% of the nitrogen that is applied as fertilizer goes directly into the atmosphere and contributes to PM_{2.5} and the other things. This is unsustainable.

New style urbanization. We have to focus attention on the environmental aspects of urbanization. For example, we have to consider compact urban design. Professor Hao says “beware of cities of 10 million” but maybe cities should be even smaller than that? Urbanization brings new quality of life demands, for example, people will demand very high quality environmental conditions. And then there are interesting ideas like ecological redlining and low-carbon cities. This is the pledge of the Council’s former Chair and now Premier Li Keqiang: “China will take an urbanization path that takes the path of green and efficient growth.” We should start thinking about what that means in terms of policy, and can we provide strong guidance from CCICED? We should be thinking of a rigorous scientific planning approach to help us decide what is a compact city and what is over-compact.

The term ecological redlining has come into prominence in China only in the past year. It starts with agriculture, for example, not allowing China’s agricultural land area to fall below a certain minimum number of hectares. Ecological redlining is all about the spatial planning of cities, and we propose to do further work on this. The new government has said that ecological redlining is needed as an environmental strategy, yet it has to be done at a micro level and in differentiated ways according to local ecological characteristics. This is something we in the China Council will dip our toes into. We think it is of great importance for achieving green development.

What China is doing now — and trying — is of vital interest to the rest of the world. We can take ideas from here and apply them elsewhere for the mutual benefit of China and

other places. But China has to learn from other places too. The Chinese know that and have been doing that with the people around this table for the last 20 years. But how to achieve an alignment of interests? For example, China negotiates with other countries an agreement on mercury, but how do you make that work within China in terms of industrial development and environmental and human safety. How do you align post-2015 sustainable development goals with national and local policies?

General debate and comments

Although we have spent a lot of time talking about what will help reduce the impact of climate change, nobody has actually mentioned climate change itself. If ecological civilization is to have its full rich meaning, it should mean that humans live in harmony with nature, in harmony with each other — but also in harmony with future generations. There is no bigger issue than climate change. Much that China wants to do to address its immediate problems, it will also be good to address climate change.

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Professor Hao's presentation refers to the call in terms of primary energy mix to achieve a target of 65% coal by 2017. I hope that a very much more aggressive target will be set given the environmental challenges we are facing today. And when we pick the site for a pilot project, Guizhou is always romantic but Beijing would be a much better choice.

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Minister Zhou mentioned the move from the idea of the market having a basic role to having a decisive role in guiding resource efficiency. This is a positive breakthrough that will have practical significance. Markets do a great job of managing private costs, but not social costs.

One big challenge for the government is to achieve a greater role for market forces in resource allocation and environmental outcomes. This implies a greater emphasis on the importance of MEP completing its work of assigning responsibilities to enterprises. For example, Professor Hao talked about volatile organic compounds. There are no regulations about these compounds now in China, so it's difficult to talk about PM_{2.5} or ozone without talking about volatile organic compounds, because these are a significant precursor.

Similarly it is important to complete the regulations articulating the ambient air quality standards for key regions in China, but also to specify market incentives such as accountability or consequences for noncompliance or for failing to meet targets. In this regard even the basic environment law needs reform in terms of its penalty provisions.

These are all examples of what needs to be done if the government or MEP is to effectively guide this greater role in the use of market forces, if we are to have an outcome that is harmonious in environmental terms and help lead toward ecological civilization rather than exacerbate it. There are too many examples where the unfettered use of market forces has been negative for the environment as opposed to having a

positive outcome. This is something both MEP and CCICED should take up as a challenge.

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What is the future for our oceans? We do face problems: hypoxia or the so-called dead zones, harmful algae blooms or green tides, jellyfish blooms, and so forth. But other issues are cropping up as well. A recent meeting in Xiamen talked about the “blue economy.” The blue economy is also green — it is the ocean-based green economy. In China today the problem is how to use the space along the coast and in the shallow water zone. Many people regard wetlands as wasteland. Actually we know that coastal ecosystems have service values. Wetlands are important as nursery ground for fisheries. They clean the water. And they serve as a defence against tropical cyclones and typhoons. So the time has come for CCICED to pay attention to how we should use the ocean.

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What is in a name? Here, the name of “ecological civilization” is everything. It is a made-in-China sustainable development concept. It has created a willingness to develop the mechanism and governance of sustainable development. For decades we have been trying to operationalize sustainable development, but we cannot find the right institutions. The reluctance to move into sustainable development in many countries often comes from the environmental movement or from environmental ministries or agencies, because they are afraid that the environmental brand will be removed from sustainable development. On the contrary, by not embracing sustainable development, the environmental movement keeps being marginalized from the more important environmental and social projects. But in China there is a big-hearted environmental community that is willing to move back so as to advance sustainable development. I think that is genius.

In Council discussions so far, “green commuting” has focused on the development of public transit. But at present in China’s big cities a large share of air pollution comes from small vehicle emissions. Unfortunately, we do not have any truly effective measures against the use of these small vehicles. Some years ago the government began to impose a fuel charge or tax, but the flat fee was so low it became ineffective once fuel prices themselves increased. At the same time, cities like Beijing have a low-price policy for public transit. These two policies offset each other. On the one hand we encourage people to use public transit. On the other hand we encourage people to use their private cars. In terms of Council policy recommendations, the key is whether all the related policies can be properly coordinated and balanced.

As we know, the Beijing, Tianjin, and Hebei special region has suffered serious air pollution. We controlled this pollution well during the Olympic Games in 2008, but after the Games, Beijing renewed its effort to develop industry. We all know that the fiscal and tax system has resulted in fierce competition among these local governments in developing industries and investments. In the process Hebei province finds itself having no choice but to develop low-level, seriously polluting industry — and Beijing and

Tianjin suffer as a result. Thus to address regional air quality issues we need the intervention of the central government to establish a coordination mechanism at regional level.

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If we are serious about ecological civilization, then we must be serious about ecosystems. We have to get much better at bringing the value of ecosystems into decision making. A lot of work has been done on the economics of ecosystems and of biodiversity, but it is not in our recommendations and there has not been enough discussion of it at the Council. Bringing the real economic value of ecosystems into decisions will be crucial if the markets are to work the way we need them to work. For example, wetlands in China provide services equal to RMB180,000 per hectare per year. Those numbers add up fast, and bringing them into the mix will be important.

What is the scope of the commitment to an ecological civilization? We know that China uses each year 2½ times the resources that can be produced by its own biocapacity. This means that China's ecological footprint is largely elsewhere. If China truly wants to build an ecological civilization, it must look at the impact it is having on resources outside China, as well as within the country. In terms of this year's recommendations, this issue relates to things like CSR. What is the scope of the social or environmental responsibility of companies? Clearly it should apply to their activities overseas, in Africa, Asia, and Latin America, as well as to their activities here.

The question also relates to the scope of what we mean by sustainable consumption. China is the largest buyer of many of the world's most important commodities. If you look at deforestation in Indonesia or in Brazil, China is among the largest buyers of palm oil and soy. China should be stepping up to a high level of performance regarding the sustainability of the commodities it buys overseas as well as the production that happens here in China.

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For the China Council to be effective, we need to tie our analysis to the work plan. One example is public participation, by which we mean getting the public involved, say as consumers or as businesses, and ensuring that all parties see themselves as being part of the diagnosis, the development, and the solution. This applies in particular to the area of financing. How do we achieve the financing that is needed for these massive changes? It's important for businesses to realize that this is not just a government solution. Everyone needs to find a place in the solution, and through dialogue and public participation this can be achieved. CCICED can help by sharing its information and analysis, both early in the development phase but also later in the monitoring phases.

Regarding the earlier comments about climate change, one area where the Council might wish to focus more attention is the work on short lived climate pollutants.

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It's important to distinguish between ecological civilization, green development, and environmental policy, because the success of an environmental policy will be the connection between this policy and green development. You have to link consumers, producers, and government, and you can consider these three elements in terms of the concept of that circular economy that connects production and consumption. The result can be less burden on materials, less waste. As well as the ten issues mentioned in the work plan, there could be an eleventh, innovation, which is the practice of research and development. You can stimulate cooperation among government ministries in two ways: you can love each other, which is difficult, or you can foster dependencies. These dependencies can encourage bonds between ministries, between governments, and between enterprises and the government.

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A decade or two ago, it was more difficult in China to tackle environmental questions, because the prevailing wisdom was "grow first, clean up later." In Europe, it took two centuries to go from that stage to "grow green so you don't have to clean up." It has taken China less than 20 years to make this leap. This is enormously important for China, but also for the rest of the world. After five years of economic crisis, Europe is beginning to see some weakening of its own commitment to green development. China moving so forcefully in this direction will help lift up all of us.

Two outcomes from yesterday's Third Plenum are connected to one another, and are crucially important: more attention to market guidance, and new paradigms in the interface between rural and urban development. As earlier speakers said, paying for ecological services should be part of this market guidance. This is so particularly when we talk about downstream water users, usually cities, paying for the protection of the upstream watersheds, usually rural communities. This would contribute to ecological civilization but also to lowering the inequalities between town and country, by creating an income stream to rural areas from urban users of water.

Part of the transformative change for all of us will be coping with more frequent and devastating disasters. Unfortunately the world has changed. Climate change is no more a problem of the future. A recent earthquake in Haiti killed 250,000 people, while another in Chile killed only 500. Well, one is one too many, but what was the difference? Chile had made 30 years of investment in disaster preparedness and risk reduction in which ecological investments such as soil protection and reforestation were a huge part. Haiti, on the other hand, no longer has any forest. The soil is so eroded that when the earthquake hits, everything collapses. Our societies need to be better able to withstand these shocks. Investment in resilience is part of our holistic approach to a better future.

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In recent years we have seen many slogans in China. Starting with "China in 2020", then to the harmonious society, to the secular economy, and now to ecological civilization, it seems that China is looking for something that expresses the relationship between material consumption and development. Around the world, cities more and more want to

have a say in the definition of the development pathway, where decisions are made for addressing issues like consumption and pollution control — where the global and the local are intertwined.

Perhaps CCICED can dedicate more time to China's urbanization challenge, which is incommensurate with anything anywhere else on the planet. We have no other example of the size and the speed of China's urban growth. Perhaps China can serve as a special case to really work out many urbanization issues and perhaps try to have specific recommendations but also with a global view.

Item 5. Open Forums

Open Forum 1: Green Development and Social Harmony

This open forum was co-chaired by CCICED Vice Chairperson **Achim Steiner** and CCICED Secretary General **Li Ganjie**. In their introduction they set out the framework for the discussion. Here are the main points of **Li Ganjie**'s remarks:

Two years ago when we began establishing a policy research program for the Council's phase V, the relationship between environment and society was proposed as a new field of study. With China's rapid economic progress, the environmental situation is increasingly severe. Various kinds of environmental incidents and risks are emerging, and these have aroused social concerns. Some experts even believe the problems and risks in environment and society may become important factors affecting China's social harmony and sustainable development.

While the relationship between environment and economy has attracted great attention, by contrast the relationship between environment and society has not received sufficient study. This year the Council carried out policy studies on this relationship. We believe that these problems and issues are the focus of attention in Chinese society. Also, these studies are consistent with policy requirements of the Chinese government to recognize the shift in China's social and economic development. This shows that our policy research is forward looking.

And here are the highlights of the introduction by **Achim Steiner**:

Our topic today is also one of the central threads in what the Chinese leadership, during the Third Plenum, has identified as a challenge for deepening the reform process: green development and social harmony. We are talking about issues like eradicating poverty. At the heart of China's development strategy still lies the challenge of lifting tens of millions of people out of poverty and into a new opportunity for development. But as the leaders also said, the rural-urban relationship has been put into the centre of some of the measures that will emerge in the coming years. I was struck by the notion that the cities have benefited for many decades from the rural areas in order to develop. Now it is time for the urban areas to focus on how they can help the rural economies. Herein lies one of the axes of this discussion about green development and social harmony.

We also see a shift toward a more decisive market element in future development.

Markets are enabled to operate not just in terms of large enterprises but also small and medium scale enterprises. This is another element toward strengthening social harmony. Capital opportunity and development support are being spread more broadly to allow smaller players in the economy to play a significant role. Experience in Italy and Germany, for example, shows that small and medium scale enterprise can be the foundation of very large economies.

Wealth is another issue because inequity can disturb harmony in development. In many market economies, particularly when liberalization has occurred, inequities grew. China is conscious of this issue. A few years ago, the concept of the “five balances” was very much addressed to equity. With more decisive market forces coming to play, how will China best ensure that social harmony remains part of it?

Development is often singularly associated with infrastructure, with the built environment: steel, concrete, buildings, roads, railways. The Third Plenum clearly signaled that there is also an ecological infrastructure in China. This is China’s natural capital. The problem is understanding whose livelihood is based on which part of the economy’s capital, and how will the ecological, natural capital be recognized more clearly in future economic development. The notion of valuing and paying for nature’s services is a message that has emerged clearly in the past few days as being a key part of China’s reform agenda. So indeed, infrastructure is urban, modern, and physical, but part of the economy’s capital is also that ecological infrastructure that has been severely depleted and that has caused disharmony.

As we prepare for our discussion, my appeal to all of you will be — given these broader policy signals and given the focus of the recent Plenum — where would some of the front lines of policy implementation lie as we look ahead?

Li Ganjie then introduced the first of the forum speakers, **Zhao Yingmin**, Director General of the Department of Pollution Prevention and Control, MEP. He spoke about China’s pollution control strategy. Here are the main points of his presentation:

Since reform and opening, China entered a period of rapid development and industrialization. Urbanization and agricultural modernization have accelerated. In the process, environmental pollution has become increasingly prominent. To handle the relationship between social and economic development and environmental protection, and to achieve coordination and sustainable development, the Chinese government has done a lot of work, especially since the 11th FYP period.

The government has been pushing the “three shifts” of environmental protection from theory to practice. We have realized a leapfrog in development, and seen great achievements in the prevention and control of pollution during the 11th FYP period. Gross domestic product (GDP) has increased by RMB 13.7 trillion — much higher than the expected target — and the urban population has increased by 11 million. But still we realized the emission reduction target, and since the 12th FYP period China has accelerated the shift of its economic development model, and implemented the principle of protection in parallel with development.

So we incorporated environmental protection into the whole process of social and economic development. We improved the legal system and adopted legal, administrative, and economic means. We advocated the participation of enterprises, governments, and the general public to prevent and control pollution. This September the State Council issued the *Air Pollution Prevention Action Plan*. This new framework has been established with the government playing the dominant role and with an implementation role by enterprises and the public. The action plan includes 10 provisions and 35 measures.

We clearly realize we are in the middle and later period of industrialization and in an accelerated period of urbanization. We have seen complex, regional air pollution. The old environmental pollution was not addressed, but new problems have cropped up. Ozone and PM₁₀ et cetera have become increasingly prominent. Frequently we see large areas seriously polluted with smog. About 70% of China's cities cannot meet new air quality standards. Also, 16.8% of groundwater is below standard, and surface water across the country is under slight pollution. The risks in the production, processing, and use of chemicals are clear. So, generally speaking the trend is toward a worsening environmental situation in China. We still have a long way to go in improve things. Environmental protection is still the weakest link of our social and economic development.

China faces a severe environmental situation for many reasons.

The first and most basic reason for China's environmental problem is its economic growth model. We still focus on heavy industry and coal consumption. High energy consumption and high pollution are still very serious, as some local governments blindly develop industries. This has exerted pressure on environmental protection. In the near future we will still enjoy rapid economic growth, but we will face poorly coordinated and unbalanced development in different regions, and in urban and rural areas. Some local governments are not fully aware of the importance of environmental protection and they only see GDP growth.

With urbanization and economic growth, people's consumption patterns have changed, and this change has worsened pollution. Exhaust emissions and many other sources of pollution have been on the rise. Sustainable consumption patterns have yet to take shape. Over-consumption and over-packaging increase the burden on the environment.

Also, China is weak in terms of research into the technologies that support environmental protection. We are in a preliminary stage of environmentally friendly technology.

Our imperfect policy management system also affects environmental management. Now we have established a policy support system, but at the local level we lack the mechanisms. Enterprises are not held to account for polluting the environment. The problem of lack of enforcement is critical. We need to further improve our policy management supporting system. The irrational resource pricing system and irrational dispersal of resources all increase the seriousness of the problem.

Our aim is to protect public health and improve environmental quality. We want to use

laws and the market and administrative measures, and to shift from the single role played by the environmental agencies to a more comprehensive role that includes participation by all stakeholders. We want to shift from the control of major pollutants to comprehensive improvements in the environment. And we want to shift from extensive to intensive management.

The recent Third Plenum raised the theme of further deepening reform. We believe that in pollution prevention and control we will indeed deepen reform. Our focus is to accelerate work in four aspects:

First, we plan to strengthen the legal system as it relates to environmental protection. We will improve cooperation with the NPC to boost the law enforcement and legislative systems so as to demand more accountability for polluters. We will clarify the standards concerning emissions of pollutants in major industrial sectors, including air and water pollution. And we will clarify the measures for increasing the participation of the general public in this effort.

Second, we will gradually improve the economic policy systems for environmental protection. We will adjust resource pricing to better control coal-fired generation plants. We will improve the incentives system including taxes for used batteries. We will levy consumption taxes on more used products and develop a green financing system and improve the green trading system. We will further strengthen our control on used electronic products. We will improve the funding and incentives system for enterprises so as to guide traditional industries to improve the environment.

Third, we will accelerate the construction of a more professional and efficient environmental management system. We will optimize industrial restructuring to wipe out overcapacity and implement the State Council's measures. We will carry out research on how to improve the control and management of the traditional sectors, for example the cement and aluminum industries. We will implement better pollution monitoring systems for major enterprises — especially publicly listed enterprises — so as to promote clean production and green development in the industrial sector. We will implement the pollution emission review and examination system, to give better guidance to the business sector and to have better control over overall emissions. And finally, we will strengthen our efforts in water and air quality control.

Fourth, we will solve three environmental problems that have a big impact on people's health. We aim to prevent and control PM_{2.5} and related pollutants, so as to have obvious improvement in air quality in the major cities. We aim to further improve water quality, particularly in the most seriously polluted areas. And, we will stress risk prevention to have better control over heavy metals and chemicals and hazardous waste, for example in used electronic products.

We will take comprehensive environmental control and prevention in the urban areas as the platform for further developing our overall systems and mechanisms for pollution control. In this way we will contribute to environmental protection in both urban and rural areas, as well as in lowering the gap between urban and rural areas and between

eastern and western regions.

Next, **Li Ganjie** introduced **Corrado Clini**, CCICED member and Director General for Sustainable Development, Climate and Energy, Ministry for the Environment, Land and Sea, Italy. He spoke about the experience of the European Union (EU) in air pollution control. Here are the highlights of his talk:

We started to work on European rules for addressing air quality in the late 1970s. Starting from 1978 we developed an extensive body of legislation based on health standards and objectives. In the last 40 years, but mainly in the last 20 years, we were able to reduce the emissions of sulfur dioxide by 90%, carbon monoxide by 80%, non-methane volatile organic compounds by 68%, nitrogen oxides by 68%, and PM_{2.5} by 60%.

We were working on two parallel tracks. On one side we addressed air quality standards. The last directive in 2008 merges all the directives in the previous years. At the same time it set the limit value and the exposure reduction for all pollutants including PM_{2.5}. So we have the limit value from one side and the medium- to long-term objectives we have to meet in 10, 15, 20 years.

Another body of ambient air rules relates to the National Emissions Ceiling (NEC) directive. For total emissions in 2010, it sets a cap for each member state, for sulfur dioxide, nitrogen oxide, volatile organic compounds, and ammonia. These are the pollutants responsible for acidification, eutrophication, and ground-level ozone pollution.

This then is the track of air quality standards. On the other side, we have the directives for addressing emissions.

For this we have two main bodies. One is related to industrial emissions. We adopted in 2010 the directive for regulating permits in all member states for industrial activities. According to the directive, any industrial installation must use the best available techniques (BAT) according to the European best available techniques reference documents. Also we have at the European level a harmonized body for identifying the BAT that the industrial sector has to use in building and managing its activities. This is important, for it is an effective drive for promoting and driving investment in innovative technologies. At the same time, the BAT contain the emissions level associated with each technique that is to be used.

The other body relates to road traffic emissions. Since 1993 there has been a terrific reduction in emissions of hydrocarbons, nitrogen oxide, PM, and also carbon dioxide. When we address air pollution we are mainly dealing with pollution coming from the use of fossil fuels. So reducing carbon dioxide emissions from cars is a strong contribution to reducing pollution.

This is the situation in Europe today. We could say: fine, we met many of the objectives we established 10 or 20 or 30 years ago. But the history is not so simple. Last January the EU agency for the environment released its air quality report, which confirms that the emissions of many air pollutants have decreased substantially over recent decades. But

the report also underlined that a significant portion of Europe's population lives in areas, especially cities, where exceedances of air quality standards are poor. Ozone, nitrogen dioxide, and PM pollution are health risks.

European agencies also noted that several countries exceeded one or more of their NEC emission limits established for 2010. And the World Health Organization (WHO) for Europe released a report that underlined that more than 80% of the population in WHO Europe lives in cities with levels of PM exceeding the WHO air quality guidelines. WHO notes that there is no evidence of a safe level of exposure, or a threshold below which no adverse health effects occur. This is a challenge, because WHO is saying that we have to improve the policies for the protection of air quality and we have to strengthen the effort we had in the past.

The EU Commissioner for the Environment, Janez Potočnik, has said that air pollution is reducing human life expectancy by more than eight months on average, and by more than two years in the most polluted cities and regions. And we are talking about the EU. He said that the current EU standards for ambient air quality are weaker than those recommended by the WHO. For example, the maximum concentration allowed of PM_{2.5} is 25 micrometres per cubic metre — currently 2.5 times weaker than what the WHO recommends. He said that we have to strengthen the commitment of the EU through the vision of existing directives in order to protect air quality and health.

In terms of public opinion, the Eurobarometer research report *Attitudes of Europeans Toward Air Quality* says that the majority of Europeans believe that air quality has deteriorated in the past ten years. Almost 79% believe the EU should propose additional measures to address air pollution. According to the poll, emissions from vehicles, industry, and international transportation are considered to have the biggest influence on air pollution.

So, we reduced emissions in Europe during the last 20 years a lot. We invested a lot for the protection of air quality in our countries. But this is not enough. According to the WHO, we have to minimize the concentration of pollution in the atmosphere, mainly the urban atmosphere. This is a big challenge for governments, for urban management, and for technologies, because to strengthen the policies for protecting air quality we cannot follow the old end-of-pipe solutions, but we have to change the chain of technologies.

In particular we face the challenge of PM. According to the EU and the WHO, we must consider how to lower the limit value of 20 micrometres per cubic metre that is to be met in 2020. The need to lower this value stems from a consideration of the components of PM. One of these components is difficult to manage: black carbon. Black carbon is both a pollutant affecting health but also affects the climate because it drives the warming in the atmosphere.

WHO suggests that the “reduction in exposure to PM containing black carbon should lead a reduction in the health effects associated with PM”. And climatologists have concluded that “the black carbon heats the air, increases convection and precipitation, and leads to larger surface cooling than if the aerosols were sulfates.” And they said that most

aerosol climatologists underestimated the amount of black carbon by a factor of at least 2. This is relevant, because it corresponds to an increase in the climate forcing of about 1 watt per square metre.

Black carbon is related to industrialization. Remember that China and India increased their emissions of black carbon alongside their development. Black carbon can affect the climate also at a regional level. According to the observations of [American climate scientist] Jim Hansen, the northern China drought and the floods in south China could be related to pollution from black carbon.

So we are considering both the effects of black carbon on health and on climate. This makes the case for addressing both climate change and health protection at the same time. Remember that UNEP and the World Meteorological Organization said in 2011 that “black carbon and ozone in the lower atmosphere are harmful pollutants that have substantial regional and global climate impacts.”

So, some good news in this complicated game: in Beijing the Olympic Games were one instance of a good relationship between a reduction of pollution and a reduction of pollution’s health effects. Both black carbon and exhaled nitric oxide — a biomarker of acute respiratory inflammation in school children — were significantly reduced during the Olympics. All the available information on air quality and public health show that the figures were better during the Games than they were before or after.

It could be very interesting to consider that these positive effects were related to the intelligent measures adopted in the city: traffic control, reduction in pollution sources from industrial activities and from housing, improvement in fuel quality, and urban afforestation. If we consider what Beijing was able to do during the Olympic Games, we might find a way of addressing environmental pollution in this city and in other big cities around the world.

When we work to protect air quality we also work to protect climate. To reduce the risk of air pollution to health, cross-sectoral and long-term policies are needed to address the multiple sources of pollution: energy, transportation, housing, and the management of urban areas. The common background of most policies is mostly the reduction of fossil fuel consumption and the enlargement of carbon sinks, through renewable sources and energy efficiency, the development of low-carbon technologies in transportation and energy final uses, and the redesign and afforestation of the urban environment.

If we consider both the challenge of climate change and the challenge of air quality, we will find the right solution.

The Forum then heard from **Lim Haw Kuang**, CCICED member, Board Director of the BG Group, and former Executive Chairman of Shell Companies in China. He spoke about pollution control and CSR. Here is a summary of his talk:

To repeat a point made earlier, one factor contributing to deteriorating environmental performance is imperfect management systems. I want to share with you how the corporate world tends to manage policy systems. Policy and regulation are important, but

equally important are execution and consequence management — in a manner transparent to all the organizations concerned. What gets measured gets managed.

But what is also important is CSR, or CER in particular. There are not a lot of tricks. We don't need to go to business school. We don't need to learn the law. But we know that where human nature is concerned, if there is pride, if there is a reward incentive, and if there is transparently applied punishment, you are more likely to move the organization in the direction you want it to go.

I want to share with you what I have learned in the corporate world, using safety as an example. You can substitute environmental performance for safety.

In my previous organization, everyone knew that safety was important. But it was not just about making slogans or taking voluntary actions (which are far too slow). What we did was simple: we maintained a balanced scorecard.

I, as a corporate leader, will be judged not only by how much business I have grown, not only by how much profit I have made. I will be judged also by my environmental and safety performance.

I remember one year when I grew the business extremely fast. But then, we had the first fatality in five years. I was humbled. The whole organization was humbled. The organization knew that I had to travel all the way to my head office to explain why the fatality had happened and what I would do to make sure it would not happen again. The whole organization realized we had to do better. The whole organization knew all about that. It was very transparent.

That is story number one. Here is story number two.

One business unit in my country did extremely well in one particular year. The marketing was excellent, sales were excellent, market share grew, and profit was spectacular. Despite this excellent performance, nobody in that unit received the usual bonus. Why? Because of bad safety incidents.

My recommendation is simple: put in place a transparent and robust management system. Assign accountability clearly, and make sure there is a balanced scorecard, so that promotion — or otherwise — will be clearly understood. The rewards should be governed not just by GDP or economic indicators, but also by environmental performance.

China is special in that it has many large and powerful SOEs where government can directly influence events. My recommendation again is simple: set out a transparent environmental scorecard for SOEs. Focus particularly on those in the six key high emission or energy intensive industries. Make it clear to the whole organization, from the chairman to the chief executive officer to the workforce, how their performance will be judged. Make it clear what consequence management looks like.

Li Ganjie next introduced **Andrew Steer**, newly elected CCICED member and President

of the World Resources Institute. He spoke about the harmony of environment, resources, and society, in particular about breaking the links between growth and climate change. Here are his main points:

We believe, as you do, that economic harmony and social harmony are two sides of the same coin, and I will talk about the two of them briefly today. But first, since I'm new, let me say something about the World Resources Institute.

We are a global research organization that doesn't just do research. We try and achieve change. We focus on the six global problems that must be addressed this decade: forests, food, water, climate change, energy, and cities and transport. Our approach is to obsess about measuring and analyzing. But nobody gets promoted because they measure things. They have to actually change things. So we pilot, convene, test. But nobody gets promoted simply by piloting something successfully. We are in the business of urgent times, and we need to operate at scale. For us, China is a central country. We have an office here, with 30 staff rising to 50. We also have offices in India, Brazil, the United States, and smaller offices in Indonesia and Europe.

As China grows, obviously its resource challenges grow. The opportunities are massive. What is exciting about the China Council is not only do we bring an international and a Chinese perspective to China's problems, but what China is doing is hugely important for the world. I want to remind ourselves about where we are on the intellectual journey. Will stronger environmental policies hurt or help the economy? And will they hurt or help social harmony? A lot of research is going on around the world that suggests that the positive aspects of environmental policies on economic growth and jobs are better than we thought. There are at least two reasons for this:

First, *the win-win opportunities are larger than we thought*. Every year we learn new things. Every time marginal abatement cost curves are calculated, we learn a great deal about how many good things can be done for the environment in a way that actually helps the economy. Here in China we do a lot of this kind of analysis. We looked at the issue in Anhui province of nitrogen nutrients. It turns out that you can come up to national standards by way of simple things that are good for people, good for the economy, including biodigesters, soil testing, aquatic vegetables. Or, you can do what most countries would do: things that are very expensive, like wastewater treatment plants and sludge disposal. China is not unusual. Often, government officials prefer to spend a lot more money than is necessary and also do things that are less good for society.

Second, *technology change can be induced more quickly than we thought*. Everyone knows the 1995 Porter hypothesis, which says strict environmental policies will promote innovation — which leads to increased competitiveness. Hundreds of studies have been done on this. A whole new generation of literature has come out suggesting that a modest carbon tax, a modest pollution tax, combined with government intervention in research can lead to huge gains. China is at the forefront of this exciting discovery, driving down technology costs which is extremely good for society because renewable energy employs more people and pollutes less. What China is doing is a massive gift to the world. China is leading the world in renewable installed capacity. In installed wind capacity, for

example, China came from the bottom of the pack at the turn of the century and now leads the world. Even as air pollution is worse than ever in many Chinese cities, so too we have these huge signs of hope.

These hypotheses are the subject of a major new initiative called the Global Commission on the Economy and Climate. China is a central party. For China there are two areas where these hypotheses are important: urbanization, and a potential transition from coal.

China's urbanization is not just interesting, not just important — it is historically unprecedented. There is projected a 400 million increase in China's urban population between 2005 and 2025. No other country, no civilization anywhere in the history of the world has done anything closely resembling this. The rate of urban growth is much faster than in India, for example, and the scale is much larger than India.

China's window of opportunity is short, ten years or so. It is extremely important for China to invest well, but it is extremely important for the rest of the world too. This is because what China does this decade, Africa will be doing in the next decade. And what China has done on its cities will affect that African outcome. If China is able to demonstrate those two hypotheses — about win-win and technological change — that will be a huge blessing for the way urbanization takes place around the world.

We think it's useful to think about the entropy of cities, or the metabolism of cities. It's important that citizens understand this framework — that a city is a set of flows, of energy and materials and wastes that need to be recycled. If we can install this idea in the public imagination we can get progress very quickly.

One of our board members, Jaime Lerner, was the mayor of Curitiba, Brazil. Now in his 80s, he was one of the leaders of green cities around the world. I asked him what is the one thing I should know about cities. He said:

Cities to most people are so complicated. They tend to think that cities will take a generation to reform. But it's not true. You can do it much quicker than you think — if you have a vision for where the city must go, if you can persuade your citizens that it is the right vision, and if you have a governance system that enables you to implement change.

This is important for China. Chengdu and Qingdao are large cities with exciting opportunities. Qingdao shows the link between people and data and reform. The province, Shandong, has been saying you need to measure pollution every two hours. So there is a competition. Qingdao now measures pollution every 30 minutes, and gets the information out to citizens right away. This very rapid access to information can start driving reform.

We are working with Chengdu on a low-carbon blueprint study. It is an exciting process that is happening in several Chinese cities now. It starts with a baseline analysis, then scenario development, target setting, and then looking at the technology and its costs through an investment analysis, and in all of this engaging citizens and coming all the way through to implementation and performance tracking. Whether it is in Chengdu or in the work we are doing in the Beijing, Tianjin, Hebei region, we are finding exciting

experiments going on here that we are learning a great deal from.

Turning to the second potential transition, can China transition away from coal? One of our hobbies at the Institute is to count electricity generating coal plants, especially those in the pipeline. And in fact there is quite a lot of coal still in the planning stage. Our estimates from 2012 suggest there are 363 proposed plants in China, adding 558 thousand megawatts.

But there have been some new policies. In October 2013 the State Council announced a ban on new coal powered plants in Beijing, Shanghai, and Guangzhou. That will probably reduce the overall number by 15, which of course is only 5% of the total. But other new regulations are more exciting. Tighter emission standards were announced recently for ten other rapidly growing regions, which will reduce the big number of 363 proposed plants by another 48, we estimate — another 13%. So, even though the challenge is huge, you are starting to see some really interesting changes.

Now here is what we don't know: we don't know whether that transition could be more rapid, yet not hurt the economy. One of the things we study is the relationship among risks. We like to measure water risk with a tool called Aqueduct. It looks at the 15,000 major river basins in the world and models water flow. If you take the Chinese data you can project water risk, but if you overlay those maps with planned coal-fired electricity generating plants and also with coal areas, you see a scary problem. Generating electricity from coal takes a lot of water — water which of course cannot be used for other things. This situation gives China more encouragement to move away from coal, because coal is adding to its risk.

Even while China is trying to reduce emissions from coal, the idea of synthetic natural gas from coal is coming to the fore. But of course that uses huge amounts of water. If you look at where synthetic natural gas is going to be produced and you put water risk on top of that, you see other reasons why a transition away from coal would be a good idea.

The goal is smart environmental policies going to the resource-efficient side of the marginal abatement cost curve. This would demonstrate that you can induce technological change, resulting in a better society, with better public health. The nearly 10% of China's economy that is eaten away by environmental damage would not be eaten away. That's good for everybody.

So too the shape of China's development may shift. Currently China consumes large amounts of basic materials, for example, about 40% of the world's coal and steel. Shifting away from this level of intensity would not necessarily reduce GDP growth. It would just be a different kind of GDP growth.

The next speaker was **He Jiankun**, CCICED member and Dean of the Research Institute of Low Carbon Economy, Tsinghua University. He too spoke about the harmony of environment, resources, and society, focusing on overcoming resource and environmental constraints to realize sustainable development and a harmonious society. Here are his ten points:

1. Globally, sustainable development is increasingly constrained by resources and by the environment. Green and low-carbon development has become a trend in the world. With industrialization the over-consumption of fossil fuels has resulted in a shortage of resources, and in air, water, and soil pollution, plus other environmental problems. The accumulation of carbon dioxide and other greenhouse gas emissions has brought global climate change. Therefore, promoting coordinated environmental, economic, and social development has become the core issue for sustainable development in China.

The theme at last year's Rio +20 summit was building a green economy within the framework of sustainable development and poverty alleviation. At the same time, the UN climate conference also carried out the negotiation, through the Durban platform, to promote the mitigation of greenhouse gases, including carbon dioxide. So, coordinated social, economic, and environmental development is important and has become focus of attention throughout the world.

2. China's development also faces increasing resource and environmental constraints. It must meet the challenge of responding to climate change and reducing carbon dioxide emissions. We know that over-consumption of fossil fuels such as oil and coal is the main reason for the current pollution and smog. Environmental incidents have also been a cause of social instability.

The consumption of fossil fuels has given rise to serious environmental pollution. In the process of mining those fossil fuels, there has been soil and water pollution, as well as collapses in the coal mine regions. At present 1 million hectares of land has suffered from subsidence due to coal mining. China's carbon dioxide emissions from fossil fuels account for one-fourth of the world's emissions. So, responding to climate change is not only an important target for the protection of the ecological system. The main way of doing that is saving energy and reducing emissions and reducing consumption of fossil fuels.

3. China is in the process of industrialization and urbanization. How to coordinate the relation between economic development, social progress, and environmental protection, and how to respond to climate change are important for us. At present a top priority is to increase the economic benefit and to reduce the energy intensity per unit of GDP.

We have made a lot of effort and achieved great results. From 1990 to 2012, we saw the energy intensity drop by 57% and carbon dioxide intensity drop by 60%. But despite these great achievements we should see the other side of the story, which is due to the rapid economic development.

In spite of the great reduction of energy consumption per unit of GDP, the total consumption of energy is still on the rise. From 1990 to 2012 the total energy consumption grew by 3.6 times. So the total emission of carbon dioxide also increased by a wide margin. Especially every year in the past few years the new increases in carbon dioxide emissions mostly came from China. So, responding to climate change, controlling total energy consumption, and controlling total carbon dioxide emissions are still urgent tasks facing us.

4. In terms of spreading the energy saving technologies, China has achieved a lot. We have phased out many outdated capacities. For example, the coal-powered generating efficiency in China has exceeded that of the US and is one of the most advanced in the world. On the other hand, the per-unit energy consumption in China still lags behind that of advanced countries. The overall amount of energy consumption in China accounts for 20% of the world's total, but China's GDP only accounts for 10% of the world's total. That is to say, per-unit energy consumption for GDP in China is two times that of the world's average.

Energy consumption is 4.3 times that of Japan. In 2010 the total energy consumption of China is equivalent to that of the USA, but the per-unit energy consumption in China is lower compared to that of advanced countries. The output needs to be further improved. Our target is to optimize the growth model and to have industrial restructuring here in the country so as to further improve the per-unit output in energy consumption.

5. In developing new energy and renewable energy, China has been leading the world every year. China has invested a lot of money in the development of renewable energies. The rapid development of renewable energy is the fastest in the world. In the upcoming few years every year we will increase the photovoltaic power generation by 35 million kilowatts and wind power will exceed 200 million kilowatts by 2015. Despite our rapid growth of renewable energy, we start from a weak foundation, so the current power generation from renewable energy cannot meet the total power demand for electricity in the country. This is a serious challenge facing us.

At present, coal accounts for around 70% of the primary energy in China. We expect to reduce this ratio to 65% and lower. In 2012 China's coal consumption exceeded 3.65 billion tons, accounting for 45% of the world's total. The annual increase of coal consumption in China accounts for about 60% of the incremental amount of the world. Given this energy consumption pattern, the carbon dioxide emission per energy consumption in China was about one-quarter higher than the world's average.

6. Therefore, changing China's energy pattern is an important way for the country to face up to climate change and to meet domestic energy demand. In the new period and with new circumstances, we should have more innovative ideas in terms of energy saving and emissions reduction. This is not only a strategic choice for China to overcome its resources and environmental constraints, but also an important demand for realizing sustainable development.

So we should better control the energy consumption pattern domestically and control the overall demand for energy by 2020. Our target is that the non-fossil field will account for 25% of total consumption by 2030. In this way we will guarantee more sustainable and faster growth of nuclear power. Nuclear power is an important part of China's efforts to restructure its energy and overall consumption patterns. At the same time we will also give priority to the development of natural gas as a substitute for coal.

7. We have set very clear goals for carbon dioxide reduction as our method to save energy, protect the environment, and deal with climate change. During this FYP period, we will

implement the new targets on standards for energy intensity or carbon dioxide reduction per GDP, and by 2015 we will be able to control the overall energy consumption. So you see we go in parallel. On the one hand we control the carbon dioxide intensity per unit of GDP output. At the same time we aim to control overall energy consumption.

8. To determine the peaks for coal consumption and carbon dioxide emissions, we know that the results will be dependent on what we are doing now. We set our target peak for carbon dioxide emissions. This will also lay down a clear path for GDP growth. People expect that carbon dioxide emissions in China will reach their peak by 2030. In the past 20 years, carbon dioxide emissions increased by 200%. From 2010 to 2030, that is, in the upcoming two decades, we are trying to reduce these emissions and to control their peak at around 11 billion tons total. As to per capita carbon dioxide emissions, we will control it below 8 tons. That will be lower than the advanced countries such as the United States.

To control the overall carbon dioxide emissions, we must first of all control emissions from industrial sectors, which contribute 70% of total carbon dioxide emissions in China. This ratio in developed countries is less than one-third. Therefore, with progress in the restructuring of China's industrial sectors we expect that these emissions from these sectors will reach a peak ahead of 2030.

9. China's eastern and better developed regions, especially the Yangtze River and Pearl River deltas, will also reach their carbon dioxide emissions peak ahead of 2030. Therefore we have to take measures now in those regions to control these emissions. In Beijing per capita carbon dioxide emissions reached a peak, but because of the rapid growth of population the overall amount of these emissions has not reached its peak there. We expect in one or two year's time, carbon dioxide emissions in Beijing will reach a peak.

So that is the real situation in China. It is quite urgent for us to set the standards and targets for carbon dioxide reduction and emission peaks. In this way we can better protect the local environment and overcome environmental constraints.

10. In my opinion, our goal should be to accelerate the transformation of the model of growth from an intensive, coal-focused one to one driven by innovation. We have to balance GDP growth and environmental protection. If GDP grows at a low rate, it will not create enough jobs and improve people's livelihoods. However, excessive GDP growth will bring environmental costs.

Therefore we have to adopt a more scientific and rational process of economic development and at the same time protect the environment. We should have more rational planning of future development and formulate policies and systems accordingly, so as to provide institutional guarantees for green and low-carbon development.

Leading comments

With **Achim Steiner** now chairing, the Council heard from several speakers who delivered brief "leading comments." The first was **Veerle Vanderweerd**, CCICED member and Director of the Environment and Energy Group, United Nations

Development Programme (UNDP). She focused on four key issues for improving environmental management in China:

First, *organizing principles*. As others have noted already, China's new air quality action plan contains conflicting signals. For example, one signal promotes small cars and parking fees, while other signals promote public transportation. Of course, if you give the public conflicting signals like this it is difficult to make any of them work. So, one first principle should be that whenever we create any environmental action or law, we should have policy coherence.

This is especially important when it comes to climate change. On this issue, UNDP is helping a number of countries make development plans that are holistic, integrated, and low emission. Meanwhile, we see that other countries spend billions of dollars on hydro power, for example, but then forget to take care of the Montreal Protocol ozone-depleting gases. So the gains they make in one area are offset by losses in other areas.

When we look at environmental laws — on water, oceans, and soil — we must look at policy coherence and ensure that we don't give mixed signals. This is the first issue we should consider for CCICED's next phase.

Another organizing principle is environmental impacts assessment. It took UNDP four years to have these assessments applied to all the programs we do. Now we are working to incorporate social and environmental safeguards into the whole UNDP system. This is not something you achieve overnight. The same applies for gender equality. For example, what is the impact of investments on poverty reduction and inequality? So there are some of the organizing principles the China Council could put forward in order to improve its impact.

Second, *visioning exercises and scenario development*. We need to know where we are going. What is the vision? What do we want to achieve? Nowadays everything I hear is "business as usual." We will continue to do what we are already doing, that is, more cars and more consumption. But is this what we want? Do we really know what sustainable consumption means? If we know where we want to go, it is easier to mobilize the public. It is extremely difficult to engage people, to make societies change, if we have no vision.

For example, what do we really mean by ecological civilization? In this group we focus on the ecological part. I would like us to focus also on the civilization part. In my mind civilization is not "even more consumption." Civilization is also about the arts, music, so many different things. At the Council we should give more emphasis to this. We need to look in a holistic way when we do these visioning exercises.

We need a new economic paradigm, new technologies, a new education system, and particularly, new measurement. It has been said already: what we don't measure, we don't manage. And I think innovation has also come up. We need a "new innovation."

Third, *urgency in changing the development paradigm*. We don't have a lot of time. The next ten years will either catapult China on a new development path, or else there will be too many stranded assets and vested interests and it will be impossible to change

anything.

I urge the Council in our recommendations to be less negative. Green economy is not negative. It has many positive aspects. We should cast our messages not so much as policing or controlling, but as potential for growth and for achieving a better life.

Fourth, *capacity building*. In everything we do, the most important goal is changing perceptions, attitudes, and values. That takes time. You need to talk to people, involve people, work with people. Building capacity, empowering people in rural villages, especially empowering women — that is the most important thing we can do.

Next, the Council heard from **Xu Dongqun**, CCICED member and Deputy Director of the Institute of Environmental Health and Related Product Safety. Here is a summary of her brief remarks:

All speakers have focused on taking measures to prevent and control air pollution. This is very important, but in the case of serious air pollution I believe that monitoring should be strengthened.

During 2008 to 2010, the World Health Organization measured the average annual concentration of PM₁₀ in 1082 world cities. Among 32 provincial capital cities in China, all except Haikou ranked 890th or below. Beijing ranked 1036th. Furthermore, only six Chinese cities among 74 that were monitored can meet the PM_{2.5} annual mean standard during the first three quarters of 2013.

All this evidence shows that PM pollution is very serious in China. Air and water pollution bring severe costs, in terms of health hazards, disease, and death, but also economic losses. In China, ambient PM pollution was among the leading risk factors for death in 2010. PM_{2.5} is closely associated with 20% of lung cancer deaths and 40% of cardiovascular deaths in China.

Although the Chinese government has produced its new action plan on pollution prevention and control, this is long-term and difficult work. For the next five years, Beijing's PM_{2.5} level will reach 60 micrometres per cubic metre, and Shanghai will reach 50 micrometres per cubic metre in 2015. As you know, the WHO's interim "target-1" of 35 micrometres per cubic metre is associated with about 15% higher long-term mortality rates relative to the Air Quality Guidelines level of 10 micrometres per cubic metre. So PM_{2.5} air pollution has become a serious public health problem in China.

In European countries and in the United States there have been studies on the health impact of air pollution, but in China we lack this long-term and systematic research. So the National Health and Family Planning Committee launched the air pollution health effects monitoring project this year. It will monitor 43 surveillance points in 16 provinces. The objective is to establish a nationwide air pollution health effects network in three to five years, and to explore the relationship between air pollution and health by long-term monitoring. In order to better finish the work, I suggest the establishment of a multi-sectoral coordination and cooperation mechanism that will share environmental, meteorological, and health data.

Finally, **Karl Hallding**, Director of the China Office of the Stockholm Environment Institute, offered these comments:

The Council's presentations have reflected two different arguments: one about the need and plans for controlling environmental pressures, the other about the high resource intensity of the Chinese development model. Personally I've gone from being an idealist to more of a realist. I think that transformative change is easier to motivate if it resonates with self-interest rather than with moral obligations, and I think that China definitely has strong self-interest in moving towards transformative change.

One piece of the puzzle has not yet been discussed here: the coal dilemma in China. If you look at the 11th FYP, China made ambitious environmental and energy security targets — which China met. It was impressive. At the same time if you look at the coal target — 2.6 billion tons for the 11th FYP, actual outcome 3.2 billion tons — this is an overshoot of one-third, or 30% more than was planned. Of course, coal consumption is the problem here, both for energy intensity and for air quality.

Coal consumption still continues to rise much more quickly than anyone could have anticipated. The problem for China is it hasn't enough coal domestically to actually continue with this resource-intensive production. Most studies that look at coal limitation in China conclude that China's peak coal production domestically is about 4 billion tons. China's total consumption these days approaches 4 billion tons. China has gone from being a net exporter of coal only five years ago to today being absolutely the biggest importer of coal. China imports almost 300 million tons of coal. If China is to continue with the development model of the last ten years, China will need to import 2 billion tons of coal by the mid-2020s. Of course that is not sustainable.

Coal is at the heart of the whole question of transformative change. There is much more at stake than air pollution. Air pollution is not a trivial problem, of course, but the air pollution problem is about health but also about reputation — about China's ability to maintain, keep and attract the work force that is needed to move up the value chain. No one will want to move to China to work because of the air quality problems. So we need to bring this component into the discussion here when we think about opportunities for China.

Let me wind up with a story, about coal deposits in Xinjiang leading to discussions about locating energy intensive production — aluminum smelters — in that province. But Xinjiang has little of the needed water. Now turn the question around: what can be done in Xinjiang? What comparative advantages does the province have? Well, it is a very good place for agriculture — if you have enough water. Other than that, Xinjiang has good conditions for wine production. It has an opportunity to move ahead on high quality wine production, a kind of labour intensive, value-added production that would much better use the province's scarce water resources.

The heart of the problem with coal is the structure of the Chinese economy, with its oversized heavy manufacturing sector. It actually subsidizes and sells surplus production on world markets, so that in fact global citizens are buying products which are subsidized

by the Chinese government and Chinese citizens. That is a lost opportunity. China should use that money that is subsidizing our consumption toward a transformation to a green economy.

General debate and comments

Recently, the *Economist* magazine called China the world's worst polluter. Better to say: China is the world's *biggest* polluter. Why is China the biggest polluter? Because it has the biggest population, one-fifth the world's total. So, all the problems facing China have to be solved in the context of such a huge population. Another CCICED member has mentioned that China's ecological footprint is two times higher than the world's average, but he didn't say that China's *per capita* footprint is still at the world's average level. So you have to see two sides of the coin.

Why is pollution so serious in China? There are four reasons: our huge population; our rapid economic growth; China's position in the middle to late stage of industrialization and urbanization; and China's particular endowment of natural resources.

We are in a period of rapid development, industrialization, and urbanization. These processes need to be supported by energy. Where does this energy come from? We have to rely on coal. Of course, slower growth of consumption of coal is better. Now, however, the share of coal is high. We hope that we can reduce it to about 60 to 65%, but that requires hard work and much time.

At the current stage of China's development, pollution is high. This is natural and understandable. But the Chinese government and China's ruling party have sufficient understanding of the seriousness of this issue. In 1992, when China participated in the Rio Conference, we already attached importance to this issue. Our Premier put sustainable development to an important position in the policy agenda. Not long after that we treated environmental protection as a basic state policy. In the 21st century we talk about building an energy saving and environmentally friendly society. And we have put forward the concept of scientific development, part of which is the harmony between man and nature. At the 17th Party Congress we talked about ecological civilization, and at the 18th Congress ecological civilization was elevated to a higher level. So, in the past two decades the government's understanding and the people's understanding of the relation between humanity and the environment have been enhanced. China is playing a leading role in this regard throughout the world.

The Chinese government needs to control the impulse of local governments to always seek economic growth. The central government has to balance and coordinate the interests of different regions, departments, enterprises, and interest groups. A lot of work needs to be done by the government, and it takes time.

I appreciate an earlier remark: that we have more opportunities to achieve a good result than we expected because the speed of technological development is faster than we expected. Furthermore, the ability of the Chinese government to enforce regulations and controls is stronger than we expected.

Despite the fact that China is in a severe moment of serious pollution, many recommendations are being put forward, through consultations and listening to people's opinions. The Chinese government is willing to listen to these recommendations. This means we have a scientific decision-making process and a science-based policy. We can imagine that the future for environmental protection in China is a bright one.

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You have just described two stories. On the one hand, China's storyline during the past 30 years has been a strong focus on GDP growth. On the other hand, China has repeatedly broken this well established development formula by shortening the timelines on its actions including, for example, the 10-point pollution prevention plan. The choices that China has made raise an important question: is there an evitable path to development? For example, does a country have to "pollute first" or does it have to rely on one energy source first in order to develop? Can political leadership redefine "the inevitable path" that countries have to take? At what point does the leadership change the formula of development, and therefore set a different timeline for, say, bringing down pollution or for balancing rural and urban development?

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Presently China must rely heavily on coal. For example, we need a lot of new infrastructure construction. Also we are in the process of urbanization, and many rural people are moving to urban areas where they will consume more, so energy consumption will continue to rise. This is something we cannot control. We aim to reach China's energy peak by 2030. I hope the world can understand our energy dilemma. We have no other choice.

To reach the peak by 2030 we need to reduce the share of coal to 65%. We must also develop hydro power, wind power, and solar energy, and we need to develop nuclear energy in spite of the safety concerns. Of course we can also develop biomass energy, but in the foreseeable future this form of energy will not play an important role.

So, in our policy choices we are following the developed countries but our unique situation forces us to adopt some of our own policies. GDP growth rate is already down to 7.5% this year. People around the world will note that this is much lower than before, but of course this is still a high rate. Some Chinese provinces and cities still hope to have double digit growth. Xinjiang, for example, has a lot of coal and needs to develop that in order to boost its GDP, but we do not want to exacerbate the water resources. So different policies bring different problems. The central government has to balance all these things. Its policy choices are made out of concern for specific situations in China.

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Climate change and air pollution are a single challenge to China. Both MEP and the Chinese Academy of Engineering have said that the air pollution prevention and control plan needs to become a climate-friendly strategy. China's energy consumption has given rise to two environmental problems simultaneously: climate concern, and air pollution.

Because these issues have the same cause, we can address them simultaneously.

The measures that China has adopted to prevent and control air pollution are all helpful for addressing the climate issue. These include changing the use of energy, changing the energy mix, adjusting the structure of industry, and reducing greenhouse gas emissions. If this air pollution action plan is implemented, it will be good news for the climate change issue throughout the world.

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There ought to be a practical link between the market economy and social harmony. We always have some social disharmony in that certain parts of the population disproportionately bear the social costs of development, whether it being the old, young, weak, rural, or urban. Of course the market can deliver some positive outcomes only if social or environmental costs are included in prices. But, including social costs in pricing has been hard to achieve politically.

China however has a particular opportunity. Here, health is managed at the city level, so there is a chance to make links between two kinds of costs. Air pollution translates into illness and disability, with resultant costs. People working on environmental protection should be speaking with their colleagues in the health department, to work out the best tradeoff among avoiding future health costs, caring for people with injury or illness, and the costs of production.

During the Olympic Games significant things were achieved in managing air pollution. Of course this was brought about by political focus, energy, attention, and resources. If you put enough political energy and effort into a problem, you can achieve great things. The trouble with urban development is you need this kind of energy and effort and resources *permanently*, and it is much harder to deliver that long-term attention and focus and resources to change the pattern of urban transit in the long term.

In cities, you get what you plan for. If you don't plan, you get chaotic megacities. But if you plan and develop carefully and have long-term attention, you can have great outcomes.

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I want to share ideas on two dimensions of green growth, green development, and social development. First, the domestic dimension. Business-as-usual still prevails because it is easier to maintain past development models. A lot of interests are organized around these models, and in many countries it is difficult to build change because of these interests. We should focus therefore on obstacles to change. One thing the China Council could quite comfortably address is why it is difficult to make change — for example, to improve fuel quality.

That is where the international dimension should come in, because no one knows exactly what green development is about or has implemented it effectively. It is not yet a fully developed global concept. There is a lot of uncertainty, especially among governments.

This is why we should think about how international coordination can help reduce the cost of change. Already the link between health and energy consumption is clearly demonstrated in China, but we can also see the benefits of China's experience even in Europe. Five years ago in Europe the link between environment and health was not so strong. It is strong now. Why? Because a global concern about China has made everybody think about the same relationship happening in other countries. So we need these global perceptions of risk.

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During my work with a CCICED task force I became aware of differences among Chinese and westerners on some issues, but today at this meeting I realize that we can reach consensus. For example, some people think China is a "fast growing animal," but that is a one-sided view. In the past year Premier Li Keqiang raised two important concepts. One is to upgrade the Chinese economy, by which he means to increase economic growth efficiency, improve people's income, reduce energy consumption, and increase energy efficiency. In other words, this upgraded economy goes hand in hand with environmental protection and energy conservation. The second focus of Premier Li's work is urbanization. Some people worry that more serious pollution will come with urbanization. But we are now talking about a new type of urbanization, one that will let more people live as the people live in the cities. That is, all people in China will improve their livelihoods and standards.

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Those are profound comments that characterize the nature of our work here, which is not based on the judgmental approach of newspaper headlines, but on scientific and empirical analysis.

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I agree that China had to develop and use its resources, like coal, in order to provide economic development, to promote livelihoods. The question is whether it is possible to supply China with coal to the extent that China can continue with the same model. If there is a limitation on coal, the element of choice will look different. China will be forced to look for a pathway where it will not be possible to extend coal consumption beyond 4.5 billion or so tons. That will enforce a strong limitation on what China can do. Under those conditions, choices look different. There are enormous opportunities in China to change the structure of its economy, to reap benefits, to extend social harmony. At the same time, there will be strong co-benefits that are environmental and climate related.

Summary by forum chairpersons

Chairperson **Achim Steiner** offered a brief synopsis of the discussion. Here are his main points:

We need to bring back from this dialogue a sense of the evolution of the policy discourse.

There was a period in Chinese history when a single priority drove all decision making. In 2013, however, following the recent Plenum meeting, China has clearly redefined the cornerstones of what will drive the country's development from now on. In part that is rooted in the imperative to change, in the urgency, but also in the opportunity for change.

Also, over the past ten years, we have seen that the preoccupation of the world in judging China is changing. China itself is also changing because some of the drivers of what we talk about in the China Council — sustainability, elements of social harmony — are less driven by the perception of an international community that thinks it is ahead of China, but are increasingly driven by Chinese debates about development itself. There will be a carbon budget one day, and in the next ten years the world will begin to panic about climate change. That panic will have geo-political and geo-economic implications. It will change the way that any carbon emitting economy, including China, looks at its choices.

So the drivers of change are shifting significantly. In the context of our discussion let the world do its headlines. These headlines are driven by a preoccupation with China's economic rise, or by a reaction to images of pollution, or by the perception that some economies are not moving ahead as fast as China. At the end of the day these misperceptions will correct themselves. The interesting part is that China has brought the fundamental choices about its future of development back into the domestic drivers. I sense this is what underlies the evolution of more decisive market forces and building a different kind of economic platform, that is, ecological civilization.

We might also look at our discussion in terms of computer operating systems. China 1.0 was the revolution, communism, the socialist economy. China 2.0 was the socialist market economy, the opening up, and reform. China 3.0 has just begun — a further transition. It is the same China, the same country, but with a different set of drivers or operating systems. So we are on the verge of seeing a China 3.0 emerge.

Economists often portray economic choices in a way that is almost analogous to physical choices. But we know that economics is also a set of social choices. This is at the heart of our debate here. When for example you look at costs and benefits through the perspective of health, it changes the economics of choices about technology or energy. The macro policy framework is in the midst of rethinking the cost-benefit analysis of development pathways. China is now at the forefront of countries in practicing that rethink.

We also need to look at obstacles to change, as one speaker put it. Much of the debate in economic circles today centres round the notion of competition. Competition is used as a major rationale for why one cannot make different choices in the economic sphere — trade being a key instance. This is something we will have to confront, because some of these issues cannot be solved through a purely competitive model of international cooperation. Where is cooperation to emerge from? If you look to climate negotiations right now, cooperation is nowhere to be seen. If you look at trade negotiations, it is nowhere to be seen.

Herein lies the area where the China Council also needs to study: not only how we begin to change the economic parameters for choices with co-benefits that have already been

demonstrated, but also how we can better understand the political economy — the obstacles to change — which are not only national but international too.

Finally, Chairperson **Li Ganjie** offered a five-point summary of the Forum:

1. Green development is the necessary path of development for China. While this path is consistent with global trends, we do this to meet the internal requirements for China's growth. We are keenly aware that if China does not follow the road of green development and green economy, there will not be a way out. There is no bright future for us — we are very clear about that. We are not suggesting doing this because of pressure from the outside world. We are following this road because of internal needs.

2. In terms of green development two issues require a lot of work. One is the energy mix. As others have noted already, our share of fossil fuels, especially coal, is too high. Our coal consumption is almost 50% of the world's total. If we do not solve this problem we cannot improve air quality. On the one hand we need to reduce energy consumption, on the other hand we need to develop clean and renewable forms of energy. In recent years we have made rapid progress, for example with wind power, solar energy, and nuclear energy, but we need to make further efforts. The second issue is urbanization. It is a necessary trend in China, but in the process we need to pay more attention to green urbanization and ecologically friendly urbanization. In past years we have made some progress and in the future we will make more efforts.

3. The 10-point action plan on air pollution prevention and treatment was based on our previous efforts in this regard and it is a great improvement. In view, the most important change brought about by this plan is to focus less on the symptoms and more on the root causes of environmental problems. We will change the industrial structure, production methods, even our way of living in order to achieve this goal. This is a tremendous change, from treating only the symptoms to taking a combined approach.

4. In China, public awareness of environment and development needs to be improved. We should make information more transparent. We should encourage more participation and involvement by the public and protect their right to know. We can have better monitoring and supervision by the public of service delivery by government agencies. We must improve training and educational programs that target the public. We should also have better control by giving more penalties. We should expect that our actions and projects will bring complaints and opposing viewpoints, so we should increase our communication and training on public awareness.

5. While facing tremendous tasks for environmental protection in China, we are very confident. Why? Because we have the political will from China's central government and from local governments. China's governing party has a clear understanding of the importance of environmental protection, and at the grassroots level the public has a better awareness of the importance of green development. By combining these forces we are in a better position to promote our work. Although we face tremendous pressures, we will do a lot more in the future.

Open Forum 2: Public Participation in Green Development

This forum was co-chaired by CCICED member and Vice-President of the Asian Development Bank, **Bindu N. Lohani**, and by CCICED member and Professor and Director at the Resources, Energy, and Environmental Law Institute at Peking University, **Wang Jin**. **Wang Jin**'s brief introduction set out the framework for the discussion. Here are the main points he made:

Since the 2008 financial crisis the world economy has been in a cyclical adjustment period. The issues concerning an irrational economic structure and unbalanced development have been exposed. People have been increasingly aware that the traditional development pattern had severe disadvantages and constraints. Therefore we need to explore a new development path, namely a path that is green, low carbon, that protects the environment. In China we call it the green transformation of the economic development pattern.

This year, the Chinese government has lowered the speed of economic development. We have focused our efforts on optimizing the quality of economic development and on overcoming and addressing issues about sustainability in economic development. China is a big country in terms of population, and to realize the transformation to green development we must rely on the participation and support of the whole of society. In the process of green transformation and in our efforts to implement the key strategies and actions to protect the environment and promote ecological civilization, how can we mobilize the positive energy of the public, the media, and society, and give their potential full play?

Wang Jin then introduced the first of the forum presenters, **Jia Feng**, who is Director General of the Center for Environmental Education and Communications, MEP. His topic was the media and public involvement in environmental protection. Here is a summary of Jia Feng's remarks:

We can describe the evolution or development of the media and society during the past 100 years, particularly in the United States, in terms of four aspects:

The evolution of environmentalism. During the past century, the United States gradually evolved in its recognition and understanding of environmental issues. In particular, it came to understand these issues in a scientific way.

The evolution of environmental law. American legislation and policies developed from the protection of resources in the early period to the protection of wildlife, and then to the control of environmental pollution, for example with the introduction in 1969 of the landmark National Environmental Policy Act.

The evolution of environmental NGOs. The public's growing concern about environmental issues was reflected in the establishment of NGOs for environmental protection. The Sierra Club, for example, concerned itself with the management and protection of nature and forestry, particularly in the western part of the country. Other organizations followed — in 1967 the Environmental Defense Fund and in the 1970s the

Natural Resources Defense Council. Through these organizations, members of the public could express their opinions and get involved in the policy-making process.

Evolution of environmental responsibility in the media. The focus and scope of coverage of American newspapers has also seen dramatic changes on the topic of the environment. In the 1890s, the coverage by these newspapers about environment was only 3.1 column inches per year; however by the 1970s it saw a dramatic increase to 944.7 column inches.

We can conclude from this that human understanding of the environment is a gradually changing process. The increase of knowledge about the environment raises public concerns about environmental issues, and provides incentives to developing relevant legislation for protection. At the same time, the media plays an important role by disseminating knowledge and exposing illegal behaviour.

Now let's look at China's situation, which is quite similar to that of the United States. The biggest difference is that this kind of change happened over more than 100 years in the US, but in China it happened only during the past 20 or 30 years, since reform and opening. During the 1990s, the Chinese NGO Friends of Nature carried out a series of investigations on the awareness of the Chinese print media about the environment, measured by the volume of coverage on those issues. It found that from 1994 to 1999, China's newspapers increased their coverage of environmental matters by five times. Together, 70 different newspapers in China printed 17,555 pieces of environmental news in 1996, but by 1999 this figure had increased to 47,273 pieces.

We have also seen the media get involved in environmental protection activities. For instance, in 1993 a number of influential media outlets participated in an activity called the China Trans-Century Environmental Inspection Campaign. This campaign exposed a great deal of illegal behaviour, promoted information disclosure, spurred new environmental policies and legislation, and increased public awareness.

In the 21st century we often see reports about the environment on mainstream media such as CCTV. In addition, the famous weekly newspaper *Southern Weekend* gives special attention to environmental stories. On new media or "soft media" outlets such as microblogs or Wechat well-known public figures sometimes release information about the environment, or help expose illegal behaviour by enterprises.

In China, in addition to arousing the awareness of the public and carrying out supervisory functions, the media has another important role. For example, in 2004 we carried out an awareness survey about climate change. Our data found that, in China, TV and newspapers are still dominant in terms of the influence (at that time social media had not yet emerged). Compared with the general education system, TV and newspapers played a very important role in disseminating knowledge and improving the awareness of the people.

In terms of the media's functions in the interest of environmental protection, we can list five:

- The media has helped disseminate science and knowledge about the environment.
- It can supervise and expose illegal behaviour.
- It has helped improve the general awareness of society about environmental protection.
- It has helped push the national government to develop new environmental policies and legislation.
- It can help shape public opinion in the whole of society and enable the public to become involved in environmental protection.

Regarding public involvement, in China we already have developed relevant environmental legislation. We have a good legal basis for public involvement in environmental protection: for example, the Constitution, environmental protection laws, and regulations enforced by different government departments.

China has two major categories of relevant laws and regulations. We have those general laws and regulations concerned with the rights and interests of the public in environmental questions, plus laws about information disclosure. As well, we have those laws focusing especially on environmental protection.

Yesterday we heard speakers talk about the spirit of the Third Plenum. If we look at the laws and regulations that encourage public participation, we can see that maybe in future more relevant laws and regulations will be revised and improved, for example, the regulation on the development of NGOs. The purpose of the revision is to enable the public and NGOs to get involved in environmental protection. I think we may need more experts and scholars to study how to further improve the legislation concerning public involvement and information disclosure in the future.

In China there are different aspects of public participation, for example: the right to know; the right to express one's own ideas; the right to oversee and supervise work; and the right of association to establish new organizations or NGOs. We also advocate another idea, that is, that the public can get involved in environmental protection by way of individual acts — for example, green choices such as green transportation — and so reduce the consumption of energy as individuals.

Within our research team, we had some disagreements among the experts on issues of public participation, the right to know, and information disclosure. I believe that different countries have different situations and development stages.

We are also promoting information disclosure by enterprises. For example, we have just released an investigation report. Starting in 1999, Chinese enterprises began to release CSR reports. By 2012 the total number of these reports has reached 1438. Disclosure requirements include the compulsory information disclosure, but in addition we have encouraged some enterprises and organizations to satisfy the public's right to information

by releasing additional information. Also we introduced the roundtable dialogue model, from the World Bank, to let the public, enterprises, government, and other stakeholders have better communication about environmental issues.

Finally, I wish to mention a number of challenges to the Chinese media with regard to public participation. The biggest challenge comes from the “not in my back yard” or NIMBY movement. In other countries this movement is largely focused on garbage incineration or waste treatment. In China, some people are mobilizing the NIMBY movement against projects like construction, railway, and ports.

Another challenge is the erratic interaction between government and enterprises, particularly between government and the public. Some members of the public may believe the interaction with the government does not follow the legal process. The result can sometimes be that the public disagrees over certain projects, or the government and the public do not communicate with one another, or, if the government tries to force the construction of a project, then the public might take collective measures to express dissatisfaction — and “social events” may happen. Sometimes, in the end, the project is cancelled. This kind of erratic interaction happened often during 2012.

What kind of role shall the media play here? China’s media faces competition in two major areas: within the industry where there is much oversupply and fierce competition among peers, and between new and traditional media. In the case of some news stories, for example, the “social events” in Qidong, the evening news carried a report. That is a rational win-win, because the expression of public opinion finally promoted environmental protection. What’s more, the government responded to the public in a rational way and did not take forceful measures.

Why does a project which can bring benefits to the public fail to satisfy the people? In Shifang, the project had been officially approved by the government. It was a project that could have brought good environmental, economic, and social benefits. But, due to poor communication with the public, and due to poor information disclosure, the project had bad results and could not be launched. This kind of issue is something CCICED needs to consider in the future.

In today’s society there is a popular saying: where there are photos, there is truth. But I doubt whether that is really so. A journalist in Jinan, Shandong, shot a news video from a bus, and he did not carry out a filmed interview. Later he put this video on the website Qilu, and then he moved it to his microblog. At the same time, five local mainstream media outlets carried the video report, and later Xinhua.com and others also did. But in fact, the story was false. It was not real. This shows us that, because of competition among different media outlets, sometimes the media are not able to carry out an objective investigation of an incident.

In a famous photo, taken in Shifang, you can see a student kneeling before the police. This student looks helpless. This photo was popularly transferred among different microblogs. But what is the truth about it? Actually the person is a tobacco peddler. A company paid him RMB 500 to kneel for five minutes, and the company took the photo.

The other people who transferred this picture to other media outlets did not do any investigation. They did not know the real story behind the picture.

So, we need to further dwell on many experiences and lessons with regard to environmental and “social events.” In future, when we try to launch new construction projects, we should know that while in the first phase everything may be legal, this construction project may not necessarily enjoy the support of the whole society. People may have different opinions about it. Also we should know that the bigger the project, the easier it is for people to target it with their dissatisfaction.

In the digital age, when there are pictures or videos, we need to let people know that these images may not necessarily represent the truth. We need to guide people to express their opinions about environmental issues in a more rational way. Sometimes when people express dissenting opinions about a project, they get very professional people to help and support them.

Furthermore, the government should understand correctly the influence and force of public opinion. In the past, the government ignored the existence of the general public, but today the government should acknowledge objectively the influence of the public. Also, the government should be aware that public opinion can sometimes lead to the cancellation of a project or cause chain reactions. The government in dealing with these situations should respond to the requirements of the people and have a rational dialogue with the public in order to solve the issue.

In the report of the 18th Party Congress, three points deserve our special attention because they have a close relationship with environmental protection and public participation in China:

- China shall gradually expand the orderly political involvement of the general public at different levels.
- Where decisions may affect the rights and interests of the public, the government shall listen to people’s opinions. Officials shall correct their behaviour if they damage the rights and interests of the people. I believe these two points are basic principles the government must observe when dealing with events concerning the environment in the future. Also, the government must guarantee the transparency of information and have better communications with the public.
- The government shall guide the healthy and orderly development of social organizations.

We have a number of suggestions for how best to promote public participation in China:

- The whole society should understand that public involvement can play an important role in fostering China’s green development.

- We should develop and improve relevant laws and regulations so we can provide a more visible road for public participation.
- We must establish a “sunshine government” that puts people first. Just as the Third Plenum said, everything should operate under the sunshine of further disclosure of information.
- We should guide, support, and help the development of NGOs for environmental protection.
- We should encourage the supervisory role of the media. The media can play an important role, but at the same time we hope that the media can be self-disciplined. Actually we don’t want to undermine the force of the media, but to make the force of the media even bigger and stronger.
- We should improve the knowledge and awareness of the general public. In recent years there have been issues concerning the meaning of photographs, and rumors in the soft media and even in some mainstream media. To a large extent this results from a lack of understanding of environmental knowledge by the public.

The Forum next heard from **Kandeh K. Yumkella**, CCICED member and Chief Executive of the Sustainable Energy for All Initiative. Here are the highlights of his remarks:

Two years ago I came to China and met Premier Wen Jiabao. He said that China hopes that CCICED will not just sing songs of praise to the Chinese government, but that the Council will tell the government how to do things better. I hope that today my own presentation will follow this spirit.

I think that China has gone pretty well, but I believe that China can do better in environmental protection. In the past 30 or 40 years, China’s success was promoted by industrialization. China has proved that industrialization can effectively change society, improve the economy, and give people a better life. This year the World Bank reported that during the past three decades China has enabled 600 million people to escape poverty. In the history of the world, no other country has done something like this.

Meanwhile, China’s power sector has allowed 500 million people to access electricity in just 10 years. This is big progress. The rapid development of industry boosted demand for energy, and the resulting massive generation of power enabled more people to have access to electricity.

If China wants to have an ecological society, a harmonious society, to realize the harmony between man and the environment, then China should think about the best way to realize that. In some countries, they develop their economy on the one hand, but they make better use of the environment and natural resources on the other hand. And also, they change people’s mindset.

In China, urbanization is happening fast. Urbanization is still faced with many challenges in energy. Energy security and reliability will play an important role in further boosting urbanization in China. Also I see significant challenges in China's energy sector, and energy security and reliability will continue to be critical issues. There are similar issues in Europe and other countries. Green energy is developing fast, but consumers are not yet ready, because they will have to pay more money. But in the green development process, green technology and energy is a "must go" road.

Air quality is another important issue. Thermal power plants will bring many challenges for environmental protection, so a critical issue is the "unhook" or disconnect between the industrialization process and energy use. We have seen successful cases in Denmark, so we think it is possible. In Denmark they unhooked economic growth from energy. During the past 40 or 50 years, Denmark's economy increased by 100%, but its energy use remained constant, or even decreased.

China's issue is the same, but the question is whether China can realize this goal. How can China reduce energy consumption while boosting economic development? We have been involved in a lot of projects to improve energy efficiency in enterprises and in different sectors. Some big enterprises reduced their carbon dioxide emissions and their consumption of energy. At the same time, I believe that China will also improve its energy efficiency. If so, that can also help China address the issue of energy security.

We have seen many good cases in Denmark and other countries, so I believe that China has opportunities to create innovation. We need new technologies; we need to innovate the management model, develop new materials, and adjust the whole supply chain.

Some big global companies have done something in that direction. For example, Microsoft reduced energy consumption and improved energy efficiency in their data centre. They also increased energy efficiency in their office buildings. Walmart reduced energy consumption intensity in its worldwide supply chain. I believe that China can also do something like that.

Also, people are very important. If the Chinese people do not change their consumption patterns, a lot of issues cannot be solved. We know that there are many opportunities and potential for this kind of change, for example in the area of lighting. Many European countries and UN agencies promote energy-saving lighting. So China can do that too. Energy-saving lighting can help a family reduce their electricity bills by 15%. For a poor country like Romania, this kind of energy saving is large.

There is not just a climate change issue. There is also an energy security issue. If we can enable consumers to save energy, if we can promote energy innovation, then we can better guarantee energy security. Several American cities are promoting energy saving lighting and smart meters among consumers. Some energy companies in Italy are also promoting smart meters in domestic households. Smart meters can remind consumers if they forget to turn off the lights or computers. In fact, if they forget to use the smart meter, the meter will remind them.

Smart meters have been promoted by power generating companies. We know that power plants sometimes need to generate 15% to 20% more power in an emergency, but if consumers are using smart meters, then it is not necessary to generate that electricity because they have more accurate figures on consumption. In all these areas China can do better, because power consumption in China is higher and the Chinese people's organizational ability is greater. So, as Chinese society gets richer and the middle class gets bigger, we have many things like this to do in future.

Raw materials and energy efficiency are important for China. China's economy will continue to grow fast and to be a major driving force for international industrialization. China will keep consuming resources to support its own economic development. Raw materials from African countries are crucial for China. Meanwhile China can seek more innovation in its raw materials and inputs. For instance, China can use solar power. We know that China's solar power is advanced and can help other countries reduce their consumption of energy. Also we can use renewable energy to support sustainable industrialization. So, if we want to have a safe world, a sustainably developing world, we have to reform our energy structure and energy consumption patterns.

In this world a lot of people are still using biomass, such as wood, to cook. I think the use of biomass is the fourth most serious global health issue, following HIV/AIDS, malaria, and tuberculosis, because biomass can have large impact on the environment and human health. We can use solar power to replace biomass. We can introduce technical innovations to enable billions of African people to access clean solar power. For the whole world and for regions such as Africa, solar power is a driving force for development. Without energy innovation, you cannot solve these issues.

The third forum presenter was **Steven G. Dong**, Vice Chairman of the China International Public Relations Association and Chair and Dean, Academy of Media and Public Affairs, Communications University of China. He spoke about managing crisis communications for environmental protection agencies. Here are his key points:

In our new "omni-media" age, how do we deal with emergent environment protection events so as to guide the general public? Environmental protection agencies and other government departments should pay attention to this issue. In the omni-media era, Chinese people don't just listen to radio or watch TV. More people spend more time on microblogs. Microblogs have become an important information source for matters concerning environmental protection. While environmental agencies may have done a lot of work in protecting the environment, they have not spent much time doing real communication with the public.

In China we are now in an omni-media age, with many kinds of media outlets. These include radio, TV, magazines, and newspapers, which of course remain important. Nowadays the anchors of CCTV news programs are widely known in China because they enjoy large audiences every day. But sina.com is the biggest portal website in China and the number of microblog users is the largest in China. Among these microblogs users, 42 had about 200 million fans each. So these 42 people are very influential in China, even though none of them is a government official or a serious scholar or expert, and none

works at CCTV or China Radio International. Still, these microbloggers are the real opinion leaders. I have a son attending senior middle school, who neither believes me, his father, nor his teacher. He only believes the microbloggers.

So in the omni-media age we have to do crisis management because government departments, including environmental protection agencies, are faced with different kinds of crisis. Although these environmental agencies may claim to be the leading organizations in promoting and building a new ecological civilization, the general public is often critical of their work. For example, if near their homes a nuclear plant or gas station is being built, people will not be happy about that.

These agencies in almost every Chinese province are faced with different kinds of crisis concerning their reputations, so we need to take action. We can't just close the door. We need to open the door and do our work.

These environmental agencies can shape their own image, but the task needs a team approach. We cannot depend on the publicity department to do the communications work. We need everybody to understand the importance of communications and to get involved. Also all the major leaders at the municipal or provincial level should get involved in efforts to shape or build our image.

To achieve this, transparency is important. We need to inform the public and the media, and to remember that the media is not our enemy. The media is in a transition period so we need to do our work in a transparent way. While the media poses new challenges for us, at the same time the new media platform enables us to build our mutual trust.

In China we have different kinds of media. We have about 9000 different magazines, 940 radio stations, and more than 2000 TV channels. We have a lot of websites, microblogs, netizens, and mobile phone users. China is the biggest country in terms of population, and the number of mobile phone users is the largest of any country in the world. Whenever there is a disturbing piece of environmental news, everyone shares his or her own opinion about it — before environmental protection agencies can act, even before the Xinhua News Agency can speak. These people have their own version of that news.

In China the biggest news agency is no longer Xinhua, but the “news agency” among the general public. This public agency is as powerful as Reuters. They have a large audience — 90% of Chinese people have received information from these sources. In omni-media space or time, the information supplied by environmental protection agencies is not sufficient.

I am a member of the State Council's emergency management centre. I have been to places where events related to environmental protection have occurred, and I can report that local agencies wish to communicate with the public, but they fail. Why? Because their mayors do not allow them to speak. The officials of local environmental protection agencies are usually appointed by the mayor, so they have to listen to the mayor. If the mayor says you cannot speak, then you must keep silent. This is the biggest problem we face in China. It is a serious and sensitive issue.

Now let's look at other major problems for environmental protection in China.

One problem is fragmentation. The Chinese government actually pays a lot of attention to information disclosure. If someone wishes to disclose information to the general public, they must apply for permission and be approved by a higher authority. The application then may go through a long process — three days, let us say.

But let's look at a microblog. For example, if I say something, I will put it on a microblog. If I hear something, I will put it on a microblog. Even if I dream something, maybe I will put it on a microblog. I can do that in just three minutes. So there is time competition.

I think some “social events” can be avoided, for example, the anti-nuclear event in Heshan. Projects like this are good ones, as they can bring a lot of revenue to the local area. But a few years ago there was a nuclear crisis in Japan, so the local people had bad feelings about the construction of this nuclear plant near where they lived. At that time the local environmental protection agency said that it wished to disclose the relevant information to the public, but the local authority refused to do that because it may cause “social events.”

Can we actually avoid the occurrence of these events? Yes, we can. Maybe we can let the public know about this nuclear plant three or six months beforehand, and convince them that we can guarantee its safety. It is not right just to be like a policeman to maintain order. We shall use information and greater transparency to control public opinion.

So this was a “social event” in the omni-media age. It involved a three-day demonstration, the final result being that the mayor had to say: OK, we will cancel this project. This is the result of very bad communications between the government and public. What they should have done is to have a public investigation in the first place. They need to obtain the trust of the public and make information very transparent. It is bad to do something without explaining to the public. It is also wrong to do things first and let the people know about it afterwards. What we do should be explained at the same time. We need to be fair and transparent.

Currently we have a lot of media outlets. The power of netizens and microblogs is strong. It is stupid to just fight back. The best way is to provide the media with information proactively. Then they will not spread rumors as a result of a lack of information. If they have information, they will become good friends with government agencies and can help us solve crises.

The period immediately following the occurrence of an event is important. During this period we should release important information to the media as soon as possible, for example on the official website. We should keep the dialogue going before the shaping of public opinion happens. This dialogue should be ended only when we have reached a harmonious stage.

Sometimes, attitude is more important than facts. I once had a conversation with 20 directors of local environmental protection agencies. They said they can only speak when they confirm something. I told them: you cannot do that. You have to provide some

information during a crisis, every hour if possible. Perhaps you can only get a conclusion about the actual facts next year, but meanwhile you have to keep talking. If you do, people will believe what you say and believe that you are doing something. We should be fast to tell the truth to the public. We should show a good attitude, and be sincere and prudent in coming to conclusions. We have to keep communicating with the public until we get their trust, until they believe they are getting the truth.

Finally, I would like to share some of my suggestions.

Sometimes we do the right thing in providing correct scientific information, but our communication method is not good enough. We have to remember to have moral or ethical support, shared feelings with the public, and logic. With these three important points we can do successful communication.

We should not just provide information. We should also try to understand public opinion and guide it to move toward a favorable direction. We should remember that we are the image ambassadors for environmental protection. We should provide the truth to the public. If there is truth and transparency, there will not be rumours. If we can do this, we can not only be fair to the public, but we can also have a good environment. We can improve the air quality of Beijing and improve people's lives.

Next, the chairperson introduced **Simon Upton**, CCICED Member and Director General of the Environment Directorate of the Organisation for Economic Co-operation and Development (OECD). He spoke about public participation in policy on green development in OECD countries. Here is a summary of his presentation:

Public participation is not something we just talk about. We should have better communication with the public. We should guarantee that the people participating can generate some impact and that their remarks shall be respected. All the OECD countries have full-fledged legislation on the environment in order to guarantee that the public can access information in different ways. These laws guarantee that the public has the right to access information and that their right to express their own opinions will be respected.

We should also guarantee that the government cannot do whatever it wants. Sometimes the government must do something that the public does not like, but the government must communicate with the public.

So what role can the media play? The media hope they can guarantee that all public opinions are expressed openly (sometimes of course media outlets can encounter problems of their own, as we have seen recently in the United Kingdom). People in the media should encourage each other and put pressure on each other. This can help guarantee that what they tell people is the truth.

The OECD does not have a media committee because its member governments do not want to control the media. They only want to coexist with the media. The media's information productivity is high now, so the problem is not that the information supply is insufficient but whether the public is concerned about this information or whether they believe the information is provided by governments. OECD country governments are

trying hard to develop a network in order to collect public remarks and opinions, especially about green development.

Different countries are getting involved in different ways. In France there is an advisory body to the Minister of Environment, Sustainable Development, and Energy. With this kind of setup the environmental protection agencies can have updated information at any time. They bring researchers, academics, NGOs, and civil society to hear opinions and information. This mechanism was realized during French President Sarkozy's term, and it works well. Its objective is to invite people such as non-governmental officials to become involved and to discuss the issues. A lot of other OECD countries are doing something similar, that is, inviting members of the public to get involved in ministerial-level committees.

France also has established networks which enable people of different regions within the country to have greater coordination, including among cities and enterprises, and to share their experiences in environmental protection. It is a good way to realize public participation. For example, if we are going to put up a new building, we can share experiences regarding that process through these networks.

Another European example enabling public participation is the Copenhagen Clean-tech Cluster. This group incorporates universities, enterprises, banks, financial institutions, and Copenhagen's municipal government. They have allocated a special fund to launch a foundation, established a board of directors, and even set up a secretariat to coordinate the work.

In Amsterdam they adopted another way. To further public-private partnerships, the municipal government and innovative enterprises and local institutions established a green investment fund together. This fund was started because resources are scarce, and it has been necessary to find a way to utilize scarce resources in an efficient way. In another example, the Netherlands Bank established a "green finance lab."

We have still other ways to promote public participation. For example, South Korea spends about 2% of its national budget to communicate with the general public. They also enable the public to take part in environmental standards development, plus there are green credit card projects which also enable the public to get involved.

We also need to depend on young people. If you want to build an eco-civilized country, then young people are the major driving force. We need to educate them in early age, for example, starting at age five. Data has shown that environmental education should start at a young age, so primary school is an important platform. In OECD member countries — particularly Austria — already primary and middle-school students talk a lot about environmental protection issues in their classrooms.

In OECD countries we have a mechanism for international cooperation that we call the green knowledge dissemination platform. This is one of the important platforms among OECD countries to help achieve international cooperation for promoting public participation. We hope this platform can disseminate relevant knowledge to people

beyond the OECD.

Our forward looking report, *The OECD Environmental Outlook to 2050: the Consequences of Inaction*, asks the question: if we continue the business-as-usual scenario — that is, if we do nothing currently — then what kind of society and economy will we have in 2050? The report shows graphically the dramatic per capita GDP increase and social and economic development in the OECD region, the BRICs countries, and the rest of the world.

At the same time we should consider the relationship between air pollution and health. We have had much discussion in OECD countries about this. In another study, we looked at the impact of particles and of ozone pollution on people's health up to 2050. I have to say that air pollution is a very important killer.

Current policies are not strong enough. We know that China is advancing fast in technology and innovation. China's wealth is also increasing fast. But the air pollution in China's cities is also serious. According to the WHO air quality guidelines, most cities in the world are in the "safe" zone, but some countries are seriously higher than this line. If we continue to develop according to the current model, then countries like China, India, and South Asian countries will have serious problems.

So, what kind of information should we spread to the general public, and how can we get the public involved in efforts to address this problem? It is not just a crisis management issue. If we released this kind of information, will the public have a panic? We determined that we still need to communicate with the public and let them know about the statistics, even though they sound scary. We should let the public participate in discussion as to how to address this issue, for example, if we consider introducing a green taxation system, or carbon tax, or environment tax system, or consumption tax. We can use different ways to address environmental issues, but before introducing all these new policies we need to communicate with the public. It's very important, and the specific communication methods are also important.

In OECD countries, before introducing important policies, governments keep close communication with the public. At the same time they also let the public know the communications results, in a regular and speedy manner. If there are failures, if the communication has not been good, then they also will let the public know that. You have to let people know if something bad is happening, because they will find out sooner or later. It's better for you to tell them earlier.

The fifth presenter was Forum co-chair **Wang Jin**. He spoke about the value of public participation and green development. Here are his highlights:

I would like to analyze the value objective and pursuit of green development and public participation from the perspectives of legislation and human environmental utilization.

The goal of green development is to protect our basic human rights and to maintain social progress. The relation between green development and environmental protection can be divided into three categories: government, enterprises, and natural persons or citizens.

The group of people composed of natural persons we call the general public.

In China, governments are the managers of the natural resources and the environment. According to the Constitution, they are the entity with the responsibility for protecting the country's environment. The major function of government is to protect the national assets or property, and to maintain the balance of social interests.

The Third Plenum proposed to establish a property rights system for natural resources, including the confirmation of ecological systems service value. So, we can consider this kind of asset as a national property. Then, under the management of the government, this property should maintain and increase its value. At one and the same time the Chinese government has two separate functions: supervising the development and utilization of national resources, and controlling pollution. Are these two functions in harmony, or do they conflict? Since the GDP annual increase target is related to levels of pollutant discharge, if we lower the overall economic income, environmental quality should improve. So we have to find a balance.

In China, according to law, enterprises are the major entity to develop and utilize the environment. They are also the major polluters of the environment. While enterprises create positive economic value, they can also bring two kinds of negative value. First, they reduce environmental elements and resources, that is, the basic elements of our ecosystem. Second, the discharge of the pollutants damages the capacity of the environment, a circumstance which can threaten human survival.

The general public usually is represented by environmental NGOs. Sometimes we ignore NGOs, but I remind government officials at various levels that citizens are also the utilizers of environmental elements and capacity. We can call this "the utilization out of nature," that is, people utilize environmental resources in order to survive. This kind of utilization should take priority over utilization by enterprises. The law of nature advocates that people have intrinsic natural rights. These are not granted by law or belief, but because we need to breathe, eat, drink, and appreciate beautiful scenery. So, among the rights of government, enterprises, and the general public, we need to establish a balancing mechanism. I think the ultimate purpose of protecting the environment is human survival.

In order to address the conflicts of interest among people, enterprises, and government, we need to set up a standard or rational target which considers the interests of the general public but also economic development at the same time. So what is the relationship between the general public, government, and enterprises in utilizing the environment?

Between government and the public we need to have the concept of representative elections. The decision for major developments shall be implemented in our constitutional system and in other legislative systems. We shall take public welfare and environmental quality as the most important pursuits for the government. At the same time we need to establish procedures to guarantee that the wishes and desires of the public can be realized.

As to the relationship between the public and enterprises, they share the resources and environment together. At the same time they compete in terms of environmental interests. If enterprises develop the environment to a larger degree, then the space for the general public to survive will decrease. In China, a country with ownership by the whole people, then the government — which rules the country on behalf of the nation — shall try to balance the interests of these two sides with laws and regulations.

And as to the relationship between government and enterprises, in China natural resources and the environment are under public ownership, so their development and utilization cannot be decided solely by the government. When the government gives enterprises approval to develop and utilize the environment, or when they approve the discharge of pollutants, they must consider the public interest. This is an important theoretical basis for information disclosure and soliciting public opinion. We should set up rules for the public and enterprises to utilize the environment, and standards for supervision. Plus we need a market to exchange interests between the two. Finally we need the public involved and we need a legal process to realize green development.

But first of all, we need to decide that the public has the basic right to participate in environmental decision making. This is especially important in China. When it comes to this participation, the public has four basic rights:

- The right to know. Government and enterprises must disclose their information on environmental utilization.
- The right to say. People should be able to talk and voice their opinions. In particular we need legislation to guarantee that the public can voice opinions during investigations or hearings by the government or by enterprises.
- The remarks or opinions of the public shall be respected. We need legislation to guarantee that. If people report misconduct or violations, we cannot ignore their opinions. We must take legal procedures to answer and explain. If the public's opinions are not heard, people must know why.
- The public must also have the right to review or litigation, if they refuse to accept our final decisions.

Another important point is the legislative procedures that confirm public participation. In our laws and regulations we should make it clear how the public can get involved in decision making.

Also we should enlarge the scope of the entities that have the qualifications or standing to launch public interest litigation. Currently the third draft of China's Environmental Protection Law has confirmed the scope of these entities, but this scope is narrow. Only a few societies in the civil affairs departments at central government level have the standing. But China is so big, just one or two societies is too few. I think at least one entity in each province, or even one in each city, should have this standing.

Leading comments

With Binhu Lohani now chairing, the forum heard from three speakers who presented brief “leading comments.” The first was **Kristalina Georgieva**, CCICED member and European Commissioner for International Cooperation, Humanitarian Aid, and Crisis Response. Here is a summary of her remarks:

Since the 1970s I’ve been working for environmental protection. At that time one of my family members had a serious but totally preventable disease that had been caused by polluted underground water. Had he known that that water was polluted, he may have chosen not to drink it, and he might not have suffered that disease. So a long time ago I decided that information disclosure is important. It affected my personal attitude and positioning. I think that we need to let people understand pollution and environmental deterioration, and their impact on our health, productivity, and social harmony. In Europe we have worked hard to guarantee information disclosure and public participation. We think this is important to promote green development.

I want to share four kinds of experience that can serve as good reference for China:

1. I think we can use environmental impact assessment to encourage public participation in the public policy decision making process. We know that China started to develop relevant laws in 2002. Still, I think we can further improve this law. The evaluation of environmental impacts can be meaningful and can affect the design of a project. In China probably you cannot do this right now, but I believe that the general public should be informed of evaluation processes.
2. In Europe, environmental protection organizations have played an important role in promoting and encouraging public participation and providing relevant information. China should move toward taking a more systematic approach to letting the public have the opportunity to establish this kind of organization to do publicity work on issues of concern. In this case, China can better guarantee information disclosure. In Europe we have a multiparty system, including a Green Party which is very influential in Germany. Although it is not the ruling party it has a strong influence on policies and it encourages Germany to use more renewable energy.
3. Another of Europe’s experiences is that we have green volunteers. Last year in the EU we had the Year of the Volunteer. In China in some areas and regions a lot of people would love to do green volunteering, including making publicity among the public. CSR is also important. Enterprises need to take environmental responsibility. I can give you an example. In our tourism sector in Europe, food was wasted a lot in the past, especially during buffets. In order to prevent this waste, we launched a CSR campaign against food waste. This initiative however was not implemented well. Then a young girl proposed a new suggestion: she said we need to start with children. We should let children tell their parents about this campaign. In the Year of the Volunteer we noticed that many of the volunteers were young people, so we need to involve more young people in environmental protection.

4. We have a convention on information disclosure which is applied in the whole of Europe. It concerns public participation, information disclosure, and fairness and justice. It has already been written into our national laws. I think that you should consider putting information disclosure into China's laws.

The forum chairperson then invited comments from **Hau Sing Tse**, CCICED member and Executive Director of the African Development Bank (ADB):

We have to distinguish between negotiation and participation. Negotiation is a bilateral relationship. The government solicits opinions from the public as to certain proposals it has put forward, and it asks civil society to give feedback on those. Participation however is a wider process, a kind of cooperative partnership for policy making with the active involvement of citizens. That is, citizens can put forward their own suggestions for solutions to an issue.

Now let's look at what we have learned from developing the integrated guarantee system in the ADB. On the guarantee measures, we had negotiations on biodiversity, ecological systems, pollution prevention and control, working conditions, and so forth. We developed some guiding principles, the first of which is transparency. We also published relevant documents including all the negotiation processes and results. Feedback from the public was also made available on our website.

We wanted more people involved in the process of developing the integrated guarantee system. We invited many African countries, academics, the public, NGOs, and so on, to join the effort. Also we have a review committee with some UN experts and representatives from local development banks. In the end we have representatives from almost every part of Africa. We had three days of negotiations, with two plenary meetings and three breakout sessions. All the regional negotiations are recorded, and our discussions and answers to questions raised are all made public on the website.

I think that people and process are important. Public participation is not just a policy. The key is: who participates? Who *should* participate? We need to consider various kinds of stakeholders from different walks of life, and with different interests.

In China, in addition to environmental protection agencies, we also need the involvement of other ministries and departments. We also need to build up a local accountability system in order to foster mutual trust and to encourage more parties to get involved. Some of the previous speakers mentioned rights. It is important to talk about the rights of the citizen to access information. But the problem is how to confirm that their rights can be protected?

We need to have clear targets and expectations. We should identify the responsibilities of the government, of the public, and of management. We should identify the contribution the public or relevant parties should make, what kind of input they should provide, and what role their opinions can play in the decision-making process.

Another important aspect is the degree to which the relevant parties show that they understand the information. We should guarantee that the information they get is correct, and the kinds of changes they can make after their initial participation. In this, social media can play an important role.

We need some effective formal way to facilitate public participation. For example, the federal government of Canada recently raised three policy-related issues and encouraged the public to talk about these matters. And although there may be negotiations, consultations, and communications, these are not the end of the work. You also need to do follow-up, that is, you have to have a feedback mechanism. And the feedback you get also should be made public on the official website.

Previous speakers also mentioned the rights of the general public. The problem is what mechanism can enable the public's rights to be respected? One important way to do that is via NGOs, that is, to promote the development of NGOs in order to guarantee environmental protection. NGOs are an important intermediary. In China's future development, environmental protection and green development will be key driving forces. But public participation is also a key driving force for green development. NGOs can play a significant role. In this area we have a lot to learn from other countries.

I asked Premier Li what is the major driving force for our growth in the future. He answered: the urbanization policies that put people first. But the key is, how to realize that? I think that public participation can play an important role. We need an open, transparent governance structure which is the precondition for public participation. This is the direction we should move toward.

The final presenter was **Roger Beale**, CCICED member and Principal, PricewaterhouseCoopers Australia and former Secretary of the Department of Environment and Heritage, Australia. Here is a summary of his brief remarks:

My experience in Australia has shown me what kinds of public participation are successful and which are not. I want to summarize their features.

Previously we spoke about the role of the media. Effective public participation needs an efficient platform, with high quality information dissemination. We need a good media place to exchange ideas and to allow the general public to express opinions.

We also need an effective intermediary, or channel, between stakeholders and the public. Governments and supervising agencies play important roles in this process. At the same time we should encourage NGOs also to play this intermediary role. In some African countries, NGOs in the area of environmental protection are developing fast, and they have relevant policies to support them. Fundamentally, however the basis is the trust of the general public in the relevant government departments.

I would like to give you two examples: the protection of our forest environment and our water resource sharing project. A project usually takes a long time and needs great patience. It may involve external experts, and we need to share their knowledge among government departments and among different stakeholders and water users and timber

users, and so on. Among all these different concerned parties we need to shape a negotiation mechanism, a coordination mechanism, and also a communications mechanism. In this case, the stakeholders of the watershed and of the forest can sit down together to communicate with each other.

In Australia we attempted to take a one-size-fits-all solution. Across the nation we set out a carbon emissions price mechanism and we also declared our target to reduce carbon emissions. We have discussions, and then later we come up to the mechanism. But this kind of mechanism or decision was a unilateral decision, created without patience and without public participation. We just declared how much emissions we were going to reduce, and how much carbon is priced at. But in the past, such efforts did not work well.

In this debate we can clearly see that new media will play an interesting role. We already had a lot of discussion. When people choose social media, they tend to choose Weibo or a microblog which tends to share similar opinions with their own. People are actually reading their own opinions. This omni-media age is a monologue age. We always log and read the kind of ideas that further strengthen our own ideas. So here in this process I hope we can have more comprehensive dialogue on the issues rather than just have a monologue or just talk to ourselves.

General debate and comments

The success of an environmental policy is largely dependent on whether the interested parties can truly get involved in the policy decision-making process. Enterprises should realize that, if they do not pay attention to the environment, they will lose their image and good name. So we should think about how to enable each business to fully consider the relationship between their profits and their environmental performance. We should let them know that if they do not do well on environmental protection, they will suffer losses.

Another issue is legislation. In addition to laws and regulations themselves, we must attend to law enforcement. From a legal perspective we should think of how to establish an efficient procedure to enforce the law and to enable laws to be implemented in a real sense. So, enforcement procedures are important. The government and the legislative agencies should consider this issue. On this, the Chinese government and Chinese public participation have great potential to make further improvements.

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Everybody thinks that China has some social challenges and problems. Public participation is one solution to these issues. The government can also benefit from public participation. Public participation with good design can help the government to develop good policies, which can result from well-designed and structured public participation mechanisms.

And, we should not take it as a kind of preventative measure, to prevent “public events.” Rather the government should take it as a proactive and spontaneous measure, and design an efficient mechanism to enable the public to participate in an active way. In this case

the government can benefit from that. The government should not be passive and should not prevent the public from exercising its right to know nor from taking actions once they know something.

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We have been talking about public participation, but here among us we do not have representatives of civil society or of NGOs. Just now we stressed that NGOs are important, so indeed we should have invited them to attend our meeting. China is such a huge country, to facilitate public participation the government does not have the capability to reach every citizen. So media and civil society are important.

In China probably you do not call it NGOs or civil society. Probably you call it not-for-profit organizations. No matter what you call it, the rules are the same. There are a lot of NGOs in China without formal registration, and they try to respond from a variety of bases: different channels, enterprises, overseas foundations — or perhaps they are sponsored by rich people. In China there are more than 300 billionaires and these people donate a lot to NGOs.

So the Chinese government should think about how to make use of NGOs or social organizations. This is important because it can help us establish public trust. China's NGOs, media, and civil society can help build mutually trusting relationships. Then we can solve a lot of issues.

If there are information gaps, sometimes we need NGOs to serve as a bridge and to help with the dissemination of knowledge and information. For example, after the nuclear accident in Japan everybody, including my grandson and granddaughter, began to question nuclear power. Although Japan is such an advanced country in nuclear technology, nonetheless it has this kind of issues. If you build a nuclear plant near my home, how can you guarantee that it will be safe?

For the public to know these things, we need NGOs and the media to do the explanation, education, and communication work. Sometimes we need to do the communication before we take the action. Before we do anything, we should let the public know. We cannot make decisions while closing the door. If you do that, then naturally the project will be accepted by the people. Extreme behaviours, “social events,” “emergent accidents” — all these result from the information gap. Civil societies and NGOs need to play their true role. They can cooperate with the government and have a dialogue or mechanism that can build social trust. In this way a lot of issues can be solved.

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In Brazil and the USA, officials do not like environmentalists because they think we increase costs and slow development. But in China it is not so. In China we get a lot of support. You have the advantage of being a late starter. You can learn from the experience of the developed countries.

We should think about how to enable the public to get involved in environmental issues. In particular we should invite those people who have suffered the impact of the environment — people who have experienced the harm that environmental change has brought.

In the Amazon and in North America a lot of investment fails because we only listen to the opinions of males. When I began listening to females I began to make money. In our enterprises, currently we have women do the plan, because they have children. They have to consider hospitals and so on, so they hope for sustainable development. But the males do not do much thinking about that kind of development, because they only consider what they can do on weekends.

We also should listen to youth. In every business we needed to have a person below 22 years of age on the board of directors, because they truly understand the demands of the world.

As for the ideas we heard earlier about the separation among government, business, and the general public, I don't think this is suitable for China, where 80% of companies are state owned. In China some private companies actually want transparency and sustainable development, and so on, but they do not have an environment of fair competition. But it is exciting to hear that some SOEs have begun to sell their equity to individuals. I think this is the right way to go.

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Without trust, nobody would cooperate with others. Information disclosure will fill this gap. The goal of information disclosure is to remove barriers to distrust. We need to release relevant information in advance. If something bad happens but only then do you provide the relevant information, then it will be too late. If you put all relevant information ahead of time on the website, then nobody can claim there has been some scheme or plot.

You should try to provide as much information as possible in advance. Don't wait until it is too late. Information disclosure is important. Only when the information is transparent can we have public participation. People will trust. They will say there is no scheme, no plot. People will love to cooperate. This is something they will remember.

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Since 1992 the China Council has been committed to studying the relations between the environment and economy in China. In particular, in 2007 we judged that the relations between the two were at an important transformation period. Again, today, we feel that the relations between environment and society are at a transition period. We render this judgment against the broad background of social transformation in China generally, that is, changes in our social structure, the structure of the population, and the relations among public interests. All have seen major readjustments.

Meanwhile, environmental protection issues also overlay the social and economic

transformations. These environmental factors have had a large impact on the transformation of Chinese society. Pollution has had a big impact on people's quality of life and on their sense of fairness and justice. People have health concerns, and there are issues of ecological compensation among different regions of the country.

At the same time, the public's concern about environmental issues, the way they express these concerns, and the impact of their protests are also changing. The public pays a great deal of attention to environmental issues. People not only express their opinions, but they also take action to reflect their concerns. This may be positive for our society, but sometimes it can also be negative for our society.

It is important for our government to develop the institutional and legislative basis for public participation. To do that, the Chinese government should understand three major issues:

1. We should regard public participation as an important factor for changing China's environmental protection system. In the past, our environmental governance had more of a top-down approach, but with public participation we can change the governance structure to bottom-up or some combination of the two. If we have this kind of understanding we can better promote public participation.
2. Our government officials should be very open to public participation. We should welcome the public to get involved, and we should listen to their opinions.
3. We should try to improve the capability of government officials to deal with these issues. The government requires us to be very close with the public, to listen to their opinions and to communicate with them a lot. However, without the capability to deal with the emergent environmental events, we cannot do the public participation work well. A lot of government officials do not have the capability to improve their communication with the public.

The general public, meanwhile, should pay attention to two issues in order to improve their participation:

1. The government should try not just to increase public awareness about the environment, but should also disseminate relevant scientific knowledge. Sometimes people have strong feelings about these issues, but they do not understand the scientific background. Then it can be very problematic, for example in the case of paraxylene. A lot of scientists tell us that the toxicity of paraxylene is the same as the toxicity of coffee, but the public does not understand that. If they do not know the truth, they may overreact.
2. On the other hand, we shall not enable members of the public only to express their opinions, but we should also let them know their own obligations toward environmental protection and their accountability for pollution. Members of the public are among the users of natural resources, but they are also polluters and victims too.

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Obviously the new media are powerful. Just now somebody said that we can use the new media to speed up the dissemination of information, that we can take measures to make the new media more proactive. But it is very difficult to control new media. In fact this platform is sometimes very messy. There are varied interest groups, they voice their own opinions, and so on. These features actually confound our ability to encourage public participation by making use of new media.

In Canada, the federal government will remind the public to go to the government's website to review new policies that are announced there and to express opinions about them. China can do something similar. We should not just take new media as a kind of tool, but we should also try to make it provide reliable and comprehensive information to the public. In China we can do a lot of innovation.

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The Chinese government pays much attention to environmental protection. However we tend to focus on policy, technology, and capital — and we ignore public participation. This topic is pertinent and pragmatic. We are drafting a document about how to promote public participation in environmental protection work in China. Today I would like to briefly talk about our ideas, in particular, about what the public can do and what the government can do for them.

This draft document can be summarized in these points:

- With the government's active guidance, we aim to involve the public in environmental protection in an orderly way.
- Members of the public should express their opinions and their positions in a rational manner.
- The government should effectively supervise violations of the law as well as its own environmental performance.

The government should be clear about which aspects of environmental protection the public can get involved in, since it is such a broad topic. The public can become involved in policy making and legislation, in government efforts to implement policies once they are developed, in environmental impact assessments for major projects, in pollution prevention and control, and in education and publicity.

As for the government, it should:

- Disclose information so the public can understand the issues.
- Strengthen training and capacity building for officials and for the public too.
- Strengthen regular communications, not just when something happens, but routinely even when no major events are happening.

- Support the public and provide help where possible.
- Implement policies in an active manner.

* * *

How does the government better motivate the public for participation and improve the public's sense of satisfaction?

Last year, on a Beijing expressway, I photographed a vehicle emitting thick black smoke. I sent the picture to the Beijing environmental protection agency. They told me to forward the car's plate number to Beijing's traffic management bureau. But now it is one year later, and there still has been no feedback from these agencies. I don't know whether that car is still running on Beijing's expressway. I mention this story because I want to demonstrate that government should put people first, and that government should guide people to participate in environmental protection in China.

I could mention other stories. In Xiaotangshan district in north Beijing, the government invested RMB 800 million in a development project which affected air quality and disrupted the whole area. As a result, house values there depreciated dramatically. Why did the government allow this project to proceed while others — such as one in the Liulicheng neighbourhood — were cancelled following environmental protests? It is because the government did not put people first. They just prioritized GDP. I hope that in future the government will not make GDP the ultimate priority.

We should offer training to local government officials to help them use Weibo or microblogs. The local governments of China's cities and towns should have their own Weibo or Wechat or other social media, to get feedback from people and to reply to people's concerns.

Finally, we should establish a public evaluation system and involve officials, professionals, and civil organizations.

Summary by forum chairperson

Forum co-chairperson **Bindu Lohani** wrapped up the discussion with these remarks:

Today we talked about a variety of issues. In fact, 30 years ago we talked about these same issues, but 30 years later we can see that the quality of public participation and the policies that govern it have seen dramatic changes. We hope that 30 years in the future, the things we discussed today can further improve the quality of public participation.

In 1982, after we talked about public participation, our good ideas later turned into specific actions and policies. Today's government of China should make new policies. For example, they should legalize public participation. We should also put public participation into routine work and into the decision-making process. What we are talking about today we should make the mainstream of our work. For example, in every project we will do in future, or in policy making in the future, we should explain to the public in

advance. We should let them get involved in the process. We can talk with them, negotiate with them. We need a full set of procedures to explain why you can do this or can't do that. Of course, this consultation process involves a cost, but I believe that the benefits make up for the cost.

Possibly, reporters can be controlled by politicians who sometimes pay the reporters to write for them. This is a problem we need to solve. I know many journalists who will release news or information for money. We have to prevent this phenomenon.

If NGOs or multilateral organizations such as the World Bank or the Asian Development Bank do something that people disagree with, anybody can sue us, because we have an independent board of directors. Officials like me can be affected, and I may be investigated by some relevant department. I think this is important because it guarantees that all people can have a fair opportunity to express their opinions. If you are not happy with a multilateral organization, you can sue. But not a government agency. It is really very hard to sue the government. This is where NGOs have a role to play.

In China, in the past, we had a lot of top-down approach. We should encourage the bottom-up approach, and I know that China is in the process of introducing this. Some people have said that to implement central policies at local level can be very difficult. In the Philippines there is a saying: when you cook, you not only need the fire under the food but also above the food. So, we need both the bottom-up and top-down approach together to do things effectively.

Open Forum 3: Practice and Innovation for Ecological Civilization Construction

This forum was co-chaired by CCICED member and Deputy Minister of Environment Canada, **Bob Hamilton**, and by CCICED Deputy Secretary General, **Xu Qinghua**. In a brief introduction, **Xu Qinghua** made the following points:

The 18th Party Congress has integrated ecological civilization into the master plan of the development of socialism with Chinese characteristics. An ecological, beautiful China and sustainable development of the nation are the most important goals set by the Chinese Communist Party. President Xi Jinping pointed out that an ecological, beautiful China is an important component of the rejuvenation of the Chinese dream. He emphasized that we must respect nature, go along with nature, and conserve nature. Conservation of resources and protection of the environment are fundamental policies of the Chinese government. Premier Li Keqiang also mentioned that the upgraded economic plan includes the important concept of ecological civilization. Promoting practice and innovation for ecological civilization requires more exploration, more work, and more wisdom.

Bob Hamilton then offered brief remarks to set the framework for the discussion:

Today we will talk beyond the broad issue of ecological civilization and delve into innovation and practice in the construction of ecological civilization. Those are two important words.

Innovation in the area of technologies that we use and adopt for solutions — that will be a critical part of moving forward, not only in China but across the globe. As well we must consider innovation in thinking, how we assess problems in innovation, and how we approach solutions. We must challenge ourselves to think of different ways to do things, because the traditional processes might not serve us here.

And in the area of practice, today we will talk about some of the practical considerations necessary for bringing about ecological civilization. Speaking as someone who works in a policy regime, I can say that this is important. Steps need to be taken between the broad framework and the specific proposals that actually implement and make solutions effective.

With Xu Qinghua chairing the first part of the session, the forum heard from **Art Hanson**, CCICED International Chief Advisor and former President of the International Institute for Sustainable Development. He spoke about international perspectives on ecological civilization. Here are the main points of his talk:

Ecological civilization is obviously a transformative idea, in the sense of being “big thinking” about industrialization and about human relations with nature and so forth. It takes the idea of industrial civilization — which has been a standard development pathway — and moves it toward a new pathway that will define China as a post-industrial or post-modern society. In this society, values other than extreme materialism and domination over nature take on greater significance. So we are talking big and we are talking long term. It’s such a large concept that if you are politician you have to make sure those ideas are set in place during your term in office, such as the five- to ten-year terms that China’s leaders usually enjoy.

China’s ambition is to make ecological civilization a centrepiece, a working out of top-level views about how to deal with these three levels: a broad conceptual and aspirational level (which is what ecological civilization is about); green development; and environmental protection. This means there are three entry points in dealing with environment and development in China.

China has put this challenge on the table, but it is a challenge not only for China but also for the world. These ideas are appearing in initiatives by the UNEP, for example. Other countries have acknowledged and are starting to embrace the ideas of ecological civilization. China has become a great experiment in how to deal with environment and development. What we learn from that experiment is of definite and widespread significance throughout the world.

If we get down to the more profound meaning of ecological civilization, we can say it is “the absolute dependence of humans on nature and ecological services for our own long-term survival and well being.” The choice of words is important. Why is it not an environmental civilization? It is an ecological civilization because it is about ecosystems. It is about our dependence on nature and our need to respect nature. This is a fundamental point, and as an ecologist I can only applaud.

We should ask three key questions about how we want to address ecological civilization:

- Is this concept operable, that is, can it have measurable outcomes?
- Or is it a broad goal that becomes a driver for policy shifts?
- Or is it a focused concept for China's future?

The answer is ecological civilization is all three of those major kinds of thinking: outcomes, driver for policy shifts, and aspirational concept for China's future — which brings us back to pride of country and the desire for a beautiful China.

How does ecological civilization relate to the various environmental approaches China takes? Green development is all about sectoral approaches, whether for example in the oil industry, urbanization, or rural development. Green development also relates back to the fundamentals of environmental protection. The important point is that ecological civilization depends on success in green development and on success in how one deals with environmental protection issues like clean air, clean water, and clean soil.

Ecological civilization also depends on the full participation of people. China's population has to be committed in order for ecological civilization to be successful. This links us back to issues like sustainable consumption and other things. Public participation, information flow, the building of trust that goes into having a harmonious society — all are aspects that relate back to ecological civilization.

What is the idea of civilization? Can you build a civilization? How do you know when you have one? Here is one definition, from [American political scientist] Samuel Huntington:

A civilization is the highest cultural grouping of people and involves values, norms, institutions, and modes of thinking to which successive generations in a given society have attached primary importance.

But who assesses whether you have a civilization or not, or even whether you are civilized? The answer is, from an historian's point of view, that you can't do it yourself. You can't say: I have constructed a civilization. You have to depend on those who follow you to actually assess whether you really are a civilization. It's an important point. While you have to work to build and to construct, others in the wider world must assess what you are doing. This approach is parallel to sustainable development, which is why I say that ecological civilization is closely aligned to a made-in-China approach to sustainable development — and we'll let successive generations decide how successful it is.

In my mind, the use of the term ecological footprint now is closely related to the concept of ecological civilization. The two terms have a big handshake. They work together. This is important globally, because we are already consuming more than the earth can support. China is getting close to that boundary line in its own levels of consumption. This is another linkage to the international concepts that are profound and solid.

Why use terms, sometimes uniquely Chinese, such as ecological construction, or ecological compensation, and others which have the word ecological in front? I have learned to respect the use of Chinese terminology, but few people elsewhere in the world would use this kind of terminology. The fact it is uniquely Chinese is a strength rather than a weakness.

When China's leaders brought together the five ideas that now guide policy, they spoke almost exclusively in terms of progress: economic progress, social development progress, and so on. Ecological progress was the term used for ecological civilization. My colleague Shen Guofang points out that ecological progress was not the correct translation. But I can understand where the leaders are coming from. What they said is that we have been damaging things ecological and environmental, and now we have to show progress in reconstructing, in making things better, and in safeguarding them for the future. That is where the measurable outcomes should be — in seeing how well we are doing in this process. Again, this leads us back to green development.

We will need a huge effort in standards and indicators if we want to make ecological civilization a measurable outcome. Whatever measures we use, we will need to explain it carefully so we are not confusing people when we talk about these other ideas. There is a great amount of work that needs to be done on this.

As a consequence of the Plenum, we need an in-depth look at the economic reform package, the political reform package, and the social reform package, and we need to understand what is the value added of ecological civilization to that debate and discussion. That is not going to be an easy job. One of our key messages is that ecological civilization can add value to China's sustainable development. I say that with a hope and a prayer, because I don't think we know and understand enough about this comprehensive thing called ecological civilization to be able to say exactly what that value added will be.

It is vital during the next five years to pinpoint success stories about ecological civilization, how we draw upon experience and efforts so far in looking at things like the low-carbon economy, and some of the other ideas that have steered China's environment and development in the past. Highlighting these stories again will be important inside China, but also in communicating what this new animal, ecological civilization, will be used for in the rest of the world.

Recently I attended a China Council-sponsored meeting in Nairobi in the context of South-South cooperation. People were very interested in the idea of ecological civilization, and wanted to see if there is a reality that can be of use to others. It is important for China to build on this approach in its relationship with other countries. In fact, the fundamental ideas here should be followed with interest and learning by OECD and rich countries that have been smugly talking about sustainable consumption and other important ideas, but not acting on them very well.

Xu Qinghua introduced **Li Zaiyong**, Mayor of Guiyang city, Guizhou province. The speaker delivered a talk about the institutional mechanisms of ecological civilization, with a particular focus on Guiyang. Here are the highlights:

Guiyang is often called “China’s best summer resort” but prior to 2007 we were well known as a very polluted city. Starting in that year we explored ways to carry out scientific development — to be fast, to be good, and to take into account society, ecology, and economy. As a result we were selected as a pilot demonstration city for green development. We have also been recognized as a civilized city, a well-organized city, and an ecological city. I would like to report to you on how we achieved this.

How can we build an ecological city? How can we respect and preserve our ecology and still improve our economy? We have taken the path of scientific development and we have achieved a consensus among city officials and the population. Through various people’s congresses at different levels we have achieved a consensus on three criteria: we will achieve a high performing economy, a good ecology, and a clean society. So it will be economy, ecology, and society — and a high degree of happiness among our people.

In 2007 the municipal government held one of its congresses and we put this issue on the agenda. As a result we laid out new plans for urbanization, for ecological functional areas, and for a model eco-city. As Art Hanson just mentioned, when you talk about the ecology in China, what criteria do you use? We have a special plan for this which has already been submitted to over 20 different national offices for their final authorization. We have urban functional areas and ecological functional areas. We are trying to set up a green economy system, an ecological civilization system, and an environmentally friendly system — in all, six different ecological systems. Underneath these six systems we have 33 projects with specific goals. These have worked to bring our officials together.

We have set up a regulatory mechanism with new laws, and in 2008 we promulgated the first set of regulations and laws to promote ecological civilization. This year we revised these laws and regulations to incorporate ecological construction. We have also set up an environmental court, and this year we established environmental protection police and guards.

We have organized the environment, forestry, and water management bureaus and other organizations into a Guiyang ecological civilization committee. In this way we can have a complete city, with comprehensive and coordinated management.

We want to build Guiyang into a livable city, so we are doing a lot of reforestation. Our forested areas are increasing by 2% a year. That was the first step. The second step is to develop and protect our water. Before we started all this, our water was very bad, graded at 5 or worse. Now it is graded at 2 or 3.

Another element is the management of our enterprises, particularly control of coal-fired enterprises. In Guiyang today all our public vehicles use clean energy. Every year we close hundreds of enterprises with high energy consumption. We also try to preserve and rehabilitate our soil. Every year we rehabilitate about 20,000 hectares of soil. We have separated the residential and development areas clearly, so we are able to protect our water, mountains, and fields, and achieve an ecological city.

We have laid a lot of stress on innovation. We are most concerned about this. If we want

to develop our ecology, preserve our environment, then we have to use innovation. How do we do this? We have done the following to try to build up a system and set of mechanisms.

The first issue is the direction of development. How do you develop? That is what will determine a green economy. If you use bad methods, you will end up with bad results. So we have emphasized the quality of economic development, and we have tried to improve our concepts and ideas. We have to be good, fast, and ecologically sound. We use the idea of ecological civilization and its rules to direct our economic development. We have also decided to turn our ecology into a kind of enterprise, and at the same time we want all our enterprises to be ecologically sound. We try to combine these two.

We optimize economic, ecological, and social values. For instance, this year we set up a science base where we try to develop ecological services, rural services, so that we can decrease our reliance on minerals and mining. We have a lot of mines in Guiyang, but they are low level in technology, so we are trying to have them wait until the technology becomes good enough that we can develop the mining better. So we emphasize advanced technology and advanced industry.

We realize that ecological civilization is going to take a long time. At this point there are a lot of barriers. Not everybody has bought into the idea, so we are trying to establish channels for building consensus. We have held a number of meetings. The Eco Forum in Guiyang has become an international event. This year Vice Premier Zhang Gaoli attended, President Xi Jinping sent congratulatory messages, and representatives from the UN and specialized agencies attended — about 3000 people in all. This is forming a very wide consensus. We hope that Guiyang can be a platform, a vehicle for achieving this consensus. We are now a national eco-city. We also want to be a model for environmental protection, and we hope that through these various platforms to build an even broader consensus among our people.

Education, training, and promotion are also important aspects. All schools in Guiyang now have an ecology class. We want ecology to go into organizations, government offices, and enterprises, and so our newspapers and magazines are promoting the idea widely. We are in the process of exploring ways to set up this concept. We still have a lot of weaknesses, so we come here to learn from everybody. And we hope that you will come and visit us.

The next speaker was **Jim Leape**, CCICED member and Director General of WWF International. He spoke about ecological footprint and China for a global shift. Here are the highlights of his presentation:

I want to put the concept of ecological civilization into a broader context, and to talk about the ecology of the world and China's role in that.

WWF's biannual Living Planet Report tries to measure how we are doing as a planet through two indices: a living planet index which gauges the health of biodiversity, and an ecological footprint. From those measures we know that over the last half century global

biodiversity has declined by almost 30%, but most importantly, biodiversity in the poorest countries declined by more than 60%. This means we are fundamentally undermining the natural capital on which development and an ecological civilization depend.

There is no secret why our ecological footprints — the pressure we put on the earth's resources — has increased so rapidly. We can mention the increasing use of land for agriculture and the mounting pressure on fisheries resources, but the most important factor is our growing reliance on fossil fuels and the impact this has on the economy.

Our ecological footprint today exceeds the earth's carrying capacity by 50%. It's as if we had a second planet to draw upon. If we all lived like Europeans we would need three planets. If we all lived like Americans, don't even think about it.

In recent years China has become increasingly important in that global picture. It is important to recognize that China's per capita imprint remains below the global average, but it is #1 in total global footprint — and growing very fast. This, by the way, is a measure of China's domestic consumption. The fact that many goods are imported and then turned into manufactured products for consumption elsewhere is netted out of the calculation. China's footprint now far exceeds its own biological capacity. In other words, China is using 2.5 times more resources each year than its own ecosystems can provide. That tells us that China's ecological footprint is hitting hard at home, but is quite heavy in other parts of the world.

If you take all this together, there are a couple of clear imperatives. If you chart the progress of human development against ecological footprint, there is a very clear pattern. As countries develop, they quickly go beyond a sustainable footprint. The challenge we face is, for developed countries, to bring sharply down their ecological footprint, and for poorer countries, to find a path to development that stays within sustainable limits. That is one version of a definition of ecological civilization — charting that path toward a high level of development that nonetheless the earth can sustain.

China has a role to play in every dimension of this challenge: in helping to bring down ecological footprints in both developed and developing countries, and more broadly in helping chart a path to progress that stays within planetary limits.

In China itself, part of the challenge is phenomenal economic growth. Another part of the problem is urbanization, because we see a steady increase in footprint as the population urbanizes. But here, as in the rest of the world, most of the challenge is carbon. 54% of China's ecological footprint today is from the burning of fossil fuels. That means the key to meeting this challenge is coal.

I was heartened to see in our draft policy recommendations talk of controlling coal. There is no question China has to find a way to control and ultimately reduce its reliance on coal if it is going to meet the challenge of an ecological civilization. It's encouraging to see some cities talk about capping coal already. That is an idea whose time should come. One part of it is capping coal. Another part is moving strongly to renewables. China of

course in recent years has become a leader not only in the manufacture, but in the deployment of renewable technologies (also in the deployment of urban transportation, rapid transit in particular). So the first field of action for building an ecological civilization is here at home, and the first priority there is carbon emissions.

But let me focus on China's role overseas. China has become in recent years an increasingly important actor in shaping development in other countries. Since 1999, for example, Africa's economic growth has very closely tracked China's. This is partly a question of direct investment. China now invests something like US\$600 billion a year overseas in Foreign Direct Investment (FDI). Investments play an increasingly important role in shaping the course of development, not only in Africa but in Latin America and parts of Asia as well. The China-Africa Forum on Cooperation is one important vehicle for shaping how that investment is used. One priority for building an ecological civilization is to bring that concept into that cooperation.

It is encouraging that the Chinese banking regulatory commission a year ago adopted guidelines for sustainable investments, or green investment guidelines. Just last week, 29 Chinese banks committed to implementing those guidelines. This is an important step toward ensuring that FDI flowing out of China promotes sustainable practices.

Even bigger than FDI is the impact of China's trade with the rest of the world. Latin America is just one example. China's trade with Latin America grew by 2500% — that is, 26-fold — in just the past 12 years. China is now the largest buyer of many of the world's most important commodities. Cotton, pulp and paper, timber, soy, fishmeal, farmed fish, farmed shrimp — China is #1 in all those categories. China is the first, second, third, or fourth largest purchaser of the 15 commodities which are the biggest drivers of biodiversity loss around the world. In other words, the choices that China makes in the commodities it buys are driving agricultural and fishing practices in many corners of the globe.

Now, China has begun to take some action to address this issue, in adopting guidelines for sustainable forestry in timber imports and for trade into China. Those are some initial steps. But one of the most important things China can do is step up to global norms for sustainability and production. These norms are increasingly well recognized, from the Forest Stewardship Council, the Marine Stewardship Council, and the Roundtable on Sustainable Palm Oil. They all are growing very fast in terms of global market share. There are similarly new criteria and standards established for soy, beef, aquaculture, and other commodities. China's stepping up to those global norms would be a huge step toward helping the world move toward an ecological civilization.

Let me emphasize that this is partly about safeguards, about standards, about making sure that China's investment and trade is not undermining global efforts to build an ecological civilization. But it is also about a proactive role that China can play in helping other countries chart that path. Over the last couple of years China has become the world's leading manufacturer of many renewable energy technologies. If China were to use that leadership advantage to deploy these technologies worldwide, it would be the single most important thing any country could do to help the planet move toward an ecological

civilization. China should ensure that energy access in Africa and in South Asia is access to modern energy, to the energy technologies of this century — meaning solar and wind and other renewable technologies — and is not access to the energy technologies of the last century — meaning coal and oil.

Of course, China's role does not have to be confined to that. In fact, China's solar cells and wind turbines can supply the entire world with the technology it needs — and at a cost it can afford — to move toward a sustainable future. That is one of the most exciting aspects of thinking about the role China can play in moving toward the ecological civilization that it envisions.

Chairperson Xu next invited **Sun Jian**, Deputy Director General of the Shanghai Environmental Protection Bureau, to make a presentation about green supply chain (GSC) practice and innovation in Shanghai. Here are the highlights of that talk:

In Shanghai we have recently set up a pilot free trade zone. This provides a special opportunity for advanced enterprises with a high CSR consciousness to gather in Shanghai. At the same time the citizens of Shanghai have a growing desire for green consumption and green growth. New rules, laws, and economic regulations are also beginning to have good effects, guiding society toward green transformation and participation. The new zone will promote and facilitate this pilot project. More people will participate in the optimization of GSC. This will increase enterprises' competitiveness and their ability to prevent environmental risk, and create a new management system.

We believe that Shanghai's participation in this project with CCICED will have significance for the green growth of Shanghai, and will facilitate economic development of the free trade zone.

Under the guidance of CCICED and with its support, in 2011 the Shanghai Environmental Protection Bureau introduced the concept of GSC. In 2013 it officially launched the CCICED Shanghai Green Supply Chain Pilot Project. The project includes training, enterprise investigation, a feasibility study, and a summary of experiences at the end.

The pilot project involved three enterprises: IKEA, Shanghai GM, and the Bailian Group. These enterprises are representative of their sectors, plus each also has special features regarding their nature and their supply chain.

IKEA has adopted the Scandinavian model and has already included some of these concepts in its procurement and supplier organization. It also insists its suppliers improve their environmental impact. Four suppliers cooperated in this project and we achieved some remarkable results in water efficiency.

Shanghai GM, as a major auto manufacturer, places a great deal of attention on the green nature of suppliers. It encourages them to voluntarily join in green improvement. It entrusts third-party consulting firms to provide technical support, and carries out a competition among green suppliers. In 2013 some 33 suppliers took part in Shanghai

GM's green continuous improvement program. 19 suppliers joined in a green design of to-be-built plants. They achieved remarkable environmental results and enhanced their green competitiveness.

The Bailian group, which is a large supermarket company, has a number of subsidiaries including Lianhua. It improved its green management by focusing on green consumption, green market, and green access. It also carried out a number of activities in training and promotion. Through these transformations, Lianhua supermarket was able to achieve significant results which encouraged it to carry out these changes on a wider scale.

These companies have achieved a number of results. They compiled GSC-related specifications for pilot enterprises which can be used as reference for similar projects. The enterprises themselves have also set up their own better management systems for GSC.

Activities have been organized for experts to come and give different kinds of training and to share successful examples from home and abroad so as to continually advance the understanding of the staff and personnel about the concept of GSC. Many of these people participated in seminars and exchanges. In June 2013, on the occasion of World Environment Day, we organized a pilot demonstration for organizations to present their findings that promote the issue of GSC. This project also opened a new GSC website. We use this website to disseminate more information to enterprises and citizens and to exchange technical services.

We have also carried out a policy study, a compilation and summary of existing regulations and policies. We have also looked into the motivators and movers of GSC. We have investigated GSC policies needed by enterprises and suppliers in Shanghai, and identified the barriers and difficulties as well as the policy requirements.

We realize that new financial incentives are needed. We have also carried out a questionnaire survey on the public's green consumption awareness. This survey showed, for 25% of consumers, green awareness is their first consideration in their consumption. And 80% of consumers are willing to pay from 10% to 15% higher for green products.

It is clear that the results of the pilot project are quite positive. The next step is to continue to improve and promote GSC. We will offer better advice on a platform for promoting GSC, and provide service and technical input so as to invite more enterprises to join GSC. We will organize more pilot projects in different sectors, and from other parts of the Yangtze River delta, so that more and different organizations and enterprises can join. We aim to carry out a study of GSC criteria and management systems that looks into the various indicators, assessment methods, and methodologies, so that we can provide sufficient technical backing for the project.

Finally, the forum heard about GSC in the city of Tianjin from **Li Li**, Deputy Director General of the Tianjin Municipal Development and Reform Commission. Here are the main points of Li Li's presentation:

Tianjin city is the demonstration project for low-carbon development and for the regional carbon reduction and carbon trading project. The China Council has officially approved Tianjin to be the pilot city for ecological civilization, particularly on GSC management. And the Tianjin municipal government has issued an ordinance, following President Xi Jinping's speech in Tianjin, declaring that the development of a beautiful Tianjin is the most important component of the government's work in the coming years. Here are the main steps we have taken:

1. We conducted research and development in the initial program of the GSC management pilot project. We developed the rules governing the program and decided on the four companies to take part in the project.

2. We held a launch meeting to start the project, in March 2013. Experts shared their observations, and the four companies involved in the project also expressed their determination to help the GSC in Tianjin.

3. We issued the implementation program of the GSC management project. The requirements, goals, main tasks, guarantees, and arrangements of the work in the coming years were all specified and clarified. The city's main tasks are as follows:

- Promote the government's green procurement and improve the supervisory mechanism.
- Improve the carbon footprint of the steel industry.
- Boost GSC management in the construction sector.
- Built the green goods and services platform by creating the Yujiabao green goods and service demonstration area.
- Stress cooperation with international organizations, develop green standards, and establish a market service system.
- Promote green consumption among public and private enterprises so as to create a green consumption culture.
- Establish a financial support system for the development of GSC.

4. We launched the Tianjin low-carbon development and GSC management service centre. We have also set up a data centre so we can connect Tianjin with the rest of China's cities for future development.

5. We have studied and prepared the documents for the program on the establishment of the APEC [Asia-Pacific Economic Cooperation] international trading centre for green goods. This centre will provide more efficient consultation and trading mechanisms for the trading of green goods.

6. Government procurement agencies have communicated with some of the companies

about the provision of green steel, one of the key components of our policy.

7. We have been promoting the Yujiabao demonstration area. Research has been done on the establishment of a low-carbon city, and a program has been approved by the municipal government.

8. We have encouraged the development of the green construction industry. Tianjin's municipal government has promulgated ordinances which cover building designs, construction, and the assessments and evaluation of buildings. Meanwhile the Tianjin Housing Group has been researching the application of green construction in building as well as the efficiency of green buildings. Construction companies have been developing systems of distribution and assembly of prefabricated houses.

9. We have urged improvements in the steel industry according to the GSC model.

10. We have conducted the first phase of training on GSC management, at a July 2013 training workshop attended by 40 people.

Leading comments

With Bob Hamilton now acting as chairperson, the forum heard from four speakers who delivered brief "leading comments." The first was **Hu Angang**, CCICED member and Professor and PhD Supervisor at the Center for China Studies, Tsinghua University. Here is a summary of Hu Angang's remarks:

How can China mobilize to carry out a green revolution? To think about the future we need to look at the past. Since reform and opening in 1978, a great deal has happened in China. Look at the kind of indicators of development goals that have been highlighted in official plans. Back in the early 1980s most of these indicators related to the economy. By the 12th FYP, however, the majority were social indicators. This shows that the functions of the Chinese government and its development objectives have been changing.

But pay particular attention to the indicators of green development. In 1981 there were only three — and those related to energy. By the 12th FYP, however, the number of green indicators was 24. This is why we say that the Chinese 12th FYP is a green development plan.

But how has the 12th FYP carried these out? On the basis of 2011-2012 figures, we can see that, out of those 24 indicators, the ones that were not going well were precisely those that involved resources. For example, the indicators of non-fossil fuel usage in primary energy consumption and the decrease in energy consumption per unit of GDP are both lagging behind where they should be. The situation is extremely challenging.

In a report we submitted to the State Council and to the National Development and Reform Commission, we recommended that:

- We need to focus on the quality — not the quantity — of economic growth.

- We should promote a green revolution so that we can integrate with the worldwide movement toward greenness, particularly in those areas where we lag behind.
- We must deal with the issue of who is in charge. In other words, what is most important? In the past, it was always GDP. Growth was the most important thing. Now, when we look at the provinces, or units under the provinces, we should not consider GDP. We should look at green development.
- We need to strengthen the use of the 24 indicators, particularly the obligatory ones for environmental protection.

Next, **Siebe Riedstra**, CCICED member and Secretary-General of the Ministry of Infrastructure and the Environment, Netherlands, presented brief remarks:

In the Netherlands I lead a ministry responsible on the one hand for broad long-term environmental and spatial planning, and on the other hand for immediate practical concerns such as roads, harbours, and airports. In the Chinese context too we need to connect urgent challenges with the long-term vision of an ecological civilization.

After listening to the CCICED presentations and after reading through the materials, I believe that one fruitful connecting theme for CCICED collaboration in future will be innovative planning. To achieve a society in China that could qualify as an ecological civilization — say in the year 2040 or 2050 — a useful step would be to reason back from that vision. The trick is to identify the policy decisions needed to be taken and implemented early on in order to have a chance of achieving this vision. I think this approach can be fairly useful.

For example, an exercise in such “backcasting” might consider what must be the decision-making process to transform a Chinese city from an industrial economy to a service-oriented economy? What new types of consumption must be in place? What new forms of spatial planning?

Another example is the process of urbanization. It is a challenge and an opportunity, because cities are longer lasting than many people realize. Every day in the Netherlands I see the results of decisions taken just after World War II. What we do in Holland, but also in China, will determine our future possibilities. A good long-term vision will be necessary.

Concepts of urbanization change all the time. A small city in the 20th century is not a small city in 2050. It is important to keep room for adaptability. A smart city is an innovative city. It applies the latest technology and at the same time leaves room for changes in that technology, in demography, and in economic investment.

And it is important that experiments go further with participatory planning. We must give to citizens, social organizations, and businesses, active defined roles in developing homes, neighbourhoods, and employment. A combination of participation, integration, and

adaptability is essential.

The chairperson then introduced **Li Xiaoxi**, CCICED member and Professor and Deputy Director of the Academic Board of Beijing Normal University. He made these brief remarks:

A narrow understanding of ecological civilization would define it as “the optimizing of ecological systems, closely linked to ecological footprint.” But if you look at it from a broader perspective it’s not only ecology. You must also add the human component. After all, you are talking about the relationship between mankind and nature. It is how man and nature can live in harmony.

This is something we should talk about: how do we understand and define ecological development and ecological civilization? If we are taking an international way of looking at it, it is probably better to adopt the wider perspective, since that probably makes it easier to achieve cooperation.

During the Third Plenum, the term ecological civilization was mentioned seven times. Three times it was ecological civilization, and four times it was ecological civilization *system*. A system implies reform of mechanisms, a regulatory framework. But when you are talking about reforms to the structure, how do you understand that? How can we be more innovative in our frameworks, our structures, to protect the environment and biodiversity? We will need rules and regulations to do this.

The Third Plenum also talked about objectives, not only for the construction of a beautiful China. Everybody has been putting up indicators, but how can that be combined with the building of a beautiful China? Our understanding of ecological civilization is probably going to evolve and so we should look at all these terms that are used in the Third Plenum report.

Finally, Bob Hamilton introduced **Scott Vaughan**, President of the International Institute for Sustainable Development. He made four points:

1. A key challenge in making tangible progress towards ecological civilization is “greening” the financial sector to make investments more open to green opportunities. One important innovation is the 2012 green credit policy of the China Banking Regulatory Commission. It is extraordinary to have a banking regulatory commission set out very ambitious targets to move private sector banking towards greening. We can see some of the tangible proof of that happening in that 8% of total liquidity in Chinese banking is now directed towards the green sector. This is incredibly important not only in China, but it is an example of Chinese leadership that banking regulators around the world will notice.

2. Another opportunity is public procurement. Moving toward greening of procurement is a way to reduce an ecological footprint. In China approximately 20% of all goods and services are tied to public purchasing. So shifting toward the greening of that has tremendous potential in lowering pollution across a range of sectors and markets. We have heard also of opportunities coming from the private sector, from IKEA for example.

Another important detail comes from Shanghai, where polling has shown the willingness to pay — and what's more a price premium — for goods and services that consumers feel have a positive impact on reducing their ecological footprint.

3. That is the positive side of it. Meanwhile, we have the big problem of policy coherence. Moving toward a whole-government approach to any challenge, not just environmental protection, is difficult. One area in the energy sector that needs progress is the matter of subsidies. The International Monetary Fund has estimated that \$1.9 trillion are spent annually on global subsidies to the fossil fuel sector. In fact, the ratio of subsidies in the coal sector to subsidies in renewable energies is about 10 to 1. All our governments are making ambitious targets to reduce carbon footprints, to introduce carbon mitigation measures, and so on, but at the same time those subsidy payments to fossil fuels are actually creating obvious and considerable barriers.

4. Indicators and measurement are important, because they essentially frame the narrative of how we see progress toward ecological civilization or greening economic growth. We do need to complement our standard understanding of GDP indicators with alternative, green indicators. But one of the challenges and opportunities is to have indicators that the public can understand — that can show them progress in the right direction. But also we need to harness the public's obvious engagement with data collection and data observation — for example, PM_{2.5} indicators — to create indicators that not only inform people but actually turn them into participants working towards ecological civilization.

General debate and comments

A lot of effort has gone into education and training, but green education is probably on the weak side. What we are promoting is ecological civilization, or an ecological *system*. We all know that the resources that we depend on come from this ecological system. So I think the concept of ecological system should be incorporated into education.

I am particularly concerned about oceans. We know that China's development is mainly in the coastal areas. People go to visit the wetlands and they say: Well, it's just a few birds, isn't it! What is so great about that? But what do those birds reflect? They reflect that this wetland is productive. Stocks of small fish are living well here, but if you destroy that wetland then those fish will disappear.

We also know that wetlands can clean and purify the water. Once the wetlands are destroyed, this cleaning effect is gone. We also know that wetlands are important when it comes to defending the coastline from typhoons. You destroy the wetlands, you get no defence.

If you look at it from a long-term perspective, there are even more facets. For instance, if you have no more wetlands and the fish disappear, then you get a bloom of jellyfish, because normally those jellyfish are eaten by those fish. So there is a complex relationship among the various factors. Once the wetlands are destroyed, it is hard to re-establish them. In one particular place where wetlands were removed to build a harbour, that facility produced a lot of income, so in that case it will be difficult to do

away with the harbour and restore the wetland.

Many regions want to reclaim land, but does every place need to do that? There should be marine special planning. We need indicators not just for the forests but for coastal wetlands too. For coastal cities after all the forests are not that important, the wetlands are more important.

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We have heard from various cities about what they are doing in building ecological civilization, but still I feel that we are only starting out. I think this set of policy recommendations is specific and the most concrete, practical recommendations that we have proposed over the past few years. However I still would like to strengthen some parts. For example, air pollution in China is clearly increasing. Since the beginning of the 11th FYP we have laid out some targets for the limitation of major pollutants and we have actually achieved or even surpassed these targets. But if you look at the increase in the smog, it's actually getting worse over the last few years. So this targeted control that we lay out is just not enough to control the smog at the rate it is increasing every year.

The State Council's 10-point action plan has laid out new indicators, but there are still different understandings about how smog forms. People don't see it in the same way. We know that the sum total of pollutants that are put into the air is way above the possibility of support. If the effect of sunlight is added, it just increases the pollution. If we want PM_{2.5} to drop by 30% in Beijing, then emissions will have to drop by over 30%. But our goal is still only 10%. So, if we want to achieve 30% drop in pollution, it is difficult indeed. What we are doing is not enough.

At this point, China's growth overall is still high-carbon and expanding. Different places are all using high investment to achieve high growth. Mayors and officials and leaders in different places have all said yes, well, that's the way it is. Environmentalists have worked hard to promote a low-carbon and green economy, but they haven't been able to reverse the overall trend of an expanding economy. So, while there might be good stories and cases, the overall results do not seem to have changed very much.

So the challenge now is: what are we going to do? How do we deal with this? Control and reduction of overall pollutants is essential. No matter how you want to talk about GDP, you have to talk about emission reduction. And it has to be a very high reduction. If you cannot achieve that, then you are not going to deal with the smog issue.

Personally I think our society, including our leaders, actually don't have a thorough understanding of the situation. Although a lot of measures have been taken to limit the smog, it is getting worse. It is worse this year than last year. National Day in October used to be the best day of the year, but now without wind we are covered in smog. So, I think our present measures are not enough to reverse this increase of pollution and smog.

We are building more and more buildings. It's expanding in all cities. Under these circumstances, how are you going to cut down on emissions? Because power has to increase, coal production has to increase. As soon as we start slowing down a little,

somebody gets anxious and worried: “Oh, we should go faster. If growth is faster, that means our economy is doing well. If we burn more coal, if we create more electricity, we are doing well.” So, speed of growth is the criterion. If we don’t change this overall concept, all our measures are not going to solve the problem.

Therefore, I suggest in our policy recommendations that we add that a regional environment impact assessment should be a precondition for any kind of project. If regional emissions increase too fast, we are not going to reach our goal.

I agree with the idea of a green GDP. Although our central leaders have heard many different opinions, still we hope that China’s GDP will increase over 7.5%. If we can’t guarantee 7.5% then all sorts of incentive measures come into effect, usually greater investment in building and construction. Sometimes we build something, then pull it down, and build it again. If we still use GDP as the focus indicator, as the goal of our economic growth, and if we keep saying that GDP cannot drop below 7.5%, then changing the environmental situation is going to be extremely difficult. Using GDP to assess our economic growth is at the root of why the environment is so bad.

So we still have not resolved how we can achieve green growth. At this point most of our growth is not green. The faster you go, the less green it is. We don’t even theoretically have a way of explaining or dealing with this. What are the measures we want to take? Obviously it needs further study. But I do think that using GDP and the expansive mode will result in more consumption, more investment, more pollution.

I also approve of pricing resources. If our pricing system is not correct, then it will be difficult to rely on the market. When it comes to price management China is encountering a difficult situation. If you have any price increase, you will get a lot of opposition. Leaders don’t want to offend the public, after all. The price of energy in China is being subsidized, and the subsidies come in different forms: a lowering of price or continuing to support production even in the case of loss. Importation of natural gas is one way of dealing with it, but this is being done at a loss. It is being subsidized by the government. So, if we continue to move into a market economy and if the market is going to have a greater impact, then pricing and taxation must change.

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The Chinese government is making a major contribution with its commitment to ecological civilization. It is a major breakthrough in thinking and in making political commitments that have meaning. But precisely because they have meaning they may have even more value if they are somewhat ambiguous. Such concepts tend to evaporate if you try to give too precise a meaning to it. This is one reason the idea of sustainable development caught on. It was something that every sector and every group could buy into, come to the table, and get to know one another’s views.

Ecological civilization is another of those concepts where different groups and sectors can make their contributions accordingly. This means we need to revise and refine the language — or different languages — for different kinds of communications. For

example, if you are talking to an economist, one could easily define it as being that kind of development or pathway which leaves all kinds of assets or capital intact or even bigger, for the benefit of the next generation. It could be human capital in terms of skills, knowledge, and abilities. It could be natural capital in terms of forests, soils, and waters. It could be financial capital, of course. Or it could be cultural capital: value systems or community-based social cohesion.

When you have these different kinds of capital you have to recognize that they are not interchangeable. You can't convert all your forests into money, and then say you have left behind a better world. You need to look at each type of asset as something that needs to be enhanced as civilization progresses. You could talk to a Buddhist who would deny the language of capital altogether — because it reduces all these values to economic or monetary terms — but rather talk instead about issues of human development or a variety of alternative indicators such as Bhutan's Gross National Happiness.

My concern as an environmentalist is that while we have made strong commitments to stable climates, to the conservation of biodiversity and prevention of species loss, and to the management of energy resources — we have not given enough thought to material resources. This problem will confront humankind not as dramatically as species loss or environmental change, but possibly sooner. We now see indications that anthropogenic movement of materials in the earth's crust is actually comparable to or exceeding natural flows. So humans are messing with the fragile ecosystems of the planet in a dangerous way.

We need to bring into our calculations a whole range of natural resources, not only metals and rare earths, but biogeochemical cycles. According to most scientific findings, the time horizon for serious depletion of the phosphate cycle is 30 to 40 years. You can't grow food without phosphates. These serious issues are not really on the agenda, so I make a plea that CCICED also look at material resources.

One reason this issue is extremely urgent for China is that it affects the construction sector. China's new roads, buildings, ports, and other facilities are actually the largest consumer of material resources: sand, aggregate, stone, cement, limestone, and everything else. Huge volumes of these resources go into the construction sector. This is destructive of nature. This is what causes the ecological breakdown which leads to a lowering of agricultural productivity, loss of food stocks, and price increases.

From an engineering viewpoint it's all very well to have centralized, large-scale, highly sophisticated mechanical and chemical industrial systems for making steel and cars and such things. But normal amenities — water systems and treatment plants and so on — we tend to lose sight of the fact that Mother Nature does these things much better than we do, and for much less money. In nature there is no such thing as waste. In nature you don't have to pay for the enormous services that ecosystems provide, which is at least as much as the human economy does. In hard dollar terms nature provides us with tens of trillions of dollars worth of services.

Biomimicry is a subset of engineering that uses nature to do a lot of our work, in ways it

has been doing for 4.5 billion years. We should dedicate a little more time and attention to understanding “blue technologies” that are based on nature as a whole. There are thousands of these technologies that use nature or are inspired by nature to do our work for us.

It all boils down to the fact that there are planetary boundaries or limits to what humankind can do. It means that our development patterns, our commitments to a better future, have to be redesigned. The “safe operating space” concept, where you can deliver things that people need in a way that doesn’t transgress planetary boundaries, is important to understand.

Big cities are not going to be the viable organisms of the future. There is a limit to how dense and compact you can make a city, how high you can go, how wide you can go in spreading your populations into the countryside. The nexus between rural and urban is far more important if the city is going to be a livable place. The more resources you pour into a city, the more people will come. It is like a magnet, and when you invest in more amenities you are making the magnet stronger. You are depleting the countryside which is actually a place that is livable provided you can deliver services, like jobs and health care and education, that people come to the city to obtain. So we need to rethink the urban-rural balance. I am afraid that in the Third World that is a lost cause at the moment, because modernization is basically seen as building big tall cities.

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There is a gap, both in our discussion today and in broader discussions around the world, which is that nobody talks about social policy. To the extent we can see a relationship between environmental protection and social policy, it is always a one-way street. People tend to say: how can we change the behaviour of citizens and consumers so they will do a better job of protecting the environment? We seldom get to the point of saying: while social policy is affected by the environment, just as importantly it affects the environment as well.

For example, we don’t look at health policies, education policies, and so on, in the sense that these are driving people to the cities. We don’t yet have a good understanding of the issue of social development and its relationship to environmental protection and economic development. That has been true for 20 years. We started first trying to find out what are the problems with respect to environmental protection. We then came to understand that we really needed to make the link to economic development. So far we have not made real progress on the issue of social development and on trying to understand what those links are.

One way to pick apart those links, to try and understand it, is to look at urbanization. That is where economic development, social development, and environmental protection come together in a direct way. In China’s case, it is important because of the scale and pace of change. So it is particularly important to view urbanization almost as a living laboratory. If during the next five years the China Council can map out a much better understanding of that relationship, so that social policy, environmental protection policy, and economic

development policy are coherent and moving at the same pace, we are much more likely to see an ecological civilization in the long term.

And I would make the point that we will not achieve ecological civilization unless we pay real attention to the human beings in the system. The technology will come easily and quickly. It is the changing of attitudes and behaviours of individuals and institutions that is going to be the real stumbling block.

Summary by forum chairpersons

The co-chairpersons wrapped up the discussion with brief remarks. First, **Bob Hamilton**:

I found the discussion on the pilot projects fascinating. These projects demonstrate the importance of planning and of timeframes. And again we saw the importance of an integrated approach. The discussion shows what a complex set of issues we are dealing with and the breadth of those issues across a range of topics that we are still debating. The pilot projects make a good case not only for planning effectively but for having an organized and coherent framework and an integrated approach to the issues.

Finally, **Xu Qinghua** offered these comments:

Regarding this concept of ecological civilization, note that whenever such new concepts are proposed, there is a period of time needed for us to understand and interpret them. It is not as though the moment they come out we have a clear idea of what they mean. How do we understand it? What are its implications? It is going to be some time before we can reach consensus on this.

Ecological civilization, in our discussion, is still mostly focused on trying to link economic development and environmental protection. I don't have a very clear idea about this myself, but I want to raise it so we can all think of it. One of our international colleagues said to me: "If we don't protect our environment, then the human race is probably going to destroy itself. On the other hand, if we don't develop our economies, then we are going to perish right away." In other words, how do we resolve the tension between these two both now and in the future? It's a huge topic in this period of transformation of our economy.

Item 6. Briefings on the Open Forums

CCICED Secretary General **Li Ganjie** introduced CCICED Vice Chairperson **Achim Steiner**, who briefed the wider conference on the discussion in Open Forum 1: Green Development and Social Harmony. In addition to summarizing the exchanges that took place during the forum, he made these observations:

The presentation by He Jiankun was a fascinating set of statistics and analysis of what characterized much of our discussion, which another forum member has called the "coal dilemma." China needs energy. People want access to electricity. You need to provide it. Coal is a central pillar of that, and it will remain so. What's more, 70% of that energy is actually for industry. Many industrialized countries have a proportion of energy allocated

for industry of around 30% or 40%.

We also had fascinating presentations about the costs of energy, in particular one by Xu Dongqun. In her presentation the group saw the other half of the challenge of social harmony, which is pollution and its cost to people in terms of health. Whether you calculate it in terms of premature death, years of life lost, or economic cost to the health sector — clearly the challenge of air pollution is a central one in the search for green development and social harmony.

The imperative to act on pollution is recognized from an energy perspective, a pollution perspective, a health perspective. The urgency has been recognized in China, and through the presentation on the pollution control strategy we saw the urgency with which China is addressing this issue. But, structurally this issue will not disappear for a while. The discussion looked at the choices that China needs to make, and I was struck again by how our forum presentations echoed themes repeated elsewhere during the conference, which is: you have to start looking at the co-benefits, because then you begin to make different choices. It is through the articulation of the co-benefits that the economics changes or priorities can be adjusted.

We also touched on the question: what are the obstacles to change? We need to look at the reasons why these changes are not happening. When we listened to the green urban strategy I think we had many of these echoes I just mentioned. Why do we continue — decade after decade, hundreds of years after urbanization had already learned its lessons about congestion and mobility — to build cities the same way and then have to rip them up and spend a great deal of money re-engineering mobility in the urban centres?

Out of its own necessity China has to act on this, and the social harmony theme was a central one. The energy mix is a good example of the difficult choices that are there. We see the further reliance on coal — even the expansion of coal — but on the other hand we must remember China's remarkable record in already achieving, sometimes well above any other country, energy efficiency gains in certain sectors. As Chief Advisor Shen has noted, there is a big difference between being called the world's worst polluter and the world's largest polluter. It is a reminder to us that China is jumping in different eras. I offered the notion of China 1.0, China 2.0, and now China 3.0 in terms of decoupling economic development from some of the costs of development that are disrupting social harmony. Green development becomes a way to bring co-benefits together.

I mention also the presentation by Corrado Clini as a reminder that even in those countries that have made significant achievements in managing pollution, success is not complete. He pointed out that today significant parts of Europe's population live in PM_{2.5} conditions that are above WHO standards.

Li Ganjie then introduced CCICED member and Vice-President of the Asian Development Bank, **Bindu N. Lohani**, who provided a brief point-by-point summary of the presentations delivered during Open Forum 2: Public Participation in Green Development.

Finally, Li Ganjie introduced **Bob Hamilton**, CCICED member and Deputy Minister of Environment Canada, who presented a summary of Open Forum 3: Practice and Innovation for Ecological Civilization Construction. In addition to providing a summary of the various presentations, he made these general points:

The presentations started with strategic, policy context issues, then proceeded to the practical and innovative things that we can do in a pilot project, on the ground, to make a real difference. In other words it went from broad conceptual arguments and strategies toward very tangible examples that we have learned from cities — especially from cities linking together in an overall government policy.

We considered the innovative measures taken in China to give life to ecological civilization. We talked about the challenges and opportunities, both domestically and globally, that China will encounter on the road ahead. There was a good balance in recognizing the positive things that are happening, but at the same time recognition of the significant challenges ahead.

We heard a lot of admiration for, and discussion of, the concept of ecological civilization. There was a sense in the room it could be defined narrowly or broadly. Maybe at the end of the day we don't want to define it too precisely. It will have to be a concept that will be a guiding force but will be flexible and adapt to diverse needs.

Another issue that ran through many of the presentations was the notion of integrated policy coordination. When we hear examples from the cities of what's working and not working, one thing that is working is where they have integrated decision-making processes among different departments so that they are not acting at cross purposes.

Other key themes were the importance of measuring our goals and providing good indicators, and also the importance of planning and recognizing the time frames in which we operate. Not only are we now dealing with decisions made a long time ago, but the implications of the decisions we take today will last a long time. It is important to have a comprehensive and broad framework.

Item 7. Task Force and Policy Research Reports

CCICED Secretary General **Li Ganjie** chaired the presentation of the task force reports.

Task Force on Environmental Protection and Social Development

Li Ganjie introduced the task force co-chairpersons. **Elizabeth Dowdeswell** is President and Chief Executive Officer of the Council of Canadian Academies, and a former Executive Director of UNEP. **Fan Bi** is Deputy Director General in the Department of Integrated Research at the Research Office of China's State Council. First, **Elizabeth Dowdeswell** made these points about the task force report:

It is important to note that this task force was asked to develop a general framework, and in this way is very different from many of the other task forces that have been undertaken. We seek a framework for achieving harmonious interactions between China's

environmental protection and its social development. We want to answer the question: how to use social capital in promoting green development transition for China's environmental protection and society?

Early in our discussions we realized how difficult this task was.

The first issue was that our task was about developing a better understanding of the relationship between environment and sustainable development. This was not intended to be yet another report on improving environmental protection — as important as that is. It was also clear that, while economic growth has been the priority in China's strategic planning and policy making, the specific relationship between environmental protection and economic development also was not our task. So we took as our starting point, of course, the concept of sustainable development, recognizing the importance of the environment, the economy, and society, but trying to focus specifically on the linkage between the environment and society.

The second difficult and related issue was that we had to approach this task systemically and holistically. We were asked to provide a framework that would apply to all parts of society, not just one department or one level of government, not just one industrial sector or region, but would apply also to citizens and institutions. We did not concern ourselves with specific sectoral recommendations. We did comment that, although in the environmental protection movement we always talk about ecosystems and we always assume that we require integration — integration of the human being and of the environment — we seldom actually achieve that integration. A useful framework, we decided, requires a clear long-term vision, in this case the vision of an ecological civilization. But it also requires some well-understood guiding principles for all of the actors. Most importantly, it requires the development of a coherent set of policies and actions that cross government departments and regions.

The third reason this was difficult to undertake was that we realized it was an ambitious undertaking that would take time. This was not something that could be accomplished with a few short-term recommendations. While there are indeed some recommendations that can be actionable in the short term — to address matters that demand urgent attention such as social instability and unrest — there are also specific matters that require further research to move them forward in the medium and the long term. So our framework covers a period of time. It also makes clear that simply hoping for incremental change will not be good enough. There will be moments when a real step change is required.

Finally it is important to acknowledge that the work of this task force is preliminary. It was seen to be a first step which would be followed by further work in the continuing program of CCICED over the next several years, to really advance and optimize the relationship and to mitigate any possible unintended consequences of working in just one sector.

I'm delighted that the concurrent work of the other task forces is aligned with our general thinking: the role of enterprises and CSR, the importance and timeliness of considering seriously how to bring about a pattern of consumption that is sustainable, and of course

proposing ways in which a civil society can really participate in bringing about ecological civilization. All these task forces illustrate the necessity of understanding the relationship between social development and environmental protection.

Our methodology included first of all learning about the current reality in China. The task force recognized that remarkable progress has been made in economic growth. We also supported the continued strengthening of environmental protection actions that had been the subject of earlier CCICED work, and about which we have heard so much, and so many positive things, during the past two days.

But it was our Chinese researchers who drew attention to many of the issues that are still causing them concern:

- increasing mass incidents caused by environmental problems.
- public health hazards caused by environmental degradation.
- vicious cycle between environmental degradation and poverty.
- new social injustice brought about by environmental issues.
- mounting pressure on resources and the environment in the context of rapid urbanization.

We were acutely aware of the urgency of action needed on some of these matters. We noted in certain cases the issue was not one of designing good legislation and regulations, but in putting an emphasis on effective implementation and enforcement.

We decided that one of these issues, urbanization, really was an ideal case study through which we could try to identify both the challenges and opportunities of optimizing this relationship between social development and environmental protection. It was like a living laboratory. Consequently urbanization became the focus of our study tour, in the Netherlands and in Geneva.

Finally we were asked to look at perspectives from the international community. I should say that we did so with a great deal of humility, because most countries around the world are still having difficulty both defining the relationship and acting on it. We undertook a brief historical review of environmental protection and social development, and noted policy issues related to environment and poverty, population, migration, urbanization, health, employment, social justice, and sustainable consumption — a list of problems similar to the reality of the Chinese situation. We asked ourselves: what can we learn from other attempts to understand this relationship between environment and society?

First, we noted a variety of models have been developed over the past 20 years, from the simple three-pillar or intersecting circles model that we are all familiar with, to a more complex model that takes planetary boundaries and carrying capacity of the environment into account. We concluded that each model could provide some guidance to China, but ultimately we also concluded that any approach that China would take needed to be

context specific — built on the legacy of the past, on the geographic circumstances, and on the culture of this society.

Second, we became very aware that language matters. The tools and concepts of the social sciences are much more subject to misunderstanding than those the traditional and perhaps narrow domain of environmental protection. It is not at all clear that we reached a common understanding of words like values, norms, social risk, rights, and equity. Consequently we felt that much more needs to be done to undertake the rigorous social policy analysis beyond simply looking at how you involve society in acting in the interests of the environment. It is important at this stage to do the analysis of development processes in education and in health, and how these might affect the environment, and be affected by environmental policy.

That being said, there are promising practices that may be useful in China: the development of indicators, the development of social and environmental planning and risk assessment processes, ways of financing local government activity and the provision of public services, and approaches to governance. By that we mean the way societies actually make decisions, including co-management — governance that actually features inclusion of all actors and is adaptive and resilient. And of course we all have a lot to learn about how one builds trust and confidence in the other actors in the system.

Next, **Fan Bi** offered these comments:

On the basis of identified problems and theoretical structures, our international and Chinese members have put forward a series of targeted policy recommendations. First of all we have five basic principles:

1. *Multi-party participation.* We believe that promoting environmental protection and social development involves the common interests of the government, enterprises, social groups, and individuals. All those social actors are not bystanders or spectators. Rather, they need to be involved and to play an active role.

2. *Long-term and short-term goal combination.* When we formulate policies, we need to consider both the immediate and the long-term interests.

3. *Goal congruence.* When we formulate policies — whether in the economic, social, or environmental sectors — we need to consider the impact of these policies on the other two areas so they can be well coordinated and coherent with one another.

4. *Legal guarantee.* We need to pass legislation to ensure the coordination of environmental protection and social development.

5. *Equity and justice.* We believe that environmental rights are the basic rights of citizens. Enjoying a good environment is part of a citizen's basic welfare, and protecting the environment is a basic duty and obligation of every citizen. So each social actor, while enjoying the rights to a good environment, should also shoulder the rights and responsibilities of protecting the environment.

We studied the domestic and international results of the relationship between environment and society, and we put forward a framework. It includes three parameters: environmental awareness, environmental behaviour, and environmental governance. The framework of our policy recommendations centres on these three dimensions. Here are the recommendations:

1. *Elaborating a 2050 vision and developing a phased plan of policy and actions that will be essential in achieving that vision.* From the three dimensions — awareness, behaviour, and governance — we discuss the phased goals from 2020 to 2050. In summary, in terms of awareness it is necessary to mainstream the concept and values of ecological civilization. In terms of behaviour we need to put forward policy recommendations from the perspective of three main actors: public, enterprises, and social organizations. In terms of governance we need to put forward recommendations in four areas: strengthening legal guarantee, establishing independent environmental policy, improving social risk control, and improving environmental public services.

2. *Promoting social norms and values relating to ecological civilization.* The task force holds that ecological civilization is a progressive and advanced concept, and should become a mainstream norm and value of society. The government needs to play a role in mainstreaming ecological civilization. We need policies in three areas:

- formulate education and training plans so that the basic knowledge of environmental protection and the theory of sustainable development can be incorporated into programs of certificate education, vocational education, continuing education, and the training of public servants.
- support theory and policy studies. CCICED can play a further role in this regard.
- promote ecological civilization through the wide use of the news media, Internet, and other media.

3. *Encouraging all in society to exercise their appropriate roles.* We advocate, for example:

- healthy and sustainable lifestyles. Social organizations, entrepreneurs, and public figures need to set examples.
- public participation. Through certain kinds of institutional arrangements we can ensure that the public can take part in the decision-making process and ensure their rights to information, and through legislation we can ensure the transparency of environmental information.
- acceptance by enterprises of their environmental and social responsibilities.
- supporting the further development of environmental and social organizations. China must change the policies governing registration of social organizations so as to relax the restrictions on them carrying out activities in the field of

environment and society. Conditions need to be created to solve the difficulties in getting registered, in receiving funding, and in participating in social activities. And, environmental protection organizations need to be incorporated in the list of organizations from which the government can procure public services.

4. *Strengthening public governance.*

- We hope that, with the 13th FYP, we can change its name to the National Economic, Social, and Environmental Protection [sic] Plan, so that environmental policies will be on an equal footing with economic and social policy.
- We also need to establish an environmental social impact mechanism for important policies.
- Also we must change the performance evaluation process for government officials to increase the weight of ecological, environmental protection, social development and other indicators.

5. *Establishing a sound mechanism to assess, communicate and mitigate the social risks of environmental protection.* All the major decisions, policies, and projects that affect citizens' right to a clean environment need to be incorporated into the environmental and social risk evaluation. The government needs to set up a whole set of methods for making this assessment. We suggest the following policy measures:

- Important policies and projects need to have pre-approval, including the evaluation of due process, the reasonableness of the policy, and the feasibility of the proposal.
- A procedure needs to be established to solicit public opinion, for example, public hearings or social announcements.
- We must ensure accountability for environmental and social impacts. Decision makers who violate the evaluation process need to be investigated and held responsible.
- We should establish emergency response mechanisms for environmental incidents.
- And we should increase the openness and transparency of environment-related information. When responding to environmental incidents, there should be timely release of real information so as to avoid rumors and speculation.

6. *Improving the level of public environmental services.* We need to define the scope of public services related to the environment to ensure people's right to clean water, clean air, and quiet. In addition, the government can:

- buy basic environmental services. For example, we can ask social organizations to conduct monitoring and evaluation of environmental services.
- gradually increase the share of investment in the public services related to environmental protection in its fiscal expenditures.
- establish an ecological compensation system.

We suggest further study in these areas:

- how to change people's lifestyle and behaviour.
- how to build a legal foundation to put forward coordinated social development and environmental protection.
- how to address the funding resources needed to promote coordinated social development and environmental protection.

Task Force on Sustainable Consumption and Green Development

The Co-Chairs of this task force are **Xu Qinghua**, Deputy Secretary General of CCICED, and **Michael Kuhndt**, Director of the Collaborating Centre on Sustainable Consumption and Production. **Xu Qinghua** opened the presentation of the task force report with these points:

Sustainable and green development is closely related to the development of China in recent years. During this time the Chinese economy has grown at a surprising rate. At the same time we have many challenges, for example, unsustainable consumption resulting in waste and pollution. The Chinese economy will continue to grow, but we are beginning to see the shift with consumption taking a bigger share of development. This will help improve economic efficiencies which will bring us both opportunities and challenges.

Our task force had four objectives or tasks:

- identify the principles of sustainable consumption and production.
- research sustainable consumption and production policy trends in China.
- research international experiences as well.
- formulate policy recommendations for the Chinese government.

According to the UN's *Guidelines for Consumption Protection*, sustainable consumption means "meeting the needs of present and future generations for goods and services in ways that are economically, socially, and environmentally sustainable." So, governments should support sustainable consumption with a good policy framework.

Sustainable consumption is the central component of any green development strategy. It

should satisfy the needs of the people while at the same time lowering the consumption of resources in order to avoid waste and pollution.

The shift in the attitude towards consumption is important, and it should be in line with the goal of the development of a well-off society and sustainable development. Since 1978, sustainable consumption in China has been decreasing to some extent, so the contribution of consumption to the growth rate actually decreased. If we compare China with other countries, we can see that China presently is consuming more energy than necessary. There is a low proportion of cultural events, education, and other service consumption, and the service industry takes up less than 50% of the GDP, which provides low benefits in terms of promoting sustainable consumption in economic development.

We compared consumption in households and found that housing, mobility, and food are the major domains that generate a high ecological footprint. Therefore those should be priorities in our efforts to promote sustainable development. We also have opportunities where sustainable consumption in the building of new housing can reduce China's growing need for primary metals, steel, timber, and concrete. It can also help reduce unsustainable construction materials and can help reduce the ecological footprint of food consumption.

Presently China's consumption rate is lower than the world average. Our research found that the consumption rate has decreased by about 12% for urban and rural residents since the year 2000. But the awareness of the general public of consumption has been improving all the time.

The Chinese government has developed new policies, for example, the financial subsidy policy, the new energy policy, the investment in sustainable consumption services, as well as the subsidy for electric vehicles. In spite of these policies there are many deficiencies in the existing policies that promote sustainable consumption. For instance, sustainable consumption has not been integrated into the national development plans or in major laws, and there are no indicator systems.

So, sustainable consumption policies can create a lot of opportunities for us, for instance, the low-carbon economy, the new business models, and the new consumption patterns in households can improve the national competitiveness on the world stage. At the same time, sustainable consumption policies can also improve social justice.

Task force Co-Chair **Michael Kuhndt** then introduced the policy recommendations:

Our recommendations look from consumption into production. If you want to change sustainable consumption you need to look into the whole system. You have to understand what kind of resources you are taking and where they are coming from, say in order to feed everyone in 2030. How do you build the resource efficient buildings? How do you go into mobility patterns, and how do you enable sustainable transport?

We looked at all this and we came up with three major recommendation:

1. *Integrate sustainable consumption into national political social-economic and development frameworks.* We need to embed sustainable consumption in the national policy framework, from laws to existing economic institutions.

We felt it worthwhile to start at one of the more specific recommendations: Develop a national sustainable consumption roadmap and a sustainable consumption action plan to support implementation. This means we need to look into the future, to the year 2050 or so, and ask: What will consumption look like then? What will the poor, the middle classes, and the well-to-do be consuming then? What consumption level do we envisage?

From this we go to an action plan. In other words, what can be done? We also want to look into how to feature sustainable consumption in the 13th FYP, but meanwhile to integrate sustainable consumption into existing laws. It happens that right now China's environmental protection law is being revised, and so is its consumer protection law. It would be worthwhile to bring consumption into it, and production too — to look at both chicken and egg issues.

We also can adjust economic instruments. There are already some taxes out there that look into high impact products, but there is room for more. Housing, food, and mobility are areas where more can be done. The same is true of sustainable procurement. Consumption relates very much to public procurement. How a government builds infrastructure can lock you into certain consumption patterns.

There is vast international experience on this. For example, we looked at the action plans of the EU and of Brazil on sustainable production and consumption, and at Japan's green procurement law which has been successful in changing production patterns. We also investigated the idea of embedding sustainable consumption in consumer protection law, or maybe of creating a sustainable consumption law in itself, which could say: you have a basic right to consume more sustainably, and a right to have access to sustainable products and services, and so on.

2. *Enable institutional innovations for sustainable consumption in the administrative system and society.* Sustainable consumption is a challenge because it is quite horizontal. It relates to education, transport, housing, food, agriculture, and so on. So with this recommendation basically we suggest setting up a working group to look at those issues, and report to the State Council.

Throughout the study we became aware that the general public does not trust the existing certification schemes. Several times within the task force we discussed what we can do about it. We felt there should be some local pilot projects on sustainable consumption. We need to show that it is do-able. It is nothing tricky. It can be done.

As always, only what is measured gets done. We need an indicator system to demonstrate progress in areas like food, housing, and mobility — to measure whether policy instruments are successful. Again, the international experience is there to serve as a model: the EU's EcoLabel, the German Blue Angel, One Planet Living Communities in the UK, indicators from the European Environment Agency, among others.

In terms of the time plan, we suggest starting right away with local community projects. We could start in January to test those recommendations we have developed, and explore the different ideas. In the long term we would want also to measure progress on sustainable consumption at the city level and the national level.

3. *Initiate multi-stakeholder partnerships for sustainable consumption.* Dealing with sustainable consumption cannot be done just by the government. It needs a multi-stakeholder collaboration, engaging business and civil society to make the system more efficient.

The role of retailer is crucial. Usually you will have many producers and many consumers, but few retailers between them. We suggest working with retailers to define an agenda for sustainable consumption.

Similarly, it is important to work with financial institutions and investment organizations. If you want to build a sustainable urban infrastructure that enables sustainable consumption, you will need to get things right in terms of criteria for investments.

Already we have highlighted the role of civil society. Sustainable consumption is about values and mindsets, and you need civil society to support this. You also need to build consumer information centres to foster education about sustainable consumption.

Much learning and understanding can be done from the international community. It is important to collaborate, for example, to look at and link to the decade-long framework of programs that UNEP is holding. In addition, international experience from retailers and from consumer advisory systems can be harvested. We again make clear the strong link with urbanization, and point out several initiatives ongoing on low-carbon cities (which look into production systems mainly), on emissions trading system pilots, and the use of public transport.

We suggest a “house of sustainable consumption” model. It has a “roof” which is the legislative and policy framework on sustainable consumption. But under that protective roof different stakeholders can engage in different activities related to sustainable consumption, from pilot projects where basically everyone is involved, to sustainable business models that enable sustainable production as well. This house is quite diverse, and we would like to engage you in cooperating with us to help create a brilliant future for China.

Special Policy Study on Media and Public Participation Policies on Promoting China's Green Development

This study group was co-chaired by **Isabel Hilton**, Chief Executive Officer of Chinadialogue, and **Jia Feng**, Director General of the Center for Environmental Education and Communications, MEP. First, **Isabel Hilton** introduced the principles that informed the study:

Our policy study began by looking at the problems China is facing: growing protests in opposition to major developments, a loss of public trust in official stories, competing

narratives on social media where sometimes bad information can drive out good information. We reflected on why public participation is such an important part of this conundrum.

Of course, we embrace the proposition that sustainable development cannot be achieved without public participation. The issues I mentioned are closely related. If the public does not have a real say in planning — particularly in decisions that affect them directly — they will take their frustrations to the streets. Projects can be cancelled very late. To overcome this, the government needs trust. It also needs trust to compete in the networked information marketplace that is the digital age.

China already has significant rules and laws, both on information and on participation. We commend the progress that has been made. But our initial observations told us that these rules and laws are not working as well as they could work. The government is getting all the headaches and few of the benefits. So, we looked at the two decades of international experience on these issues to see how that experience could be helpful as China considers revisions to these rules and practices. How can China ensure greater harmony, better public policy, and a more trusted exchange of views and information between citizen and government so that the public, the environment, and the government all benefit?

During our research, the people we met stressed the importance of the foundational international principles that are the legal blueprint for information and participation. China was present in the Rio Declaration on Environment and Development in 1992, and it is well understood today in China that public participation is essential for sustainable development. So the question that faces us is: how to make it work better? It is a three-part process: public participation requires open information and access to judicial remedy.

The principles of Rio were of course incorporated in the Declaration of Santo Domingo for the Sustainable Development of the Americas; the Bali Guidelines for Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters; and in Europe into the Aarhus Convention. It is also in use in such countries as Georgia, Armenia, and China's neighbors Tajikistan, Turkmenistan, Kazakhstan, and Kyrgyzstan. In total 60 countries have adopted these principles.

Under Aarhus, information is treated as a right with an obligation on governments proactively to offer it and also to respond to specific requests — which can be made by citizens or non-citizens. Anyone in this room could ask for information. And those who ask have no obligation to explain why they need the information or make any other justification. Information is not considered to be just messaging. It includes raw data, data sets, any material on pollution data — all relevant information indeed.

So what else is required to make public participation meaningful? Education and information are critical, but the other thing is that participation must have real influence on decisions. For that, it must begin early, certainly early in the planning stage, preferably

in the policy-design stage. In this way, problems can be eliminated and government can harvest the benefit. I stress there are tremendous benefits to government in harvesting public contributions, both in citizen science and in policy design. This can be slow and difficult, of course, but there are real benefits in the form of better decisions and eventually in greater public acceptance.

Of course it can go wrong. One example is Stuttgart 21, the large railway and urban development project in Germany. This was a major infrastructure project and people did have the chance to participate, but it went wrong because there was a lack of outreach on the official side in the beginning. It wasn't until building actually began that the public reacted, negatively. Then the excessive response of the police pushed public opinion to the side of the protesters. It required a major outreach effort on the part of the authorities to turn this around. This was an example of how proactive communication and engagement can actually transform a situation.

We were impressed with Eye on Earth, which is a global public environmental information network. Clearly participation works better when the public is informed and educated. China is a huge country and the collection and dissemination of reliable information is a problem. We think that the example of Eye on Earth — which is the beginning of a truly global system — offers helpful examples. It is networked, interactive, inter-operable, and it aims to be a global system. It includes not only government information but also information from citizens. So people around the world can report on violations, beach quality, noise, and so on. This information is proving helpful and useful to governments around the world.

What lessons did we draw from this? Proactive consultation is important. Good communication is vital to promote meaningful collaboration. It can be frustrating, but it is important to remember that constructive and vigorous participation brings real benefits. It doesn't immediately lessen confrontation necessarily, but in the longer term it leads to greater stability and harmony. The more open the information system, the more trust there is, and the less room there is for bad or partial or malicious information to flourish. That obviously helps the citizen, but just as importantly, it helps the government.

Which brings me to media and this confusing and bewildering age of digital media. In the digital age, withholding information is often ineffective and leads to a loss of trust, which results to a subsequent loss of trust in all government communications. So the aim should be to build digital communications as a huge resource, both of public knowledge and of citizen science. Used properly, this can help governments — with implementation and reporting violations — and with the benefit of having the data from citizen science.

Communications in the digital age are bottom-up, they go sideways, they are networked, and obviously they go top-down. But to handle this properly, governments need to speed up. They need to offer reliable, prompt communication. They need swift action. And the public needs responsive policy-makers and easy reporting mechanisms for violations. And what is true for regular communication is particularly true for communication in emergencies, which is: it must be timely, frequent, truthful, and two-way.

Now, **Jia Feng** presented a summary of the task force's findings and recommendations:

We have had a wonderful experience of learning from each other, also many debates and discussions and arguments. On one particular topic we argued for so long and so heatedly that we had to take a one-hour break and nobody talked to anybody. So I invited them to my home. Ms Hilton brought English whisky, and over food and wine we became good friends again.

Our research is based on specific practical issues. To have a good beginning, we started from research and field trips. We visited places where there have been popular incidents over environmental issues. We also looked at how the new media had affected these public actions. And we interviewed a number of experts.

Here briefly are our findings:

1. Public incidents have a bad effect on society and negatively affect China's whole green transformation. In many places there are lots of copycat movements.
2. Public participation is an important part of building trust between government and people. Sometimes there is a lot of emphasis on the right to have public participation, but the responsibility aspect is less emphasized.
- 3 Our present rules and regulations are in place, but they are not well implemented. The channels for participation are not clear or open. People often use methods like protest walk to try and make their case.
4. The government is not providing enough support for public participation. The allocation of resources is unbalanced, unequal, dispersed. There needs to be better coordination among government organizations.
5. Government response in a number of areas has been inadequate. From incidents such as environmental emergencies that have occurred, we have not learned much. The government has focused on the hardware of environmental protection, but policies on communication, education, open information, and channels for protest have not been well defined.
6. Government lacks an active and strategic plan for environmental communications.
7. Government has an inadequate understanding of new media.

We have come up with six policy recommendations:

1. Strengthen legal and orderly public participation in environmental fields as an important basis for promoting ecological civilization.
2. Promote and develop open environmental information systems; consolidate and improve the information management capabilities of central and local governments and enterprises; and effectively implement open information legislation.

3. Create a comprehensive environmental communications strategy to include the accelerated introduction of national environmental education legislation, in order to raise environmental awareness and promote environmental participation across all sectors of society. One reason rumors flourish is because there is not sufficient understanding of issues. And so we need basic education legislation to raise environmental awareness and promote environmental participation. So, with better education and awareness there will be better participation.
4. Improve the implementation of existing laws, regulations, and policies on public participation in planning.
5. Understand and use new media. New media has actually provided a platform where the public can participate widely, and can be more effective.
6. Improve environmental incident response mechanism.

Many of these recommendations have already been included in the submission to the Chinese government. I want to review our whole research process.

My colleague and other foreign experts come from industrialized countries, but in China we are just starting to build this kind of environment. This point in our green development is occurring at the same time as this explosion in digital media. This has resulted in huge contradictions and conflicts, which is far more than these other countries experienced. This presents huge challenges for us, but also opportunities.

Our policy recommendations have been proposed to the China Council. But this is just a start. For instance, we went to Germany and met the person who was part of that Stuttgart 21 incident and helped the government improve the transparency of information. Now we have invited his organization to set up a strategic partnership and, in this way, they will be able to provide advice for us.

Special Policy Study on Corporate Social Responsibility in Green Development

Hao Fanghua, Vice President, Beijing Normal University, and **William Valentino**, Professor and Deputy Director of the China Institute of Social Responsibility at Beijing Normal University, co-chaired this policy study group. **Hao Fanghua** led the discussion:

During the past three decades China has enjoyed unprecedented economic growth, but this has brought many challenges to the environment. As the main players in economic growth, how should enterprises balance environmental protection, social development, and economic development? This is the urgent task facing China.

We have put forward some recommendations on how we should promote CESR in green development in China. Our study has four parts:

Great opportunities have been brought about by green development. At present China faces the most severe environmental situation in the world. All of us know of the severe conditions. Take air quality from 2001 to 2006. Most places fail to meet the air quality

standard, and PM_{2.5} is several times higher than the WHO guidelines. Seven years later, the situation is worse than before. According to research from MEP, currently almost all China's major pollutant emissions are #1 in the world. Environmental pollution not only damages people's health but has also become a negative factor affecting social harmony, and it has become a political issue. But behind these risks we also have great opportunities.

In the past several hundred years there have been five waves of innovation. Now China is facing the sixth wave of technological innovation, driven by green development and sustainability. For the first time China is at the same starting point as the rest of the world. This gives China the chance to be the leader in this regard, and to achieve a great potential in dividends. According to recent research, since 2008 China's share of green, environmental protection measures in its national stimulus package accounts for 4.6%, while the figure for the USA is less than 1%. In this, China led the world.

In terms of innovation factors, China is ahead of all other medium-income countries. Enterprises are the main force driving green development and innovation. Huawei, for example, has applied for 40,000 domestic patents and 14,000 international patents. In 2013, according to the Global Innovation Index report, China is in transition from being a "follower" to being a "leader."

Enterprise is a core player in green development. Enterprises are the main players in driving economic development but also the main sources of environmental pollution. Also they are the innovators in green development. When we have a perfect institutional environment, enterprises should seek a balance of social responsibility, environmental protection, and economic development. But when there is an imperfect institutional environment, corporations ignore social responsibility and instead seek to maximize profits.

We may consider that, when it comes to corporations taking action to further CESR, there are three levels: compliance, voluntary actions, and "green pioneer." Compliance is the bottom line. In fact, most enterprises do not comply with the regulations. They are below the line. On the one hand government needs to improve the legal framework to establish a good institutional environment for enterprises to comply with the regulations. Also government needs to give incentives so that more enterprises will become "pioneers" in green development. In the process of fulfilling their CSR the government needs to guide and the public needs to supervise.

Government regulation is the key to promoting CSR. The government needs to promote CSR so that violators can be punished. We need to give compliant companies incentives and rewards. "Pioneers" need training so they can improve their CSR capacity and so their experience can be replicated in the whole society. As for the role of government in promoting CSR, China is different from western countries because the compliance of companies is low. Government needs to establish the legal system and empower stakeholders so as to promote public participation and social cooperation, and establish an effective governance system.

In putting forward our policy recommendations we have focused on five areas:

1. *We need to formulate a national strategy and action plan on CESR.* The government and society and enterprises need to be integrated. The legal system needs to be further improved, especially the role of environmental litigation, and especially at the local level. We need to formulate a roadmap for promoting CESR. Also at the central government level we need to identify the priorities for CESR.

2. *We must promote good coordination and cooperation with social organizations.* We suggest there should be a special committee of CESR to coordinate the implementation of policies and the development of strategies. It should set up a platform for the participation of multiple stakeholders so they can increase their understanding. And it can help enhance international communication and cooperation with other parties so that China can set an example for developing countries.

3. *We need to build capacity and provide service support.* We should improve the evaluation system for CESR. There ought to be a dedicated government department that will set criteria, support social participation and reward research results, and enhance innovation capability in management. It can involve research and teaching organizations, and help set up research institutes at universities to provide intellectual support to CESR and to train talented people and conduct basic research.

4. *The compliance mechanism should enhance the coordination of rewards, and enhance punishment for violators.* Also we need to establish a good financial environment and promote accountability. To those companies with good CESR we can give subsidies and rewards. Tax credits need to be differentiated for companies with differing performances. And we need to establish CESR labelling, and promote green procurement. We encourage government agencies and the general public to procure products from those companies with good CESR performances.

5. *We should increase information disclosure and transparency.* We need to further amend measures for the disclosure of environmental information and enhance the methods of law enforcement. Also we need to set up a national information centre for CESR, with a focus on small- to medium-sized enterprises in particular. Based on the features of different industries we need to set up specifications and criteria for CESR reports for different sectors to ensure that the general public can access real information on CESR.

One final point: I hope that next year CCICED will carry out demonstration or pilot projects on CESR.

The study group's co-chair, **William Valentino**, offered some additional remarks:

Professor Hao has said it all in terms of our findings and recommendations. My job is to take those data and express them in findings that you can take home — that will show you the practicality of it all.

In the beginning we considered the issue of “fertile ground” — where things can grow.

This is not just for our own report, but it is for every study we have heard about today. In other words, we have to train, we have to educate, and we have to create capacity. That's the number one message we want you to take home.

Let us start with education. We hear a lot about CSR programs, but we don't hear so much about CER. Academic institutions, especially in China, have not embraced this idea. They have not said: let's create a discipline, a profession, scholars who can implement this. That is one of the things that need to be addressed.

Back in 1996, MEP's predecessor agency had the "green school" concept. It looked at university students or executives being trained in CSR. But it considered more than that. It considered a whole society being trained — a civilization. This really is "ecological civilization." We are training for the future. We know that not everything will be solved today. We know the solution is in the future, so we begin with that. With that idea already in place in China, it needs to be further developed, at the university level. At Beijing Normal University we have the first program in CSR. We have the private sector and the government sector all together in the same classrooms discussing this together.

We need to see more investment in CSR. We need a more professional CSR program in China from old to young. As the Chinese adage has it, "You are always learning, from youth to old age." But then there is the idea of a national strategy. This is where we bring in the idea of an enabling environment. It builds capacity, enforces legislation, creates incentives, fosters commitment, and ensures transparency.

We have been working with this puzzle of sustainability, CSR, enterprises in China for many years. But now we have a new piece of the puzzle, which is green development. Where does that fit? If we start with the government, this idea of CSR takes three building blocks: people, planet, and profit. That is, the social, the environmental, and the economy.

If we look over the past 30 years the track record has not been good in the social or the environmental. But the economic area has done tremendous things for the development of China. How do we balance the economic growth with social and environmental concerns?

So, CSR begins to narrow it down, especially for our China Council conference today. We can see the impact of the environment both on the social and the economic spheres. We begin to focus on this because it is becoming more important, especially here in China. And the idea of a new area under sustainability is CER – corporate environmental responsibility.

Where is that leading us? To the idea of green development and eco-efficiency. How do we begin to take these and put it all together, and what is the result? Here in China it is looking at sustainability on a China scale at first, but there is a much bigger picture at stake. It is looking at sustainability also on a global scale.

It may seem simple to say we bring together CSR, CER, and government, and then we have sustainability. But it doesn't work so simply as that. At our meeting yesterday

Premier Li brought up an element that is incredibly important: it is local government and their role in putting this puzzle together. It is local governments who will take CSR, CER, and green development, and put it together locally throughout China — with the central government as the guiding force. This is where that sustainable China will emerge, from that collaboration, that cooperation.

But do they do it? There are carrots and there are sticks. In CSR, CER, and green development, carrots and sticks are all equally important.

We begin with the sticks. In China, compliance starts at the basic level with the government. The government's goal is a much greener China, and it proceeds in terms of legislation. The legislation is already there, in place, but enforcing it is the question. How, when, where will the laws be enforced?

Internationally we have standards such as the Global Reporting Initiative and the International Organization for Standardization, and others. We need more standards for China. And we want more guidance from governments, as we have for example now in the EU. Another stick is measurement and monitoring. Again, you can't manage what you can't measure. You have to constantly monitor and to do this you have to have in place the infrastructure of organization and monitoring frameworks. Finally, you need the regulations that accompany the legislation.

Now there are carrots — incentives — and these follow the same pattern of central government with many other stakeholders such as local governments, companies, individual citizens, nonprofit organizations. They are all a part of this collaborative attempt to create a more sustainable, green China.

These incentives include tax breaks and green financing — not just for SOEs but also for entrepreneurs, people with ideas. Incentives include awards. This is all about perceptions, branding, and reputation, when a government pats companies on the back. The recognition that goes with awards fosters commitment and not just compliance. Capacity building is another incentive. And finally we have subsidies.

In our international task force we try to put global thinking into local action. China does this on a regular basis. China is always combining. Anything that enters China, whether be it Buddhism, communism, socialism, or the market economy, it always leaves bearing Chinese characteristics. It is the same with CSR.

That's what we are developing. We are taking best practices — especially from CCICED — and putting them together with this puzzle that combines CSR, sustainable development, and Chinese enterprises, and creating something new: CRS with Chinese characteristics. In fact China has been talking about this for years in concepts such as the scientific outlook on development, or harmonious society. Our new concept is looking at sustainability on a China scale, but also on a global scale. It is looking at the next step: the Chinese dream. We are talking about the same things, about a sustainable future.

Our group looked at what comes from outside that can be viewed as a possible model or idea. The EU is a perfect example of how guidance is done on a larger scale. We also

studied Japan, Korea, and Germany, and how governments direct policy – how they use the invisible hand to create a more sustainable society.

Einstein said you can't solve a problem using the same thinking you had when you created the problem. Where does our new thinking come from? We have to get out of the fishbowl, all of us doing the same thing, swimming around at the same pace. We have to jump out. China can make that jump. China has a role, in guiding, leading, being a part of CSR, CER and green development. Probably no other country has the capability at the moment to lead like this, in terms of sustainable consumption, social development, and environmental protection. The problems are here, but the solutions are also here.

Special Policy Study on Promoting Urban Green Travel

This study group was co-chaired by **Mark Major**, senior official of the Directorate-General of Mobility and Transport of the European Commission, and by **Zhou Wei**, CCICED member and President of China's Research Institute of Highways. **Mark Major** provided the background to the report and made these main points:

It is important to remember that China still has very high levels of public transport, cycling, and walking compared with international standards. The problem is these levels of walking and cycling are falling fast, while the number of cars is increasing dramatically. The levels of motorization are still low, but you already see in Beijing and other cities the problems of congestion and pollution. We want to underline that this is not an issue just for the megacities. This is a problem which, without policy action, will come to hundreds of smaller cities throughout China.

While our study focused on addressing the air pollution and congestion problems, we want to point out the co-benefits of taking action on this — for energy use, quality of life, and the attractiveness and efficiency of urban areas, which of course is crucial for the economy in general. There is an important social equity aspect of urban transport as well, since most citizens don't have direct access to a private car, and won't for some years. Instead they are using public transport, walking, and cycling. Poor people suffer disproportionately from traffic accidents and air pollution, maybe since they live closer to the streets and use cycling and walking more often.

So, China's current low level of car ownership and high level of public transport, walking, and cycling is an opportunity for China to take action now before the motorization trends significantly develop. Unless China develops an efficient, attractive, green urban passenger transport system for the majority of people, then you have no chance to resist the motorization trend. China will miss this opportunity to change course.

The kind of trend we generally see in urban transport policy goes like this: in the early stages, you have a car focused policy, so the number of cars increases, and you have an urban mobility policy focused on cars. Eventually countries run into chronic local problems with air pollution, congestion, accidents and injury. Then you see a change in policy focus, with moves away from being car focused to a broader focus on increasing urban accessibility and efficiency.

The question is can this process be short circuited? Can you avoid this trajectory of car-focused policy and investments, and come more quickly to a broader accessibility and efficiency focus in urban mobility policy?

Here is another way to think about this cycle. Car-focused urban investments, often infrastructure, lead to changes in the accessibility patterns of cities. That is, this infrastructure changes where you can get to and how. Consequently, people and organizations make their location decisions based on this increased accessibility, often with longer distances involved. This leads to capacity problems and congestion, which leads to further investment in car-focused infrastructure, which leads to further capacity problems, which leads to changes in location decisions. So you have a negative cycle which generally continues until you run out of resources. Interestingly, this doesn't usually tend to be running out of money, but running out of space.

In the study we looked at examples from Spain, the United Kingdom, and South Korea, where some very expensive physical urban infrastructure built in the 1970s and 1980s has actually been taken away.

A key message behind our strategy is you get what you plan for. In urban transport, you can only use the facilities and services that are provided. So the investments, in services as well as infrastructure, are crucial in determining what choices people will make in the future. If you plan for efficient people-focused cities, that is what you will get.

In Europe, the concept of sustainable urban mobility planning, which is a process to build long-term consensus on urban mobility policy, involving stakeholders in a transparent and inclusive way, has gained a lot of ground and is now seen as a fundamental precursor for success in improving urban mobility patterns.

Urban mobility is also socially inclusive. We see a vision where all types of people — rich, poor, young, old, students, workers — all use public transport, walking, and cycling facilities efficiently together. We saw that when the mayor of London, Boris Johnson, came to China recently, and he made an impact by using the metro and bicycling around town to his meetings.

Also it's important to remember that streets have important functions as places — places to meet, exchange, play, spend time, relax. So if this "places" function is neglected and streets become only transport thoroughfares, this will be detrimental to the vibrancy and quality of life in urban areas.

We must emphasize the economic efficiency of investments. Clearly, building expensive infrastructure and then having to remove it 20 or 30 years later because you are not getting sufficient transport service out of the money you have spent is completely inefficient. That is why we talk in our report about the importance of having critical evaluation of the transport benefits of different types of investment options. What transport service will you get for each investment you are making? This needs to be critically evaluated in the process as well as the environmental and social impact assessments that we recommend.

We want to be clear that currently urban mobility in China is on the wrong course. It is an inefficient and socially divisive car-dependent path. You know that China is already a large oil importer. A dramatic increase in oil demand for China is not an economically or environmentally viable option.

While improving urban mobility is essentially and appropriately a task for city governments, this won't happen unless the national government provides the policy direction, guidance, and incentives, and gives cities the powers to do this work themselves. This is why our policy recommendations — which according to our brief are addressed to the national level — are about providing that right enabling framework from the national level so that cities can do this work themselves. When listening to these recommendations I encourage you to think about the barriers or forces that might prevent the change to this policy in China, which, as I have tried to make clear, is socially, economically, and globally unsustainable.

Next, the study group's co-chairperson, **Zhou Wei**, offered more detail about the recommendations:

Our vision is to make public transport attractive so that all social groups are willing to use it. We should provide a safe and convenient environment for all citizens, and that includes walking and cycling. To realize this vision, we propose that transit-oriented development should take priority, transport demand management should be more efficient, and that we should prioritize green travel. We also propose avoiding pollution, shifting our focus, and improving the present system.

The purpose is to develop a low-carbon, efficient city with a rational, spatial design. It is also important to take the strategy of transport demand management, that is to say, we need to shift our focus toward “the internalization of the externalities.” We should divert more people from private cars to public transport. In this way we can balance the supply and demand of road infrastructure, especially at rush hours. So we should prioritize green travel like walking and cycling.

The only way to achieve this is to improve the present infrastructure to make public transport more attractive to commuters. It is also prudent for us to encourage people to walk or cycle, so as to contribute to the protection of the environment and at the same time improve their own health.

In our research we used different kinds of methods: brainstorming, analysis of domestic and international experiences, assessments, and so on. We also conducted an online survey of people's attitude toward green travel. On the basis of this research we propose six policy recommendations:

1. The State Council should issue an outline of China urban green travel implementation as part of the national strategy for building ecological civilization and reforming urbanization.

In this way we can address the deep causes of urban congestion and pollution. Central government guidelines will help promote urban transport, the environment, land-use

planning, and management. The EU has been doing well in this area. It has put more emphasis on the relationship between transport and people, on the management of resources, and on improving the attractiveness of urban transport.

The purpose of such an outline is to establish a modern urban green travel system by way of the following:

- making public transport more attractive to all social groups.
- encouraging cycling and walking, but also providing convenient, seamless links to public transport.
- implementing management measures for private vehicle ownership and use.
- making sure that the city's own development process can be best used to reduce the cost of transport.

2. The central government should enable city governments to raise sufficient and sustainable local resources of revenue to fund public transport companies and provide targeted financial support for specific projects.

At present, ticket fares in many cities are very low and at the same time the government cannot provide enough subsidies for public transport companies. So there is an imbalance. As a matter of fact, there are many success stories around the world. In 1982 the US federal government set up a specific transport account, the US Highway Trust Fund. In Paris a public transport tax must be paid by companies with more than eight employees. Traffic congestion fees and differential parking fees are collected in London and Stockholm. In Singapore, Berlin, and New York City, fare levels increase with economic growth. These are all good references for us.

On the basis of this we suggest that cities should be able to raise adequate funds locally from taxes, and the central government should specify the use of supporting funds to cities. These funds should mainly be used for supporting high capacity public transport, non-motorized transport, comprehensive passenger transport hubs, low-energy consuming transport equipment, and smart public transport. Guidance should be given on public transport pricing mechanisms, and evaluation mechanisms should be put in place.

3. The State Council should establish policy guidelines for the rational use of vehicles and road space, in order to reduce congestion and air pollution, and improve equal access to a range of transport modes.

At present the motorization rate in China is still low compared with developed countries, although the rate is growing all the time. The share of bicycling as a transport mode has been decreasing — which also involves a threat to the rights to use roads, threats to public health, and a lot of traffic accidents. Therefore we suggest that public transport, walking, and cycling should have a clear priority in the allocation of city road space.

In addition, the definition of “officials” should be broadened, that is, official vehicles

should also include the vehicles of state-owned institutes or companies. Free private parking spaces at government institutes or companies should be reduced, or charged, or taxed. We should have the best mix of policy instruments including differentiated parking, congestion fees, low-emission zones, and better management.

4. The state and city administrations should be required to ensure cross-ministry or cross-departmental coordination, enhance performance appraisal and management accountability, and public participation should be encouraged.

At present there is inadequate supervision from the central government and inadequate coordination and guidance. Therefore we suggest the State Council should set up a mechanism within the central government to coordinate green travel. The Ministry of Transport should establish a “Bureau of Urban Passenger Transport Management” and the central government should stimulate the development of a comprehensive urban transport management system.

In addition, there is not enough public participation. In many cases, public participation is a kind of vanity project or a formality. We encourage substantial public participation, for example in supervision over officials and in decision-making. In this way we can provide an efficient platform for public transport.

5. The central government should amend the legislation on Urban Public Transport Regulation and the Law of Air Pollution Management to require local governments to fulfill their duties to promote green travel.

At present we have already had some important but ineffective regulations. Therefore we suggest that the Urban Public Transport Regulation should be integrated into other laws and regulations, and it should be strengthened in the *Air Pollution Prevention Action Plan*.

6. The central government should select different types of cities in order to organize and implement a series of demonstration projects to promote urban green travel.

The central government should:

- include street-space reallocation to prioritize public transport, walking, and cycling to improve the street environment.
- implement the “smooth public transport project” to attract more people.
- select megacities like Beijing and Shanghai to set up congestion control zones and low-emission zones.
- establish and pilot transport, pollution, monitoring, evaluation, and publishing systems in Beijing, Tianjin, Hebei, and the Yangtze River Delta.

At present we have options: whether we choose a car-dominant mode, or whether we choose a mode in which we can improve our social equity, economy, and resources efficiency. I think the answer is clear. The co-benefits of the actions we propose are reduced accidents, reduced oil imports, and reduced greenhouse gas emissions. Local governments play an important role, but support from the central government is the guarantee.

Transport is a permanent problematic issue, everywhere in the world. It's just like love — love is a permanent theme in all literature. I hope that our recommendations can provide some support to decision making, and that with joint efforts we can find a viable solution.

General debate and comments

Following the task force and policy research reports, **Li Ganjie** invited brief comments on the presentations. Here are the highlights of the remarks by CCICED members:

Public participation is one thing, but there is a key role for civil society, in particular for NGOs. They act as a bridge, a facilitator, a third party, an adjunct for government capabilities, they provide analysis, education, media outreach, public engagement, they carry out pilot projects, compliance reporting, and so on. There are many great examples of things that have been undertaken by NGOs. For example, we just heard about the GSC work in Shanghai and Tianjin, which is a partnership among government, business, and NGOs. But my point is: NGOs in China have key needs. One is a more routine procedure for the legal registration of NGOs. Another is funding mechanisms — incentives for the funding of civil society, and the legal structure to facilitate the growth of private philanthropy. China now has great pools of private and personal wealth that can be tapped to support the creation of ecological civilization.

We need to talk about the training of public officials. Many of us know how difficult it is to stand up and be responsible to the general public, sometimes to sit for hours and receive a constant stream of people, all of whose questions you must answer. It takes training, a change in mindset, and some practice to do this. It's not a skill that is immediately granted by the privilege of obtaining high office but needs to be fostered through training.

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Our concern about public participation should bring us to the international image of China, as an investor or buyer of commodities abroad. We know that China will be depending more and more on foreign resources, and in about 20 years it will be importing almost half its needs from abroad. So you can't just look at the problems at home. You also have to look at the need for China to take care of its international image, as a buyer or investor, or as a friendly player. Often however the press does not show the good news about Chinese investments, only the bad news. So we need to insist on the importance of China's image internationally.

When discussing CSR, please include the business sector. Don't just keep the discussion at the academic and government level. It is important to bring in the banks, insurance

companies, and corporations into the discussion.

During the green urban mobility presentation it was surprising to hear the recommendation to broaden the definition of official vehicles to include the officials of SOEs. In my experience, if officials are forced to use public transport, then the public transport improves. If they are kept in helicopters and private lanes and fast tracks and official cars, they don't realize how tough it is to use public transportation. As was done in New York and Sao Paolo and other places, we should force public officials to use public transport. It will improve considerably.

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Our meeting with Premier Li yesterday opened my eyes to how excited this country is about opening to international markets. I realized that now is the time to open up to society more — to their own people. If we talk about government, business, and society, well, government and business are organized institutions, but society is so diverse. We need to give more recognition to civil society and NGOs. I agree with what has been said already about problems with the registration and funding of NGOs.

In China there are actually millions of civil society organizations. More than 500,000 of them are registered, the rest are not. Some have to register as profit-making organizations, even though they are called non-profits. Among these millions of NGOs are tens of thousands of consumer groups. I was surprised to learn there are so many, mostly small, in all sub-district levels, doing a lot of good consumer education programs.

And women's groups, too. Again, there are hundreds of thousands of women's groups. Even though this is Beijing — of the Beijing Plan of Action, a reference for women's groups worldwide — women's strength and potential are still not recognized. I think all the studies that have been done need to be polished with more gender recognition. Only then can things be balanced. We value civil society as a countervailing power for industry and government. In the same way, women should balance men.

Regarding CSR, among those millions of civil society organizations some 270,000 foundations are registered. Many more are not registered. Many still struggle with the misappropriation of their funds, or struggle to achieve good governance. How can they have the resources to implement CSR? But more and more of these organizations are generating resources from overseas foundations, from the Chinese diaspora in other countries, and from wealthy Chinese individuals. Here in China there are more billionaires than in the rest of Asia. So there is potential to complement what the government is already doing. You can get more mileage out of your resources.

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This year's theme of environment and society brings into much sharper focus the inequalities, those between genders, between ethnicities, in rural versus urban, and geographic inequalities too — last year for example we talked about western development. Those are the issues we need to continue to talk about in order to understand their implications for the environment.

Environmental governance is a good area where we can begin to engage public participation as a major building block for cultivating ecological civilization. After all, it's all about people.

In the coming years China's growth will be driven by domestic consumption as well as by urbanization. When Premier Li was asked about urbanization in the coming years, he talked about "people-centered" urbanization. That is a rich area where public participation could be deployed to help ensure that urbanization in China is indeed centered on people.

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I agree with strengthening the NGO movement. It is the "third sector" that enables the first two sectors to work at their peak. But there is a special kind of civil society organization that the world is seeing more of (although in China I have seen few). They are called social enterprises. They are businesses, but with social and environmental objectives. They are people who work as entrepreneurs but do things that normally NGOs or governments would do — for the poor, the marginalized, the environment, and so on. Social enterprises are beginning to show tremendous potential for delivering results on social and environmental issues. These are essentially not-for-profit businesses. They are run as businesses, with business models and business methods, but they use their profits to pursue their objectives.

Doing well by doing good is maybe more powerful than doing good by doing well, which is what CSR is about. That is not to say that CSR is bad. CSR is crucial. But we often misunderstand what CSR is about. It is beyond compliance with the law. Everybody must comply with the law. CSR is going beyond. Often we just think that CSR is making people be more environmentally sensitive or socially good. But it must go well beyond that when a corporation contributes to a better society and a better environment.

Concerning natural resources, China like other large countries will have a huge impact on the natural resource base of the planet. We worry about climate change and biodiversity loss — and these are major threats to life on earth — but the way we are using our material resources, for construction, industry, power generation and so forth, is mindless. We need to give much more thought to the rational management of our resources. I suggest that CCICED in future years look at this subject with some seriousness.

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There has been a lot of debate over public participation, with much emphasis on identifying your own problems. But why can't we let the public participate in finding solutions too? I have had experience in what has been called here a "Stuttgart," an infrastructure project that draws public concern. We built and reorganized an airport where we involved not only NGOs, but also the people living near the airport, in a cooperative effort to find solutions. People did much more than just give their opinion on problems.

Regarding green urban transport, we have had a lot of comment about public transport.

But why not more ideas about organized green *private* transport? For example, there is much experience here in China with Intelligent Transport Systems. Could we use more? China has a lot of bicycles. Make it happy, pleasant, sportive to use cycles. In Holland, we are a cycling country, with 60 million people, 32 million bicycles, and 1 million electric bicycles. Everyone, even the civil servant, comes to his office by bicycle, not by car. Even my 88-year-old father uses an electric bicycle — and remember that you have an aging population in China.

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This Council might try to act out some of the things we recommend. What might have improved our open forums would have been the participation of some of the people we were talking about. For example, in the forum on CSR, perhaps more people from industry could have been sitting around the table and talking about that subject. In the forum on public participation, it would have been good to have people from the new media.

What a wonderful contribution it would be from this Council if MEP were to pick up the creative suggestion from one of our colleagues that the first step in the development of MEP's draft public communications strategy would be to release the draft to the public for consultation — to be talked about, debated, and discussed before it is finally adopted. In that way, as a Council, we could begin to act out some of these ecological civilization ideas.

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This year all the Council's reports have been related to the theme of state and society. This is impressive, because in the past the conference theme often revolved around the relationship between state and market. To enlarge that to state and society is progress, and I congratulate the Council for taking this route.

When you look at sustainable consumption, the media, social development, even green transport, it's all part of the same issue — how will society respond? Green development and ecological civilization are about structural change in the development pathway. That cannot be achieved by the government or the market only. There has to be a buy-in by society.

The Council and Minister Zhou both need allies. You need allies in society to help implement these changes, because there are a lot of vested interests who would prefer inertia and taking routes and pathways from the past. Change however can be supported and promoted by society. We can't have change if we don't have public involvement.

In France we had a wide public debate on our energy policy. It was first time we involved all stakeholders: NGOs, businesses, local authorities, parliamentarians, people's organizations. There were conflicts, but that was the first time we could envisage a long-term vision for France on energy. Normally only some groups talked about that subject, but this was the whole public. We had 2000 meetings all over the country to discuss nuclear energy, sustainable transport, sustainable cities. I think that consultation

produced a totally different atmosphere around what in France is normally a difficult topic.

So, it's risky, it's difficult. And, as many said, it can be a training ground for officials and for elected politicians to meet with the public. But the risk pays off, particularly for environment ministries who are arguing for the change. They need support from society. If not, the change will not happen.

Regarding the question whether companies should be part of the CSR discussion, in the case of China, SOEs have a big role. It's a good thing that they are exposed to this discussion, because they are prominent actors at global level too. France too has big state-owned companies, such as electricity companies. It was essential to take the energy debate outside of the closed doors of the electricity company, which is a very powerful and efficient one, but has had a custom of not discussing its policies with others. So yes, SOEs are targets for the kind of openness the China Council is advising on environmental policy.

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In the open forum on public participation, one of our Chinese colleagues noted that there is a large and growing gap between the productivity of the media and the amount of official content there is to inform the public. He reasonably said that the government should try to fill that gap with good quality, transparent information. That makes good sense. But then Premier Li said that we have to leave to the market what the market does best. In the context of public participation and information, the implication of his remark is that in future businesses will be a much bigger source of information than they have ever been. You give the market its head, and it will use the opportunity to communicate — but as “producers” of things for “consumers.”

This raises an interesting point about the role of the government, because it is no longer a question just of a gap between state officials and the people. It is also a question of the gap between producers and consumers. Over the last 30 or 40 years in developed societies, producers have had the upper hand. They have had amazing marketing ability to persuade people to buy things. But what has happened with the information revolution is that social communications techniques potentially will give consumers a more evenhanded part in this debate. They will be able to make decisions as they have never done before.

Think of the energy system. Most of us live in countries where there is not much choice on energy. It just comes down the line and you have to buy it. But smart grids, for instance, give consumers potential buying power they have never had before.

In terms of public participation, it's not just a question of government providing more information to people. Instead, in that new sort of world, governments will be looked to be the arbiters of good quality information in the marketplace, so that there is an even playing field between consumers and producers. In thinking about participation and information, we should not think only about government and the public. We should think

also about the flow of information and the distribution of power between producers and consumers, and the way that new information technologies can either make for a level playing field, or not.

Item 8. Draft Policy Recommendations to the Government of China

With **Achim Steiner** presiding, CCICED Chief Advisor **Shen Guofang** briefly introduced Council members to the revised policy recommendations that will be submitted to China's State Council. He made the following points:

With the support of the task forces, the policy studies groups, and individual Council members we have concluded our drafting of the policy recommendations to be submitted to the Chinese government. In the process we considered the domestic and international environmental situation, current hot topics, and the theme of our AGM. We submitted this draft to Council members and received much good feedback. Members believe the recommendations are systematic, thorough, comprehensive, and operable.

Our draft document has five parts. The first part is our analysis of the basic situation, where we say we need to accelerate the pace of building ecological civilization, promote green development, and build a more harmonious relationship between environmental protection and social development.

Parts two to five present the specific recommendations put forward by the task forces and the policy study groups. The recommendations sent to the State Council from the AGM are not likely to include all the recommendations received from the task forces and policy study groups, but we have incorporated the most important ones.

Shen Guofang then introduced **Ren Yong**, Coordinator of the Chief Advisors' Support Team, who provided more detail about the revision of the policy recommendations:

The revisions have been carried out on the basis of:

- Premier Li Keqiang's talk during the courtesy call, and Vice Premier Zhang Gaoli's informal remarks before the opening session.
- Comments at the CCICED Bureau meeting.
- The speeches by Minister Zhou and Mr. Kent, and personal remarks they made.
- Comments and suggestions made by CCICED members during the plenary session, the open forums, and in written form.

We have received 83 pieces of feedback from members, including general comments, specific suggestions referring to concrete policy issues, and editorial advice. The revisions have been carried out bearing in mind three considerations:

1. For many years, CCICED has devoted its energy to the study of the relationship between environment and economy. Given environmental impacts on society, and

corresponding responses from society, this year we adapted our efforts to addressing the relationship between environment and society. This is a new and challenging area for us. Our policy recommendations should be closely related to this year's theme, which is Environment and Society for Green Development. The recommendations should also reflect the deliberations of our task forces and policy study groups. On some issues, such as climate change and the responsibilities of Chinese overseas investments, we have added some sentences in relevant parts of the paper rather than highlight them as independent recommendations. Some other issues we may place on our study agenda in coming years.

2. Our policy recommendations paper will be going directly to the State Council, and therefore will be macro- and mid-level oriented. Detailed recommendations from each task force will be made available to relevant stakeholders, such as ministries, agencies, and local governments.

3. This year our draft recommendations are lengthy, 28 pages in the Chinese version. That is the largest paper in CCICED history. Deciding on the size of the policy paper is really a dilemma. Shorter or longer, which is better? In our opinion the draft for discussion and adoption should be longer and richer, so as to cover all the important points. After adoption, however, we will make a more concise paper for submission to the State Council. The current longer version is valuable for relevant ministries in order to understand the details and the purposes of implementation.

Here are the major changes we have made to the paper:

1. Considering that the Third Plenum has already put forward clear reform requirements for the building of ecological civilization, we have introduced new text calling for a focus on speeding up the implementation of institutional reform put forward by the Third Plenum to promote institutional building for ecological civilization. Additional revised text recommends specific recommendations on reform of the management system and institutional arrangements.

2. Based on suggestions from the Bureau meeting we have added new text calling for study of the important environmental and development issues during the 13th FYP period. We put specific focus on energy saving and environmental protection, responding to opinions raised by Premier Li. We also emphasized the climate change issue to respond to concerns expressed by Council members.

3. In recommendations related to the resolution of critical issues such as air pollution and public demands for environmental quality, we have added content related to financing, market mechanisms, and climate change.

As for the new suggestions and comments to be put forward by Council members, we will take them into consideration and continue to make further changes to our policy recommendations.

General debate and comments

Chairperson Achim Steiner invited CCICED members to comment. Here are their remarks:

The UN hopes to cooperate with CCICED and with the government of China to promote sustainable energy for all. The three targets the UN has set for sustainable energy are: to achieve universal access to energy for all by 2030; to double the annual rate of energy efficiency improvement by 2030; and to double the share of renewables. We believe these targets are relevant to China, but more importantly they will be useful for China to join with us to spread the concept to other parts of the world. In particular we hope China will join the UN in promoting renewable energy technologies to achieve energy access, particularly in the most energy poor continent, Africa.

In our discussions here there has been much mention of the private sector, of business — whether it is sustainable production or energy efficiency in industry. At the next Council meeting we should have more captains of industry, real chief executives of private business, but particularly of manufacturing. As we have heard, 70% of China’s energy demand goes into industry. It is industrialization that has made China wealthy, that has allowed China to lift so many people out of poverty. In the next round of our discussions we should have the captains of industry here to hear the message that CCICED is trying to spread, particularly the experiences of the rest of the world on industrial energy efficiency and on resource efficiency in manufacturing.

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As a new Council member it was a remarkable experience to hear those five presentations struggling with extraordinarily difficult and crucially important issues. For me the highlight was when Jia Feng said “we argued a lot, we disagreed, we had to actually separate, and it was only whisky that brought us together.” It is precisely in bringing together different perspectives like this that you get the sparks of inspiration. I deeply hope that the way we do business in this Council is transmitted elsewhere. Few advanced, rich countries in the world do this kind of thing. Wouldn’t it be great if they did? Or if emerging economies did? Or if low income countries did? And I hope that the whole concept of ecological civilization gets through. Out of necessity — because growth and scale are so much bigger here than anywhere — China is struggling with issues that other countries will need to confront.

I have one quibble about the draft recommendations. The text says “there exists an in-depth understanding on the relationship between environment and economy.” I feel sadly that we don’t have a deep enough understanding, and one of the things that our group addressed is precisely new understandings, about smart environmental technologies that can actually drive growth. It is a mistake to think that that is done and dusted, that we know the answers, because we don’t. We are still learning a great deal. That’s why there is a new global commission on growth and climate change, set up precisely to struggle with those issues. I hope that in future years the Council really grapples with that.

* * *

I endorse the proposal of the working group on Environmental Protection and Social Development to continue the work to craft a vision for 2050, and then to take a separate approach on how to develop the norms and values that will give form to the concept of ecological civilization. I see that in the recommendations already a lot of that is included. Of course it is up to the members of the working group to judge whether their recommendations are properly reflected in the new text.

The work we do is relevant for so many other countries in the South. We should reflect how we can rework this information so that we can use it to inform other countries. It is a pity that all the work that is done is used only in one particular area of the world. The Council should reflect on how it can translate some of this work as it relates to other countries so we are not doing the same work twice.

Regarding the draft recommendations, we spoke about the need for food security, but I don't see a lot of reference to this issue in the draft. This is something we need to strengthen in the final version.

* * *

I welcome the notion that the Council might look at demography in the future.

The recommendations make reference to interventions in the enforcement of environmental laws. The passage could be strengthened by changing "reduce inappropriate interventions" to "act strongly to prevent inappropriate interventions." I know this is hard to achieve rapidly, but the aim should be to stop all inappropriate interventions to environmental law enforcement.

China's economic reform and opening to the market has tremendous opportunities for transformative environmental improvements, but it also carries some risks unless environmental supervision is enhanced to make sure the new competition is fair. This would be a good message to include in the recommendations. It would strengthen the arm of MEP.

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The current version of the recommendations says "whoever pollutes should deal with the pollution." This should be changed to "the polluter pays" because now we are bringing in market mechanisms. Some people who might pollute actually may not have the ability to deal with the pollution. But they can pay. So let them pay the bill.

* * *

We are at a timely moment, just after the Third Plenum, which gives us more opportunities to make recommendations. One of the main topics at the Plenum was overall deepening of reform. Under this topic the communiqué says this task is to improve the ability of the government to manage better and to accelerate five aspects of work, which are socialist market development, democratic government, advanced culture, harmonious society, and ecological civilization. So, ecological civilization is one of the

main components of this overall deepening of reform. I think we should highlight this in our own paper.

Although the Third Plenum highlights reforms in these five areas, the ecological civilization aspect has been particularly concrete and specific. It includes the idea of redlining and mentions the strengthening of the whole system to protect the environment and the ecology. These are important and significant demands. In our new draft we should echo these demands. This is an important opportunity for us. Ecological civilization is not just an isolated thing any more. It has become an integral part of the whole big picture of the deepening of reform. This is why in our draft we should have wording to this effect.

* * *

Please include in the recommendations something about the value of ecosystem services. Surely if we are putting in place the indicators and data that would allow us to define an ecological civilization, the foundation for that is understanding the ecosystems that underlie that civilization.

To echo comments made earlier, it seems straightforward and hugely important to be clear that CER is an obligation that applies to corporate activities not only within China, but increasingly to activities outside China. Chinese corporations are important to what is happening overseas, especially in the exploitation of commodities. Please add that point to the recommendations.

I applaud the change which calls for a cap on total consumption of coal. This is one of the most important things China could do. Of course, everything depends where that cap is set, and I assume that debate comes next. But putting that issue on the table is a welcome step.

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Please make a number of brief additions and changes to wording, to emphasize the promotion of green travel, green transport, and green signaling systems. In addition please add the word 'national' and make it the National Coordination Mechanism to Promote Urban Green Travel.

* * *

In the recommendations about developing a national strategy and action plan that promotes CER, we should strengthen the demands on Chinese SOEs. In fact, these enterprises should take the lead in promoting CER and, what's more, lead by example. And this obligation should hold not only within China, but with their international operations too.

Also, in the introductory material we should echo more closely the actual conclusions of the Third Plenum and seize upon the relationship between macroeconomic reforms and ecological civilization.

* * *

Regarding green travel, we should say more about the development of non-motorized vehicles. Bicycling is popular in China, so cycling should be emphasized in the recommendations. There should be a special lane for bicycles, and if a journey is five kilometres or less, it is better to encourage bicycling or non-motorized vehicles. The amount of cycling and walking that people do should be increased, and on some streets motorized vehicles should be forbidden.

* * *

At present we are faced with deterioration of the environment and climate instability. People do not have environmental security. The recommendations about air and soil pollution mention that the fundamental approach is to further strengthen the transformation and adjustment of economic modes. In other words, we must have a green transformation. We should not only change the production mode and the consumption mode, but we should also promote social development. On the one hand this can address social problems, on the other hand it can address the problems of climate change and environmental protection. Therefore I think this point is so important it should be moved to the top level of the recommendations, that is, to the main core statement.

* * *

We should link our Council's most important proposals to the Third Plenum, which decided to establish two important commissions, on security and on reform. In terms of structure and governance, this is important. How can we have our task forces linked to that? By expressing things in terms of eco-security. We saw recently the typhoon that hit the Philippines, the hurricane that hit New York, tsunamis in Japan and the Indian Ocean, and so on. China also has frequent disasters. This is something we can study: eco-security.

During its 21 years, CCICED has been operating mainly inward, bringing international experience into China. Now China has put forward the concept, the vision, of ecological civilization. The China Council has a unique strength internationally. It is time for Council members to put this forward this idea to the UN, since next year the UN will have a climate change summit. Also 2015 will bring new Millennium Development Goals. No matter whether these two tracks merge, this is a focal point for the world's leaders.

We focus so much on policy and strategy, which is excellent. We also should focus on solutions. During the next 20 years China's 500 million peasants should be urbanized. For China's urbanization process now, the number one principle is human-oriented urbanization. Which is good. But it should also be ecologically based urbanization. The International Union for the Conservation of Nature — one of the originators of the concept of sustainable development — has promoted a nature-based solution. This kind of practice can be involved in CCICED's proposals.

Response by the Chief Advisors

Achim Steiner introduced CCICED Chief Advisors **Art Hanson** and **Shen Guofang**, who thanked members for their suggestions for revision of the draft recommendations. **Art Hanson** made these additional comments:

Several people have suggested we should be aggregating things so there is a clear response to the Third Plenum. For example, we should organize the recommendations around ecological civilization or else around economic reform. We may try to do that so the links stand out more clearly.

There are always difficulties of language. There are real differences between English and Chinese, not so much in thinking as in expression, so we have to be careful about that. We try to make sure there is a good level of compatibility between the two versions. This takes time.

Even though this year's recommendations are lengthy, there is a lot of content in them. The document provides an important roadmap for the government on certain topics. But it also gives the China Council itself a roadmap for the way forward. It contains a lot of observations that we have not been able to follow up on immediately, as well as material from the past that we have brought forward in the context of the new reform package. All this is helpful for the work that lies ahead in 2014 and 2015.

At this point, on the invitation of Chairperson **Achim Steiner**, the assembly adopted the draft policy recommendations by acclamation. The final version of these recommendations, incorporating changes made following this discussion, subsequently was submitted to China's State Council. The full text of that final version is included in this report as Section III.

Item 9. Closing Session

Achim Steiner then invited CCICED International Executive Vice Chairperson **Peter Kent** to make closing remarks. Here are the highlights:

We have reached the end of a very successful AGM. We have examined the issues and proposals before us well. We have chewed on them quite diligently over the past couple of days, and the passage of the recommendations this afternoon brings this AGM to a successful conclusion.

I would like to again thank Minister Zhou personally for his assistance and cooperation during the AGM, and of course for his many years of support for the China Council. And I would also like to underscore again the important role that Secretary General Li plays in preparation for and in the execution of the AGM, and to thank the Secretariat and of course the Chief Advisors again for their contributions under the Secretary General's guidance and leadership.

I think it was evident again here this week that the commitment and dedication of the Chinese and the international co-chairs and members of the policy research teams bring to the Council's work a very important combination of counsel and advice, not only of course during the actual AGM but in the preparation and the work that is carried out

through the year.

We can all agree that we have had a rich, continuing discussion of the various opportunities in the interest of this year's theme, Environment and Society for Green Development. I think the open forums were particularly stimulating, and the reports today particularly illuminating, giving us a better understanding of some of the complex relationships between environment and the factors such as consumption, social engagement, urbanization, health, and transport.

This morning we heard a number of, fair to say, "profound truths" in advice offered to China which I believe could equally resonate in many of the China Council's international member countries, including my own. We also heard about the range of challenges and opportunities that China will face in building an ecological civilization. Continued focus of course will be needed to strike a balance between economic growth, environmental protection, and social development objectives. And I think the recommendations that we have just approved this afternoon are ambitious, but they reflect best international practices, and are, I believe — with a concerted effort at all levels of government and with international support — quite achievable.

And as last year, I am again impressed by the breadth and the high quality of the advice presented, because all of us here benefit from the work of CCICED. Our efforts again this week demonstrate that international cooperation, international discourse, and a shared search for solutions in this great country serve not only China but the international community as well. Minister Zhou — eloquently I think — a number of times outlined for us the progress made so far under the 12th FYP, as well as detailing the challenges that lie ahead. And I assure you again, Minister Zhou, you have our full support, because of course challenges also provide opportunities, and those opportunities are there for the taking.

I was honored and pleased to convey yesterday our collective thinking and recommendations to the Premier, assisted of course by esteemed colleagues Steiner, Georgieva, and Leape. Fair to say we had a very constructive exchange. And I'm sure we all share an appreciation for the time that the Premier afforded us for that report and for his shared views. The Premier made quite clear to us China's commitment to environmental protection, and his remarks that such protection will play a stronger future role in development that is so important for this country — that as China does achieve middle-income status, the population will demand higher levels of environmental quality and protection. And the government is taking concerted actions to recognize those demands.

The Premier was clear to us and to his colleagues in the Ministry the government's commitment to the delegation not only of central government authority but also the delegation of new authorities to local governments, business, industry, and the markets to work towards the goal of ecological civilization.

So thank you again, Minister Zhou, and thanks again to all our members, both Chinese and international partners, for cooperation and assistance throughout the year, but

particularly over the past few days.

Next, Achim Steiner invited CCICED Executive Vice Chairperson **Zhou Shengxian** to offer a summary of the conference and to make his closing remarks:

Our second AGM of Phase V of the China Council is drawing to a close. CCICED continues to receive the highest attention from the Chinese government. Premier Li Keqiang met with everybody in the Great Hall of the People. We had a group photo, and he made some important remarks. He pointed out that China is now at an extremely important point where transformation has to occur if sustainable development is to continue. The protection of the environment has become a national issue for the people. He also said that the Chinese government will coordinate and balance the relationship between development and the environment, effectively deal with air pollution by regulatory methods, promote energy conservation and environmental protection, and continue to protect the environment in all its aspects.

The Vice Premier, Mr. Zhang Gaoli, who is also Chairperson of the China Council, also met with our foreign representatives. He emphasized that protection of the environment is China's fundamental national strategy and that China will continue to do this while advancing its economy. He also said that he hoped CCICED would continue to provide an effective platform for exchange between China and the world. This of course is a huge encouragement to us. And he encourages all of our experts and academicians to continue to work on their research.

The theme this year is Environment and Society for Green Development. The Executive Vice Chairs, the Vice Chairs, and Chief Advisors all have made reports on these issues. We also heard from three parallel forums and from five policy research teams. The policy recommendations drafting team listened carefully to everybody's suggestions and worked closely on amending the recommendations, which now have been adopted in principle. So the next step is for the Secretary of CCICED to submit these recommendations to the Chinese government.

Every time we hold an AGM, all of us in the China Council learn a great deal — and China's environment benefits. Every time we have such a meeting in fact it is a spur to environmental protection in China. It's like a filling station for us. This year, I listened carefully to the policy reports. I was very much enlightened and learned a great deal from them. I have points I want to make about each of these reports.

1. The first report examined a number of public incidents that occurred over environmental issues, talked about the NIMBY syndrome, and so on. The analysis has strengthened my conviction that we need to use the concept of ecological civilization to look at environmental protection, and furthermore that ecological civilization is a combination of consumption and production. So when we look at environmental protection we need to raise ourselves to a strategic level. We need to continue to look at consumption in our direction and guidance towards environmental protection.

2. When I heard the second report I thought about what is happening in China today as

we promote new urbanization and the problems we are facing with that. In a few days the Central Committee will hold a meeting on urbanization, so thanks to this report I have a new and better understanding of this issue. According to this new urbanization movement in China, this concept should focus on the human being. It should be a person-centered urbanization. It should be a low-carbon development. If urbanization is carried out well, it will have a huge positive effect on China's environmental protection and on the development of society and the economy in China. But if we don't do a good job with this, we will have huge problems later on.

3. How do we use the new media to communicate with the public? This is a new problem for us. How can we get more of the public to become involved in environmental protection? In the past the links between the public, media, and the environment became almost hostile, the government became hostile, and things became exaggerated and overstated. So, thanks to this report I believe that information transparency and openness of environmental information should be a normal situation. Closing it off should be the exception. Only when this information is accurately provided to the public can we stand on the same side as the media in promoting environmental protection.

4. Regarding CSR, I believe that whether you are a private enterprise or a state-run enterprise or a joint partnership, you have a responsibility to society. Protection of the environment is part of this responsibility, and is built on the basis of trust. Regarding green development, this is a wave of new technology which I think will be unstoppable. Every time there is some new technological revolution it propels social change and productive forces expand. If it is well employed, it is absolutely invincible. But if it is not used properly it will be extremely destructive — and might even result in the loss of political power.

Toward the end of the Qing Dynasty, China became decadent. There was not a good flow of information, no new technology was coming in, and there was a sense of isolation. A senior court official asked the emperor: How much longer do you think you can stave off this wave? The emperor is supposed to have said: When the wick of our lamp goes down, we will be finished. And that's pretty much what happened.

On the other hand, look at the changes that came about as a result of the steam engine and electricity. We should see green development as an historic opportunity to look at things with vision and foresight. Any country, any people must grab this opportunity and push the technology forward. The Third Plenum, the Vice Premier, and the Central Committee have recognized this, and are determined to seize this opportunity. This has increased my determination to implement the decisions and proposals of the Third Plenum.

5. Green mobility is definitely an environmental issue. In the past, Beijing was called the empire of the bicycle. At every crossing on Chang'an Avenue, the moment the lights changed an army of bicycles would surge forward in a phalanx. This was quite grand to see. Unfortunately now what do we see? Beijing has one of the most serious traffic congestion problems in the world.

Regarding CCICED, every time we have a meeting, there are a number of new issues.

This time we have new opportunities, new situations, and new tasks. We can summarize these as follows.

First, we must deepen reforms. China's reforms have already reached a key and challenging period. We can say we are in the deep end of the pool. Shortly after the Third Plenum closed we were immediately faced with change and reform. So I think CCICED also has to propose that we need a unified system to deal with all the different pollutants, emissions, and so on. This is going to be a reform, a change, an opportunity for environmental protection. This is making one organization, one department the representative of these various resources, and how they can be used. One department is going to be in charge of monitoring and restoring. That is going to be the future institutional system. This should be part of what CCICED should be examining.

Second, we need to build a beautiful China.

Third, we must focus on important environmental issues that affect public health. These are the three main points of concern of the Chinese government: air, water, and soil. Everything is bent out of kilter.

Fourth, we need to promote the concept of environmental social responsibility. Everybody in society has a responsibility to protect the environment. All enterprises have this responsibility, and when that is actually in place then there will be hope for China's environment.

On behalf of the CCICED Bureau, MEP, and in my own name, I would like to thank Mr. Kent, Mr. Steiner, our experts and academicians, and our government officials for all for the hard work they put into organizing this AGM.

Finally, **Achim Steiner** made some closing observations:

We have met at an historical moment. This Council — in terms of both its timing and its agenda, and its encounter with the Premier — will stand out, not least in terms of its substantive recommendations, as one of the special ones. Many of you are in the midst of a transformative moment, by necessity as we have heard time and again — China's necessity — but also because of the opportunity.

Ecological civilization is a term that will be part of our work for years to come. It is with this year's Council that we have embraced this challenge, and also the expectation that CCICED will rise to a new level of sophistication and understanding, but also provision of relevant advice.

In just a couple of years ecological civilization has moved from a vision to being a central part of China's reform strategy. This is one reason Council members are so committed to this unique international effort. The contrast between a world that is at a loss about how to cooperate and come together on some of these fundamental challenges receives almost an antidote when you come together in the China Council. You begin to see how vision, leadership, science, empirical evidence, and best practice can inform policy agendas, and also the pathways by which you proceed to implementation.

We often bemoan the lack of political will. This week, nobody can accuse China's leadership of lacking political will or vision. That vision is not expressed in terms of slogans — of which we have many in the world — but in fundamental commitments that have been laid out. There will be skeptics and doubters, and let them be, because it will always be a good challenge to convince them of the opposite.

Those who have served for a while in CCICED, or been associated with China, will know that when the leadership — especially in a meeting such as the Third Plenum — makes some clear directional shifts, these shifts have not happened on the spur of the moment. Nor will they just remain on paper. Therefore, for the Council this is a moment that we have seen emerge over the last three or four years — of the Council beginning to be as much a vehicle about bringing international expertise together with Chinese expertise, as it is about bringing China's own way of looking at developing into the context of where the world is at the moment. The world is struggling to identify a 21st century development response in a planet of 7 billion people, of climate change, of pollution, of ecosystem destruction, of food insecurity, of a lack of energy security — and I could go on and on. We live in a challenging age, and these challenges are multiplying faster than ever.

I am privileged to be part of this unique body — to have been invited by China to be part of its own journey in addressing these issues. I am privileged also to be part of a community of professionals who, based on trust, evidence, and firsthand experience, are helping the world understand that in this country there is a deeply serious effort to try and address these issues.

As we meet here, at the Warsaw Climate Change Conference, meanwhile, the world is again unable to communicate with one another. The world of negotiation is always far from the world of action and implementation, in China as it is in many other countries. We have to study this more deeply because a world that cannot come together in a multilateral context to face these challenges collectively — and yet out of desperation is acting with great frustration and energy locally — surely must find an answer to this impasse, this paralysis. Otherwise it simply is not serving the people across the globe.

III. Final Policy Recommendations to the Government of China

China Council for International Cooperation on Environment and Development

2013 CCICED Annual General Meeting

Policy Recommendations to the Government of China

The 2nd Annual General Meeting of the China Council for International Cooperation on Environment and Development (CCICED) Phase V was held from 13 to 15 November 2013 in Beijing with the theme of “Environment and Society for Green Development”.

CCICED members appreciate the shift in green strategic thinking and major initiatives of the new leadership of China’s government. We specifically note: the green development emphasis in the 12th Five-Year Plan (FYP); the significant foothold Ecological Civilization has gained recently in China’s society; and, within the “China Dream”, the vision of a “Beautiful China” which can inspire Chinese green prosperity actions. Members believe that the commitment towards economic reform within China provides substantial opportunities for transformative environmental improvements. The new *Air Pollution Control Action Plan (APCAP)* highlights to us the new level of determination and commitment by China’s government to environmental protection that is urgently needed.

The Council members are particularly pleased to learn of the comprehensive reforms agreed upon at the 3rd Plenum of the 18th Communist Party of China’s Central Committee. These reforms will be of great value for the construction of China’s Ecological Civilization since they effectively link environment with other key domains, including economic, political, cultural and social development. Internationally, CCICED Members also appreciate the incorporation of Ecological Civilization into decision document (Decision 27/8) by the 27th Governing Council of UNEP (First Universal Session). CCICED expects that Ecological Civilization can become a ‘Made in China’ enhanced version of sustainable development and a new path for China’s environmental protection that enlightens and contributes to global sustainable development.

Environmental problems involve social values. Therefore solutions must be to form environment-friendly social values, ethics and culture, thus establishing a new institutional framework and patterns of behavior that encourage harmony between people and nature, and that guide transformation of the entire society towards green development and social harmony. An Ecological Civilization is the only type of civilization that is sustainable in the long term.

Yet CCICED members also recognize the huge environment and development challenges China is now facing. Some are of a global nature such as climate change; others are of a national or local nature. The world has taken note of the large scale, frequent and long-lasting haze/smog pollution occurrences in various regions of China. Despite the significant efforts of China’s government on environmental protection and on mainstreaming transformation of the development mode, the environmental situation is becoming more serious. Problems are becoming more complex, with an array of legacy

issues arising from past development and new environmental issues that are often associated with rising levels of industrial development and modern levels of energy use and domestic consumption; difficulties and lags in changing the development mode. Inadequate implementation of some environmental policies and enforcement limitations of laws and regulations are serious challenges.

When considering people's reaction to smog pollution and public concerns about environmental and health impacts of construction projects, it is apparent that the relationship between environment and society has significantly changed with the progress on social development of China.

On the one hand, environmental issues now have greater impacts on quality of life, for example through the impact of environmental pollution on public health, and there is a need for greater recognition of the rights of environmental pollution victims and more equality of access to environmental public services. On the other hand, there are significant changes in terms of extent, methods and effects of public reaction on environmental issues. It is beneficial for the public to demand environmental information disclosure, to report and monitor environmental pollution and damaging activities and to supervise government performance. China, like other countries will have to set out fair and reasonable protocols for addressing NIMBY ("Not In My Backyard") situations, and for other public responses to proposed projects. These protocols will require greater attention to mechanisms for dispute resolution.

China's decision-makers need to identify key areas and prominent issues that currently and in the future will affect environment and society linkages in China, and clarify new policy directions that can be followed by gradual establishment and improvement of specific policies. Specifically, the following seven areas of social concern require attention: environment and health, environment and social risk, environment and social justice, environment and poverty, environment and employment, environment and sustainable consumption, and NIMBY issues.

At this stage of China's development, and in a time of expanding use of social media and the need for further public information dissemination, what constitutes appropriate environmental rights and public or private sector obligations obviously requires good judgment. There is an apparent need to shift towards a new approach for accurate information dissemination, whether on project planning and environmental assessment, or for more fundamental environmental monitoring and other knowledge. This new approach would make the default decision be to release environmental information on a timely and regular basis so that people could be well informed on important matters that pertain to their daily lives.

CCICED Members believe that great opportunities exist for transformative change in China's relationship between environment and society. A prominent example is the need for setting in place sustainable consumption as part of stimulating domestic consumption. Furthermore, a reasonable foundation already exists for establishing an overall green and coordinated relationship of environment, society and development. Environmental awareness of the Chinese people is increasing in both breadth and depth. Thus, demands

of the people for reasonable environmental rights and rational environmental behavior will become a strong social pressure and driving force to promote environmental protection. Already, there is positive change of understanding on environment and society relationship on the part of China's government, illustrated by a deep understanding statement from Chinese leaders—that “a sound ecological environment is the fairest public good, and most beneficial welfare”.

In 2013 CCICED focused its studies on several key fields of environment and society linkages in China. These studies included the following task forces (TF) and special policy studies (SPS):

- China Environmental Protection and Social Development TF.
- Sustainable Consumption and Green Development TF.
- Media and Public Participation Policies on Promoting China's Green Development SPS.
- Corporate Social Responsibility in Green Development in China SPS.
- Promoting Urban Green Travel SPS.

Based on outcomes of these 2013 studies, discussions during the AGM, and other inputs, CCICED is providing five major policy recommendations to the Government of China.

RECOMMENDATION 1. Speed up institutional innovation and implementation of Ecological Civilization, in order to strengthen green development and to establish a more harmonious relationship of environment and society in China

While China now has clearer strategic thinking and an overall arrangement for Ecological Civilization, the institutional system for implementation lags behind in terms of adequacy and innovation. Implementation at local levels has yet to be embraced across key sectors and deepened in terms of content. Therefore, the Government of China should pay high attention to speeding up top-level design for an institutional system that can construct and implement a coherent and coordinated approach to Ecological Civilization. This institutional system must be capable of shifting values, people's behavior, lifestyle choices, and both production and consumption towards patterns of long-term sustainability and goals of improved environmental use and protection, strengthened ecological services, and due respect for nature.

Institutional innovation is required to redirect decisions from a “sectoral” approach towards a “whole of government” approach that will reduce actions that work at cross-purposes, turn public environmental behavior into positive energy for environmental protection, and enable environmental protection to fulfill its obligations towards safeguarding environmental services and related public goods. Climate change is already causing problems and is a major future risk. Avoiding decisions that lock China into a high emission economy, while charting a future path to a low carbon economy and preparing adaptation responses to climate risks are all part of Ecological Civilization.

CCICED recommends the following actions:

(1) Speed up improvement of top-level design and comprehensively promote practical implementation of Ecological Civilization.

- 1) In line with the Third Plenum reform directions, establish the appropriate institutions and systems for Ecological Civilization implementation. Promptly develop guidelines for strengthening Ecological Civilization construction in the immediate future, and formulate Ecological Civilization mid-term (2015-2030) and long-term (to 2050) vision, objectives and plans, with a greater degree of public participation and expert inputs. This vision will provide a basis for the preparation and establishment of indicators, statistics and accounting systems. Establish a high-level leading and coordination mechanism for construction of Ecological Civilization. The mechanism should receive inputs from various stakeholders; identify implementation actions; identify responsibilities of central and local governments, and among government agencies; and recommend channels for the necessary sustainable financing including new local sources of revenue.
- 2) Create the most stringent and effective as possible resource and environmental protection system. Speed up relevant legislation processes to complete a comprehensive revision of the Environmental Protection Law and specific supporting laws and regulations. Conduct pro-environment modifications to economic and social laws and regulations so they become consistent with Ecological Civilization requirements. Define a comprehensive and credible ecological redlining approach. Establish an accountability and compensation regime for resource and environmental damages, as well as improved mechanisms of payment for resource uses and environmental services; extend the scope and degree of ecological compensation to balance and coordinate equitable distribution of resource and environmental benefits.

Speed up institutional reform for eco-environmental protection management; establish an environmental governance system for unified supervision of all pollutants, all emission sources, all environmental components, and all ecosystems. Establish a regional joint action mechanism that coordinates terrestrial and marine regimes for ecosystem conservation and restoration, and for pollution prevention and control.

China's central government should use economic incentives to encourage local pilot efforts for Ecological Civilization construction, and gradually form an overall pattern of building Ecological Civilization initiatives in line with specific local conditions.

- 3) Carry out a study on green accounting needs for the national economy, and gradually establish a national economy evaluation system incorporating resource consumption, environmental damage, and environmental protection benefits. Incorporate Ecological Civilization progress as an important indicator into the local government official performance evaluation system.

- 4) As China is moving towards the final years of the 12th Five-Year Plan, it is important for the Chinese Government to examine and identify characteristics of economic, social, and environmental development for the 13th Five-Year Plan, and to set up mid- and long-term goals and measures for green development, environmental protection, energy conservation and emissions reduction, and climate change for the future 5 to 15 years.

(2) Focus greater effort on resolution of prominent environmental issues such as air, water and soil pollution, in order to meet basic public demands for a healthy environment.

Enjoying a healthy environment is a basic right for people. Severe pollution issues that significantly affect public health and life are key factors leading to current tensions and non-harmonious environment and society relationships in China. Therefore, effectively solving these issues is a fundamental approach to reduce societal tensions. The *Air Pollution Control Action Plan (APCAP)* is a good start. However, the Government of China should develop special action plans for other environmental issues that seriously affect public health and life such as water pollution, soil pollution and rural environmental problems.

The key element for an environmental action plan is to have a credible and implementable approach that will result in demonstrable improvement in environmental quality for prescribed time periods. Concerning implementation of *APCAP*, the central government should focus its supervision and coordination efforts on three aspects: (i) strengthening overall action implementation by local governments and step up review and accountability; (ii) fulfillment of responsibilities of central government agencies, especially the development of supporting policies for investment, fiscal arrangements, taxation, finance, price, trade and science & technology; and (iii) joint actions among local governments within each region. The supervision of enterprise actions should fall mainly under the responsibility of local government and environmental authority, with full utilization of public and social organizations.

The fundamental approach to resolve current prominent environmental issues such as air pollution is to change the economic growth mode and adjust the energy structure. Measures such as a cap on the total consumption of coal and improved fuel quality are necessary parts of such a shift. In order to fully realize co-benefits arising from economy, environment and energy measures, it is important to coordinate efforts for reduction of conventional pollutants, energy conservation, and for low carbon development. Market-based long-term mechanisms including pricing, taxation and emissions trading are important instruments for this coordinated effort. It is further recommended that efforts be stepped up in exploring and creating new funding mechanisms and resources for environmental protection and environmental investments. These approaches are not only critical measures for the success of *APCAP*, but also effective mechanisms to ensure long-term effects continue after completion of the action plan.

(3) Improve governance policies for green development and speed up transformation of environmental governance.

- 1) Government agencies at all levels should explicitly take environmental protection concerns into account in all aspects of their governance and decision-making, such as economic/social and cultural construction, development of programs and policies, policy implementation and evaluation, and performance evaluation. Government and staff should be evaluated and promoted on the basis of delivery of sustainable/green development.
- 2) Clearly recognize environmental rights as a basic component of citizens' rights. This should be done through legislation, and be considered as a basic principle for policy development in economic, social and environmental fields. Ensure public environmental rights are protected through concrete institutional systems based on the rule of law, including litigation, incentives and compensation.
- 3) Strengthen ecological compensation and pollution damage compensation mechanisms to reasonably solve unbalanced and unjust distribution of environmental benefits and costs between regions, urban and rural areas, and among different social groups.

(4) Reform Environmental Impact Assessments (EIAs) and Social Impact Assessments in a systematic manner.

An environmental and social assessment mechanism for major policies should be implemented and made to work effectively. To be convincing, the approach should be based on principles of openness and transparency and on meaningful public access. Specific actions should include:

- 1) Establishment of a “pre-approval” screening system for major projects with environmental and social implications. Introduce third-party assessment mechanisms for social and environmental impacts. Policies and reforms are needed to ensure public environmental interests are better served.
- 2) In the event of failure by cadres to strictly follow the assessment process, such failures should seriously be taken into account in the regular evaluation of such cadres.
- 3) The building of a more robust and anticipatory environmental emergency response mechanism should be given priority. Review the adequacy of plans for existing facilities, beginning with large projects in proximity to populations or to water resources. Set up hierarchy of priority industries and locations.
- 4) The provision of timely, and accurate information during environmental incidents is important. Full advantage should also be taken of new media platforms to ensure more widespread and accurate knowledge of such incidents.

(5) Improve environmental governance structure by establishing robust green

government-public-enterprise partnerships.

In the current environmental governance structure in China, the roles and responsibilities of various actors and stakeholders are not always well defined, and there is sometimes a lack of effective communication and consultation mechanisms. Therefore, a primary task of improving environmental governance is to clarify the roles and responsibilities of government, enterprises, and the public as key stakeholders in Ecological Civilization construction, green development, and environmental protection. CCICED suggests the following roles, rights and responsibilities for each sector:

- 1) Government – As necessary, develop regulations, policies and an institutional system to regulate behavior of all important actors (including the government itself); enable cooperation among various actors; build trust in the relationship between government and society on environment and green development issues; strengthen environmental awareness and capacity of enterprises and the public; and encourage the role of social organizations in environment and development. Develop a “balanced scorecard” for all SOEs, local and provincial governments and key ministries whereby Corporate Environmental and Social Responsibility can be taken into account.
- 2) Enterprises (SOEs and private sector) – Strictly follow environmental regulations and mandatory standards and implement basic environmental obligations; behave environmentally responsible according to industrial and corporate standards and guidelines; and cooperate with other stakeholders such as media and environmental non-governmental organizations (NGOs) to enhance corporate environmental and social responsibilities. Ensure establishment of an internal environmental management structure within SOEs and large private enterprises. Publically reveal the identity of the corporate officer responsible for these matters.
- 3) Public and social organizations – Explore innovative social governance mechanisms for environmental protection; integrate various social resources and forces to establish more effective communication mechanisms between the public and government through which public opinions can be communicated in a rational and effective way; establish consistent, effective and widespread public participation mechanisms in environmental decision making; clarify supervision and evaluation roles for citizens in environmental management processes and for performance of government and public sectors; conduct participatory environmental education and awareness raising activities.

(6) Ensure equal standing of environmental, economic and social issues in national and provincial planning and reporting.

- 1) From the 13th FYP, the five-year plan of the Chinese government should be listed as the National Economic, Social and Environmental Development Plan. The National Economic and Social Development Report submitted by the Chinese government to the National People's Congress and the Chinese Political Consultative Conference (NPC & CPPCC) would then also have been changed to the National Economic, Social and Environmental Development Report accordingly. A similar adjustment

should be made at the provincial level.

- 2) To support this change, the Government should submit to the National People's Congress an annual report with the achievements made by the Government and with equal emphasis on the economy, society and environment. In this way the Government will demonstrate responsibility for environmental protection in China, and clarify the relationship between the three key elements for sustainable development progress.

RECOMMENDATION 2. Change consumption patterns towards sustainable consumption in order to drive green development

In China, economic reform and social development requires stimulation of domestic consumption. This may result in dramatic shifts on the expenditure patterns of China's citizens, especially the rising middle class in both cities and the countryside. It would be disastrous for an excessively high level of per capita consumption based on western levels of energy and materialism to replace the frugal habits of most Chinese. Yet, China's rising ecological footprint and other evidence suggests that substantial numbers of Chinese are already following a path of high consumption.

Sustainable consumption is a topic that has not received sufficient attention in China. It requires urgent consideration in order to identify sustainable consumption patterns appropriate for China, and to encourage people to adopt lifestyles and purchasing decisions accordingly. The Government of China can take various enabling measures, including incentives, laws and regulations and information dissemination relevant to sustainable consumption. Therefore, CCICED recommends:

(1) Incorporate sustainable consumption as an important element of Ecological Civilization construction.

Develop and implement a national sustainable consumption strategy and action plan consistent with Ecological Civilization and Green Development, and formulate a sustainable consumption road map.

The national sustainable consumption action plan should: (i) Select priorities among consumption themes where there are major resource and environmental impacts such as housing, household appliances, travel options, and food. Specific attention should be placed on green building codes and incentives. (ii) For the short-term, incorporate the sustainable consumption concept into the 13th FYP and establish an institutional foundation. For the mid-term (to 2030), establish and improve the legal framework to promote sustainable consumption pattern among the emerging urban middle class in China. For the longer-term (to 2050), further enhance the sustainable consumption capacity and level in the whole society including the transition to an extremely low carbon society successfully adapted to climate change considerations. And, (iii) Develop differentiated sustainable consumption strategies for different regions, cities and consumer groups.

- 1) Improve laws and regulations that promote sustainable consumption. In the

short-term, incorporate the concept of sustainable consumption into the currently being-revised *Environmental Protection Law*, *Consumer Rights Protection Law* and *Government Procurement Law*. For the longer-term, consider development of a special *Sustainable Consumption Promotion Law* to reconcile the relationship among consumer rights protection, food safety, environmental protection and sustainable consumption.

- 2) Reform and improve pricing, taxation and financial incentive policies that promote sustainable consumption. Strengthen public transport financial support, including increased funding for local public transport development. Redesign government subsidy programs drawing on the “appliance to countryside policy” and “old appliance trade-in policy”, and focus subsidies on the top 10% best performance products. Impose environmental taxes on resource-intensive or emission-intensive consumption products. Link family income tax breaks with sustainable consumption, encourage recycling of product and waste resources, and provide low interest credit for purchasing green buildings.
- 3) Strengthen sustainable public procurement and give preferential purchase treatment to products from green supply chains. Update the current energy-saving products catalog and environmental label inventory, and assign mandatory quotas for government procurement of green products and services. Include green standards of hotels for business travel and meetings into government procurement standards. Revise government procurement systems to include new energy and low emission vehicles, and make green supply chains an important indicator for procurement standards.

(2) Promote innovation through sustainable consumption policy and institutional systems.

- 1) Strengthen the credibility and independence of the Chinese green product certification system and enhance China’s environmental labeling system. Promote consistency of China’s green product certification system with international standards. Establish independent consumer associations and consumer advisory committees, and develop a national database of green products managed by a third-party body charged with collecting and publishing product information.
- 2) Develop a sustainable consumption indicator system at the national, regional and local level and carry out sustainable consumption pilot demonstration. Incorporate sustainable consumption into other programs and plans such as a pilot demonstration of Ecological Civilization construction and low carbon economy. Implement small-scale community pilots and local demonstration initiatives, and a pilot of urban green travel and urban road resources optimization.

(3) Foster sustainable consumption partnerships, with participation by stakeholders.

- 1) Encourage the role of private sector and incorporate sustainable consumption into market-based codes of conduct. Give full play to sectors such as retailers and

financial institutions in sustainable consumption. Encourage the establishment of green supply chain management and encourage incorporation of sustainable consumption objectives into the core business of financial institutions.

- 2) Encourage social organizations and consumer groups to participate in development of national and local sustainable consumption policy frameworks. Establish consumer information center in cities to provide dialogue platform for citizen, entrepreneurs and local governments, and to provide advisory service on recycling, products sharing, water saving and food safety. Include sustainable consumption in the school curricula at a national and local level.
- 3) Promote international cooperation in sustainable consumption. Actively participate in multi-lateral policy framework negotiation on sustainable consumption, participate in UNEP's *10 Year Framework Programmes on Sustainable Consumption and Production* and focus on the topic of sustainable consumption in the WTO government procurement agreement negotiation.

RECOMMENDATION 3. Recognize environmental and social roles of enterprises and promote corporate environmental and social responsibility (CER and CSR)

Enterprises can be the driving force of economic growth but also a primary source of environmental pollution. It is a significant challenge for Chinese enterprises (both SOEs and private sector) to harmonize development and environmental protection, and to explore a green and sustainable development path.

Implementation of corporate social and environmental responsibility has three levels: (i) a basic level of compliance with regulations, (ii) moving beyond compliance by proactive participation, and (iii) taking a leadership level of corporate environmental responsibility. For enterprises at different levels, government should develop corresponding strategies and policies with objectives of punishing enterprises that violate regulations, encouraging voluntary implementation of corporate environmental responsibility, and advancing enterprises where possible to a higher level of green development. Therefore, CCICED recommends:

(1) Developing a national strategy and action plan for corporate environmental and social responsibility.

Address different needs of state-owned enterprises (SOEs) and small and medium-size enterprises (SMEs), and develop differentiated national strategies and action plans to promote CER/CSR; define cooperative relationships involving government, enterprises and society; and clarify responsibilities of various government departments. In boosting CSR and CER practices, implement the polluter pays principle.

(2) Develop a working mechanism for social organizations and industrial associations to press for corporate social and environmental responsibility.

Encourage industrial associations to play an important role in standards development, guidance and self-discipline to support implementation of CER/CSR by enterprises.

Advocate corporate environmental responsibility initiatives, and encourage supervision and active participation of the public. Encourage social organizations, media and internet sources to play a full role in performance evaluation, information disclosure, supervision of behavior and public feedback. Strengthen international cooperation and learn from success stories.

(3) Enhance CSR and CER incentives and other mechanisms for stimulating actions beyond compliance.

Strengthen supporting laws and regulations for implementation of CER/CSR. Enhance coordination of *Corporation Law*, *Environmental Protection Law*, *Consumers Rights Protection Law* and *Labor Law*, increase punishment of enterprises not in compliance with the laws and regulations; promote establishment of local environmental protection courts and improve relevant juridical practices; support environmental public litigation and enable the supervision function of social organizations.

Actively construct the financial investment environment to promote CER/CSR. Promote green investment and credit, for example, through establishment of investment funds that can provide interest discounts or subsidies to enterprises with good CER/CSR performance. Provide priority government procurement support to enterprises with good CER/CSR performance.

Government should give priority to public policies that provide incentives for SMEs to fulfill CER/CSR. In addition, government should pay attention to policy and capacity building for Chinese overseas enterprises to meet CER/CSR requirements. Specific attention needs to be paid to cultural differences in terms of local expectations abroad about corporate responsibility and performance.

(4) Improve information disclosure systems of CSR and CER performance to increase transparency.

1) Increase the extent of enterprise's environmental information disclosure. Build a tracking system for enterprise social and environmental information; pay attention to environmental information storage, processing and analysis; regulate enterprise environmental information disclosure; and improve rewards and penalty measures for enterprise information disclosure.

2) Develop sectoral reporting requirements based on industrial characteristics.

3) Promote industrial associations to build an information platform on Chinese firms' CER/CSR implementation record.

RECOMMENDATION 4. Promote active roles of media and public participation in order to turn social concern for environment into a driving force for green development

The public is the major and essential stakeholder in Ecological Civilization construction, and is the direct beneficiary of green transformation of economy and environmental quality improvement. China's Ecological Civilization will lay a solid foundation and make sustainable progress only when it is widely and effectively supported by the public. While facing the growing public concerns and inspirations on environmental issues, the government is not yet well prepared to transform the public concerns and inspirations into an orderly and rational public participation. There is an urgent need to enhance government functional shifts and capacity building on environmental education, knowledge dissemination, information disclosure and emergency response so that the roles of media (especially new media) can be fully realized. Therefore, CCICED recommends:

(1) Improvements to the institutional system in order to promote legitimate, orderly and rational public participation.

- 1) Develop measures and mechanisms for early engagement, transparent and effective public participation in planning and project decisions. Effective public participation in early stages will contribute to green development, reduce social conflicts and improve decision-making and its social acceptance.
- 2) Develop a more complete emergency response system for environmental accidents and mass incidents. First, ensure rapid information disclosure and transparency. This includes timely and accurate information provided to media (traditional and new media), online information disclosure tools that the public can access, response guidelines, process transparency, and relevant risk information. Second, provide rational access and channels for public opinion expression. Related laws and regulations need to be issued to encourage and protect whistleblowers, and to ensure that environmental issues, accident and emergency are reported without delay.
- 3) Support development of environmental NGOs. Simplify registration procedures for NGOs and non-corporate social groups, encourage their development and growth; actively guide and standardize the development of different public environmental organizations, give full play of industrial associations in environmental protection, actively encourage and lead environmental organizations and urban/rural communities engaging in environmental protection.

(2) Promote implementation and completion of environmental information disclosure systems.

- 1) Further improve and implement environmental information disclosure systems. Providing real-time and reliable information will help produce better decision and improve public support to government decisions. Integrate currently scattered environmental information and data in different institutions and departments, and develop an accessible national environmental information and data system. Based on the experience gained in implementing *Government Information Disclosure Regulation* issued in 2008, effort needs to be made to develop an information disclosure law. With such a law, the government needs to ensure the right of the

public to timely access of information, to embrace the principles of the 1992 *Rio Declaration on Environment and Development*, and to ensure the public can obtain information in line with common international standards.

- 2) Develop a pollutant inventory for industrial point sources and other emission sources, and improve monitoring capacity and transparency of pollution data. Development of pollutant inventory can draw on experience of the *Pollutant Release and Transfer Register (PRTR)* now in use in many countries. Such a system could initially be piloted in the chemical industry within China, which has had many mass incidents due to high levels of public concern.

(3) Enhance the role of media to form a communication and education system promoting green development.

- 1) Enhance the utilization of new media platforms and public information dissemination activities for green development. New media technology can be more widely used to provide open, detailed, accurate and real-time environmental information and to establish an important platform for collecting public opinions on environmental and development decision-making. Media's social responsibility needs to be enhanced to ensure information authenticity and accuracy.
- 2) Strengthen the environment and green development information dissemination and education systems. Establish specific working organizations and mechanisms for environmental strategy dissemination and public participation to study and predict environmental hot topics for a certain period of time or more generally in the future, and to promote public participation and public acceptance of environmental decisions.

RECOMMENDATION 5. Pay high attention to resource and environment challenges in the process of urbanization, and explore paths to green urbanization including urban green transportation

Urbanization is an opportunity because people's needs can be met more efficiently in urban areas than in rural areas. Cities are the drivers of economic growth but great care is required to ensure that cities remain or become attractive places to live and work. It is predicted that permanent urban residents in China will reach 1 billion and China's urbanization rate will reach around 70% in the coming two decades. About 300 million people will emigrate from rural area into cities. Undoubtedly, this will make many problems become more prominent, such as mismatches in the spatial distribution of urbanization and resource capacity, and other resource and environmental constraints. Thus, the Government of China needs to pay high attention to the environment risks in the coming new round of urbanization. Therefore, CCICED recommends:

- (1) Develop urbanization systems and layout in line with resource and environmental capacity.**

Strictly control the scale of cities in defined urban areas of the *National Main Functional Zoning Plan*; optimize layout of urban development; and promote coordinated development of cities and small-towns. Place special emphasis on urbanization quality in the rapid development pattern now occurring in Western China. Maintain and reserve adequate ecological spaces, properly handle the relationships among urbanization, new countryside construction, and ecological service and nature reserves, and encourage the adoption of “*compact and multi-centred*” city plans.

(2) Accelerate adoption of an integrated and sustainable urban master plan.

Such a master plan is an important measure to integrate environment elements into urban space, with rational allocation and use of local resources and environments. Expand the scope of pilot demonstrations for creation of urban environment master plans, and establish/improve standards, specifications and an institutional system for these plans.

(3) Improve urban resource and energy efficiency.

Urbanization should facilitate sustainable production and consumption to minimize environmental impacts. Actively promote green building standards, green architecture design and green community construction. Vigorously promote green transportation, enforce urban energy and water conservation management, and increase usage of renewable energy as much as possible.

(4) Build urban environmental infrastructure along with urbanization process.

Construct environmental infrastructure such as waste water treatment, solid waste separation, collection and disposal facilities and hazardous waste management facilities according to population and urban function layout. Enhance operation management of urban environment infrastructure.

(5) Encourage and promote urban green travel.

China’s urban transport systems are presently on the wrong course—leading towards low density and socially divisive car dependency. The government should urgently address the promotion of urban green travel as part of the necessary transformation of China’s urban development strategies; and facilitate establishment of a modern, low emission, and high efficiency green public transport system. This requires attention to cross-sector coordination and cooperation for better designed policies of car usage and public transport development; strengthening of the ability of the central government to encourage and pressure local governments to develop urban green travel through financial leverage and other means; providing clear guidance for Chinese cities to promote green travel; and enhancing local governments’ capacity to finance, supervise and assess the urban transport system.

- 1) Develop the ‘Outline of China Urban Green Travel Implementation’. Speed up developing or amending Urban Public Transport and Chinese Cleaner Air Act; carry out pilot projects to promote urban green travel and build a modern urban green transport system with Chinese characteristics.

- 2) Formulate 'Policy Guidelines for the Rational Use of Vehicles and Road Space' to reduce congestion and air pollution. Road user charges should be encouraged in congested areas in mega cities, and greater limitations on car ownership should be implemented.
- 3) Support investment in urban green transport to raise sufficient and sustainable local sources of revenue to fund local public transport companies. The Central Government should establish a management system for the central fiscal fund that promotes green travel as well as monitor and appraise the usage of the fund, for example shifting the fuel tax collection from a fixed amount of tax to an *ad valorem* basis, so that fuel tax income increases as fuel prices rise.
- 4) The state and city administrations should be required to ensure cross ministry/department policy coordination, as well as enhanced performance appraisal and management accountability. Public participation should be encouraged. Set up a coordinating mechanism to promote urban green travel.

IV. Meeting with Premier Li Keqiang

On 14 November 2013, the second day of the AGM, China's Premier **Li Keqiang** welcomed a group of international members of CCICED at the Great Hall of the People. The CCICED representatives who spoke during the meeting were International Executive Vice Chairperson **Peter Kent**, Vice Chairperson **Achim Steiner**, and members **Kristalina Georgieva** and **Jim Leape**. Here is a summary of their exchange:

Premier Li Keqiang: It is a great pleasure to meet you, Mr. Kent, and other friends of CCICED. In the past I attended and addressed the annual conferences of the China Council on many occasions. It is a great pleasure to see my old friends today.

You have all made active contributions to promoting China's development, in particular China's progress in protecting the environment. So on behalf of the Chinese government, I wish to express our high appreciation for all your active contributions, and express a warm welcome to all of you who have come from afar.

Peter Kent: Thank you, Mr. Premier. It's good to see you again. Thank you for your hospitality this afternoon. Let me first congratulate you on behalf of the China Council on your appointment. We look forward to continuing the CCICED tradition of meeting each year to discuss our recommendations.

It is very timely that the China Council's meeting is being held so soon after the Third Plenum. We applaud the outcomes regarding economic, social, and environmental reforms, and we commend the progress that the government of China has made in addressing the many environmental challenges it faces.

Likewise, Mr. Premier, we are very impressed by the comprehensive *Air Pollution Prevention Action Plan*. The same type of action plans, we believe, are needed to address water pollution and contamination.

This year the Council's work has focused on Environment and Society for Green Development. We believe China is genuinely at a crossroads where both citizens and government agree that environment and development relationships must be reformed.

Successful transformative change, we believe, depends on full engagement of the people. Hence your government's call for China's citizens to take a larger role in supervision of development is laudable. Public participation can turn a social power into a driving force, we believe, for green development. Also, the great opportunity at hand is to rebuild trust that has been diminished in matters such as food safety and air and water pollution. This requires a strong commitment, we believe, to awareness and to education related to green development.

This situation would be helped, we suggest, by having government release in-depth, accurate information about environmental matters as the routine or the default case. There could also be more effective use, perhaps, of social media, and other means on the part of the government to ensure that people do have good outlets to express their views.

Premier Li, we have identified two key areas where new national strategies, we believe, should be established.

First, there is an urgent need to promote sustainable consumption on the part of China's citizens. Particularly important is to reach the hundreds of millions comprising China's growing middle class. Their consumer choices will determine whether China can indeed build an ecological civilization.

Second, both state-owned enterprises and private firms, we believe, should play a much greater role in green development and environmental protection. A national strategy toward corporate social and corporate environmental responsibility is needed. Voluntary action is too slow at the moment, and the situation, we believe, is unlikely to change without some greater level of guidance.

Mr. Premier, the China Council believes the time is short to address the challenges of environment and development. We therefore recommend speeding up institutional innovation and implementation of ecological civilization. These actions, we believe, will establish a stronger basis for green development, and a more harmonious relationship of environment and society.

Finally, a specific recommendation stands out for its simplicity — but also for its potentially strong message. We suggest changing the name of the 13th Five-Year Plan to become the National Economic, Social, and Environmental Protection [sic] Development Plan, and to make a similar adjustment for the report to the NPC.

Mr. Premier, with your permission I would like to invite three of my colleagues on the China Council to offer their perspectives. First, Mr. Achim Steiner, who is the UNEP Executive Director and CCICED Vice Chairperson.

Achim Steiner: Mr. Premier, our meeting has coincided with the conclusion of your plenary meeting of the CPC. One of the core messages to emerge from that has been ecological civilization, the green economy, environmental protection, and it is one that we all in the Council believe to be a central concept that will drive development choices in China — but also one that offers to the discussion about development globally a very exciting prospect.

The focus that you have provided to this discussion about future development, and through ecological civilization, is one that also the international community at the moment, at the level of the UN, is very much seized by as it searches for a new development agenda, post 2015, as we negotiate sustainable development goals, as we also negotiate international climate agreements. And I believe that through the notion of ecological civilization you will offer also to these debates a new impulse that I think the international community will hopefully be able to pick up, because it will help us integrate what internationally is often discussed under the theme of sustainable development and its three dimensions. Today is not the time to go deeper, but we certainly as Council members believe that this discussion and articulation and implementation of this concept in China is very exciting.

Peter Kent: Next, I introduce Ms Kristalina Georgieva, the EU Commissioner for International Cooperation, Humanitarian Aid, and Crisis Response.

Kristalina Georgieva: Mr. Premier, like my colleagues here I am greatly honored to be a member of the Council at this moment of time, of significant change you are undertaking through a comprehensive reform program, for the benefit of the Chinese people and for a beautiful China.

Like you, we in Europe embrace green development and the decisive role of markets to lead us toward it. In our discussions in the Council we particularly emphasized the importance of innovative market instruments to underpin green urbanization, and to bring a quick shift towards green urban travel — so important for the future of China and for the well-being of the Chinese people.

In Europe we have beautiful green cities — and we have some cities that are not great to live in, not so beautiful. And what makes the difference between the beautiful and the ugly are two things. First is a commitment and determination at leadership level for a long time to lead toward sustainable green cities. Second, the delegation to the city mayors the authority to apply market-based instruments to direct green development.

And of course we would be very happy to share the good and the bad with you, and would be very interested to learn from your experience in the future.

Peter Kent: Mr. James Leape, Director General of the World Wildlife Fund.

Jim Leape: Thank you, Mr. Premier, for meeting with us. WWF has worked in China for 30 years, and we have been a part of the China Council since it was formed more than 20 years ago.

As I think you have noted, the China Council is a unique forum for bringing international experience to China — but also for bringing the experience of China to the rest of the world. As China defines what it means to become an ecological civilization, I think the role of the Council is more important than ever, giving meaning to that term here in China, and also looking at what it means for China's investment and trade with the rest of the world.

I want to highlight two aspects of the work the Council has done in recent years that are important, I think, for what we can do going forward.

The first is the focus on low-carbon cities — building on what Commissioner Georgieva has already said — especially when we are going into international negotiations on climate change. Highlighting the bold action that some cities are taking in China to move toward a low-carbon future and looking at how that can be rolled out to other parts of the country is crucially important. You see cities that are moving strongly on efficiency, renewable energy, and even on capping coal, and all of those innovations have real potential for broader application.

The second point is that even as most of us live in cities, we still depend on healthy forests, healthy wetlands, healthy rivers to sustain us. So surely the foundation of an ecological civilization depends on valuing those ecosystem services. I think there is a lot of work to be done to figure out how those services can be brought meaningfully into economic decision making. And that is an area where the Council can make a difference.

Premier Li: I want to first thank Mr. Kent, Mr. Steiner, Madame Georgieva, and Mr. Leape for your inputs. And I appreciate the fact that you used just a few minutes to contribute your very valuable ideas and suggestions for the Chinese government. However due to time constraints it is impossible for me to listen to other friends speak today, but I am sure that you all have very insightful views on how China can promote green development, and I hope you will share them with us by other means.

Here I want to emphasize that China has come to a crucial stage where sustained and healthy economic growth can only be achieved with economic transformation and upgrading. It is essential for us to conserve energy, protect the environment, break the bottleneck of resource and energy supply, and address air, water, and soil pollution in order to ensure the health and safety of our people.

China is the largest developing country in the world. Therefore China still needs to continue to develop itself. But environmental protection is acquiring a greater role and significance in pursuing development, and it has significant impact on pursuit of sustainable growth. As China becomes a middle-income country, there is a rising call and higher expectation on the part of the Chinese public for higher quality of the environment.

As a member of the international community, and a big developing country, China must fulfill its share of international responsibility and work with the rest of the international community to tackle such challenges as climate change.

The Chinese government is fully committed to conserving the environment, and in particular tackling the challenge of pollution. You may know that in the first half of this year, the Chinese economy came under tremendous downward pressure, and there was talk in the international community of a possible “hard landing” of the Chinese economy. Well, we took focused steps to keep the economic operation on an even keel, and in spite of the tremendous downward pressure on economic growth, we still resolutely introduced a host of measures to protect the environment, including specific steps for pollution control. For example, we have worked to keep our public better informed of the PM_{2.5} situation, and we have taken integrated steps to tackle air pollution in Beijing and surrounding areas. As far as I know, China is probably the first developing country to make PM_{2.5} control one of its priority tasks in environmental protection.

I believe these measures demonstrate the resolve on the part of the Chinese government, and in this process the government has also — as Mr. Kent suggested — galvanized the private sector players to participate in this campaign.

At the same time, the new Chinese government has also taken steps to streamline

administration and delegate powers to lower authorities, in the hope of giving more play to the role of the market in this process. This has been a crucial part of our reform agenda. It can also be called the very first move that the new government took.

It is the requirement of the central government that what should be left to the market should be truly given to the market. This is to galvanize further dynamism of the market, and in this way the central government can better concentrate its energy on creating a level playing field and strengthening its law-based supervision over the market.

The local governments have been required not to run their own companies in the future any more. Rather, their main function is to create a fair-competition market environment, and in particular step up their supervision and regulation over those companies which have not complied with the pollution control regulations, which are actually competing in an unfair way.

As the government reduces its intervention into the micro-economic activities as much as possible, it will be putting the government in a good position to do as much as it can to step up the supervision for a level playing field in the market and ensuring the full implementation of all environment-related laws and regulations.

The government needs to ensure that the laws and regulations will be enforced in a fair way, and ensure that those companies which discharge pollution will bear their due share of cost — even unbearable cost. By streamlining administration, delegating powers to lower authorities, and stimulating the dynamism of the market, the government will also play a better role in helping those companies use more market instruments and tools to grow in strength in the course of fair competition.

We have come to recognize that there is a huge market in China for pursuing green development, particularly growing those energy-conserving and environmentally friendly industries. They themselves represent a strong driving force of economic development. Therefore, at a time when the Chinese economy was under downward pressure, the central government introduced policies and measures to strengthen the development of energy-saving and environmentally friendly industries, in the hope that these industries will get stronger in the years ahead and become a pillar in driving economic growth.

We have taken the decision that we will introduce private capital into the running of some public utilities, such as the treatment of sewage or wastewater, and we will also open up the running and operation of some franchises to the private capital and private sector players. We are also exploring the possibility of opening up the infrastructure development concerning those environmentally friendly and energy-conserving products and industries to foreign countries.

The entire mankind has but one earth, our common home. I believe it is essential for the international community to enhance exchange and cooperation of ideas, technologies, and industries to jointly pursue green development. I believe that is highly significant for China, a big developing country in the course of modernization.

I want to thank you all for your active part in the China Council, and I express my

appreciation to all of you for your insightful views and ideas about how China can achieve environmental protection and build ecological conservation in the pursuit of its development agenda. I hope there can be even closer cooperation between the two sides in the future. And let me send my congratulations on a very productive AGM for the Council this year.

Peter Kent: Thank you, Mr. Premier. I can assure you that the international members of the China Council stand ready to work with you over the years ahead to assist in fulfilling the expectations of the ecological civilization.

Issues Paper

Environment and Society

(November, 2013)

I. INTRODUCTION

This year marks the start of new leadership for China's government, and the mid-point of the 12th Five Year Plan for social and economic development. Indicators point to China being able to meet its ambitious GDP goals for a 'moderately well off society' by 2020. There will be substantial improvement towards education, and some health and other social development goals. And China will continue along its dramatic path towards rapid urbanization. Yet despite bold development plans, China is caught in a serious situation of environmental challenge, as the smog situation in many cities revealed this year. It is a challenge of governance and therefore of government at national and local levels, since it has the potential to destabilize development plans and their outcomes, to undermine confidence and trust on the part of citizens, to affect quality of life at a time of rising expectations, and to degrade ecological services needed for society to thrive.

Substantial investment on environmental protection has already taken place¹ but still not enough to turn the curve towards consistent environmental improvement. At the same time, emerging pressures from both new and existing types of development, climate change, and rising domestic consumption are setting off new alarm bells. In particular, institutional and management strengthening for a sustainable relationship between the natural environment and society have not kept up with the pace of economic growth and development.

China has made important technological and managerial strides towards new solutions for environment and development, many of which will become very important in the middle term, between 2015 and 2030. Even more significant, however, is what remains to be done for creating a satisfactory relationship between environment and society within China, and in the country's international relationships.

In November 2012 at the CPC 18th Party Congress, the idea of Ecological Civilization was incorporated into the meeting report and enshrined into the newly revised Constitution of the Party, and at the same time accelerated action for environmental improvement was called for.² In March 2013 at the National People's Congress renewal of government, these points were again emphasized. Thus China is now at an important

¹ For examples of progress on environmental protection see the Ministry of Environmental Protection. *2012 Report on the State of the Environment Report in China*, and China Forum of Environmental Journalists. *China Environment Yearbook 2012*.

² See Meng Si. 2012. *An Insight into the Green Vocabulary of the Chinese Communist Party*. in china dialogue (<https://www.chinadialogue.net/article/show/single/en/5339>) for an explanation of various significant environment and development terms including Ecological Civilization; also see the CCICED 2008 Issues Paper. *Environment and Development for a Harmonious Society*. 26 pp.

crossroads along the path towards sustainable development.

How can Chinese society move towards becoming one that has a deep respect for nature and ecological systems, while fully meeting human needs? This is the fundamental question driving the idea of Ecological Civilization, now placed as one of the five most important policy areas for the country (along with social progress, economic progress, political progress and culture). Ecological Civilization is part of the larger vision for China's future. This larger vision promoted by President Xi Jinping is the 'China Dream': for Chinese society, especially its younger members, to rejuvenate the nation along the lines of *socialism with Chinese characteristics*.

According to the China watcher Robert Lawrence Kuhn, the Dream *has four parts: strong China (economically, politically, diplomatically, scientifically, and militarily); Civilized China (equity and fairness, rich culture, high morals); Harmonious China (amity among social classes); Beautiful China (healthy environment, low pollution)*.³ Another view, with apparently strong support in China, is from Peggy Liu, co-founder of the NGO JUCCE⁴ established to address the sustainability aspects of the Chinese Dream. As she indicates,

*China's middle class will grow from 300 million today to 800 million by 2025 and the country could shift from 'made in China' status to 'consumed in China'...The China dream realigns success with a healthy and fulfilling way of life — living more, rather than just having more. It promotes a sustainable lifestyle, but is not explicitly green...For China, this is no time for incrementalism. It needs to steer the emerging middle class to greener pastures before they develop the unsustainable tastes and habits of the western middle classes...China is unique because the government can help push behaviour change with local policies. The China dream offers a new model of prosperity that can spark sustainable consumerism in countries around the world.*⁵

Unquestionably, people's behavior and perhaps their values are being drastically reshaped by new needs and aspirations as China transitions into a consumer-oriented largely urban society with a rising middle class and citizens well-connected via social media. These observations suggest that even as transformative structural changes occur in China's economy, it is social change that will require ever more attention.

By comparison to extensive efforts over the past two decades to examine environment and economy relationships, fewer CCICED studies have focused on social and environmental linkages, even though many of the CCICED research teams have made socially relevant recommendations such as the need for greater public participation in

³<https://globalbalita.com/2013/06/12/what-exactly-is-the-china-dream/>

⁴<http://jucce.org/chinadream>

⁵Peggy Liu. Guardian Professional Network. 13 June 2012. *China Dream: a Lifestyle Movement with Sustainability at Its Heart*. <http://www.theguardian.com/sustainable-business/china-dream-sustainable-living-behaviour-change/print>

environmental decisions. Therefore, it is timely for CCICED to examine how social change will influence environmental progress, and how environmental considerations are likely to influence social development and progress.

The 2013 research studies examine how social development might improve environmental protection, contribute to improved green development and meet expectations for China's Ecological Civilization. The studies also consider the other side of the relationship—how improvements in environment and development can enhance China's social development and related matters such as implementation of the rule of law, health of people, and overall quality of life for citizens. The studies include two task forces (TF) and three special policy studies (SPS):

- China Environmental Protection and Social Development TF.
- Sustainable Consumption and Green Development TF.
- Media and Public Participation Policies on Promoting China's Green Development SPS.
- Corporate Social Responsibility in Green Development in China SPS.
- Promoting Urban Green Travel SPS.

This Issues Paper⁶ tackles the overarching 2013 CCICED AGM theme of Environment and Society. Much has been written on this topic, with many controversies, including Malthusian views on population growth, the 'Tragedy of the Commons', the 'Environmental Kuznets Curve', and views about human impacts on climate change. Environment and Society is the basis of a variety of discipline and interdisciplinary fields including environmental ethics, environmental health, human ecology, ecological anthropology, and human geography, to name but a few. There are many interesting compilations⁷ including books on environmental history⁸ and much has been written on China and other parts of Asia⁹. However, unifying theory on environment and society is lacking—and perhaps always will be—since the topic is so wide-ranging in scope.

II. INTERNATIONAL SITUATION IN 2013

⁶The Issues Paper is prepared each year by the CCICED Chief Advisors, Arthur Hanson and Shen Guofang with inputs from the Chief Advisors Group and from others.

⁷See, for example, John Walsh. 2007. *Encyclopedia of Environment and Society*. Sage Publications.5 Volume Set, 2105 pp.; Paul Robbins, John Hintz, and Sarah A. Moore. 2010. *Environment and Society: A Critical Introduction*. Wiley-Blackwell.312 pp.; Stewart Barr. 2008. *Environment and Society: Citizens, Culture and Nature*. Ashgate Studies in Environmental Policy and Practice.

⁸Jared Diamond. 2005. *Collapse: How Societies Choose to Fail or Succeed*. Penguin Books.575 pp.; A.W. Crosby. 2004. *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*.(Studies in Environment and History).Cambridge University Press.390 pp.; Clive Ponting. 2007. *A New Green History of the World: The Environment and the Collapse of Great Civilizations*. Penguin Books.464 pp.

⁹R.B. Marks. 2011. *China: Its Environment and History*. Rowman& Littlefield.464 pp.; Bryan Tilt. 2009. *The Struggle for Sustainability in Rural China: Environmental Values and Civil Society*. Columbia University Press.216 pp.; Mark Elvin. 2006. *The Retreat of the Elephants: An Environmental History of China*. Yale University Press.592 pp.; Association of Academies of Sciences in Asia (AASA). 2011. *Towards a Sustainable Asia. The Cultural Perspectives*. Science Press Beijing and Springer.93 pp.; Ma Jianbo. 2013. *The Land Development Game in China*. Lexington Books.267 pp.; Michael J. Hathaway. 2013. *Environmental Winds - Making the Global in Southwest China*. University of California Press. 272 pp.

With the world's economy still in a recovery phase, back-pedaling on environmental ambitions and commitments might seem almost inevitable. However China has expanded its efforts—not only in fields such as water and sanitation improvements, but also for investment in environmental technology innovation and in many other environmental fields—in the expectation that transformative change can occur for both environment and economy, situating China well for building future competitiveness and for achieving better environmental conditions.

Yet China has garnered considerable international attention with the unprecedented level of smog in a number of cities from January 2013 onward, leading to a considerable outpouring of public concern and the focused attention of the central government, with a ten-point national action plan on this subject issued in September 2013.¹⁰ The smog problem and high levels of awareness about the dangers of PM2.5 crossed a certain line in the bond of trust between the government and citizens in China. This one problem has become symbolic of much broader environmental challenge within China. It is affecting international perceptions of China's efforts on environment and development.

In many parts of the world, despite economic turmoil, there are some grounds for optimism. In many OECD countries, a quiet green revolution is underway as new technologies mature and is entering into many sectors, including more types of hybrid and electrical vehicles, emissions reduction efforts in ocean shipping, power grids capable of accepting more inputs from renewable energy sources, green buildings, and more consumer products with reduced life cycle environmental costs. In Europe¹¹ and the USA¹² pollution reduction progress continues. But there are important exceptions.

Internationally, greenhouse gas reduction has not seen hoped for breakthroughs, and the slow progress on adoption of carbon tax and carbon emissions trading schemes has been problematic.¹³ As noted recently by the OECD Secretary-General,¹⁴ there is a need for much greater action on pricing carbon in order to achieve zero net emissions from fossil fuels quickly. The arguments relate directly to accommodating 2-3 billion more people on our planet and to protecting the world's ecology. In addition he has noted immediately pressing needs related to local impacts, for example in China on health and environment. The mounting insurance bills and social costs associated with weather disasters and other signs of climate extremes are sending a strong signal in a number of countries.

Globally, preparations for the post-2015 sustainable development agenda are addressing a strengthened focus on poverty reduction and an inclusive approach to sustainable development especially for the poorest, with integrated approaches to environment,

¹⁰http://english.mep.gov.cn/News_service/infocus/201309/t20130924_260707.htm

¹¹EEA. 2013. *Towards a Green Economy in Europe – EU Environmental Policy Targets and Objectives 2010 – 2050*. European Environment

Agency. <http://www.eea.europa.eu/publications/towards-a-green-economy-in-europe>

¹²<http://science.house.gov/hearing/subcommittee-environment-state-environment-evaluating-progress-and-priorities>

¹³OECD. 2013. *Climate and Carbon: Aligning Prices and Policies*.

<http://www.oecd.org/environment/climate-carbon.htm>

¹⁴ Lecture by Mr. Angel Gurría, London, 9 October 2013. *The Climate Challenge: Achieving Zero Emissions*. <http://www.oecd.org/env/the-climate-challenge-achieving-zero-emissions.htm>

economy and social aspects, and with sustainable patterns of consumption and production, as noted in the report of the UN High Level Panel on the Post-2015 Development Agenda.¹⁵ This general approach is also endorsed by the G20 in its development priorities. In addition, the G20 believes an agreed outcome “with legal force” applicable for all Parties to the Climate Change Convention COP should be in place by 2015. The G20 continue to place major emphasis on inclusive green growth focused on energy efficiency, clean energy technologies and energy security, with additional effort towards phasing out of fossil fuel subsidies.¹⁶ A Green Growth Action Alliance has started to bring private investment into the G20 activities.¹⁷ The 2013 Intergovernmental Panel on Climate Change (IPCC) report more definitively than ever has set out warnings regarding future trajectories if sufficient action is not taken.¹⁸

III. A NEW ERA IN CHINA BUT LEGACY ISSUES REMAIN

1. Ecological Civilization, Green Development and Environmental Protection

Ecological Civilization is a phrase uniquely Chinese but it has garnered considerable international interest since being mainstreamed into policy discussions this past year. It is discussed widely, with various major conferences¹⁹ in China on the subject, and with research and pilot activities. As noted by Professor Shen Guofang²⁰, it is a term that *has its own rich and in-depth meanings, that is a genuine innovation of the Chinese Government and for which there is no precedent in other countries to pay so high attention to ecological conservation and environmental protection*. It is indeed an aspirational goal, but there are already efforts underway to understand how its implementation can occur and how progress towards Ecological Civilization might be measured. Ecological Civilization might be considered a top tier policy subject, even though the thoughts and actions can be generated and carried out at any level within society and at local as well as national levels of government.

In his speeches, President Xi Jinping has noted some fundamental observations for building Ecological Civilization. Most importantly, that *economic development determines people’s living standard while environmental quality is a prerequisite for man’s survival*. The following points provide guidance on key requirements.²¹

¹⁵A *New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development*. <http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf>

¹⁶ Saint Petersburg G20 Leaders Summit 5-6 September 2013.

<http://climate-l.iisd.org/news/g20-leaders-adopt-declaration-action-plan/>

¹⁷<http://www.weforum.org/reports/green-growth-action-alliance-progress-report-first-year-catalysing-private-investment>

¹⁸IPCC. September 2013. *Climate Change 2013. The Physical Science Basis*. <http://www.ipcc.ch/report/ar5/wg1/#.UISVDxaQsqg>

¹⁹ A prominent example is the Eco-Forum Global Annual Conference held in Guiyang City, July 2013. The CCICED 2013 Roundtable Forum was held in conjunction with this meeting.

²⁰*Importance shall be attached to the English translation of Sheng Tai Wen Ming*. CCICED Chinese Chief Advisor, December 2012.

²¹The observations are prepared by MEP Minister Zhou Shengxian in an article published on the MEP website, 9 February 2013, *Towards the New Era of Ecological Civilization—Studying the Important*

- *Respect nature, accommodate nature and protect nature.*
- *Give priority to protection and strive for economic development in the process of environmental protection and protect the environment in the course of economic development.*
- *We must firmly uphold the concept of ecological red line...and prepare a comprehensive scheme for maintaining the ecological red line and pay attention to enforcement.*
- *Explore a new path to environmental protection...learn from developed countries on pollution control...make innovation based on China's national conditions and stage of development and employ new thoughts and methods to conduct comprehensive treatment.*
- *Focusing on prominent environmental problems harming public health...achieve phased results and gradually improve environmental quality...we must also realize this will be a prolonged battle.*
- *Never should we take GDP growth as the biggest achievement...indicators on ecological civilization such as resource consumption, environmental damage and ecological benefits should be included in the social development assessment system and be given more weight.*
- *People who have made blind decisions without regard for the environment and caused serious consequences will be held responsible and even for a lifetime.*

It is remarkable how quickly the concept of Ecological Civilization has entered the vocabulary of China's environment and development. It has provided a strengthened opportunity for policy coordination; and the top political attention being given has already resulted in efforts throughout government and society to take this new idea seriously. Within China and internationally there is a sense that Ecological Civilization is an important opportunity for China to develop a unique pathway for development of high value to its own society and to people elsewhere.

There are two other levels of environment and development action that will help to fulfill expectations for Ecological Civilization.²² One level is the wide variety of sectoral actions and governance actions that will enable and enhance China's efforts for green development. These can be linked to global green economy, green growth and sustainable development. This will require enormous effort and fundamental transformations in China's investment directions, urbanization and rural development over the coming decades. Green development is the overarching theme of CCICED for its work during Phase 5.

At yet another level, but of course linked to Ecological Civilization and to green development, is the subject matter of an environmental protection agency and other relevant bodies. China's major efforts to date will require a more integrated approach

Statement by Comrade Xi Jinping on the Building of Ecological Civilization.
http://english.mep.gov.cn/Ministers/Activities/201309/t20130917_260331.htm

²² The three levels, Ecological Civilization, Green Development, and Environmental Protection, highlight different points of emphasis regarding policies and implementation actions. Further explanation is provided in a short paper by Arthur Hanson. January 2013. *China and Ecological Civilization*. 7 pp. CCICED.

tied to airsheds and watersheds, urban agglomerations, industrial sectors, and further improvements in protection for ecological services. It will be essential to stop further degradation and to address legacy issues related to soil pollution, marine and coastal development, and other pressing matters. For some matters, emergency action is needed, for example on regional air pollution for many parts of China. Transformative change related to bringing about a ‘New Path for Environmental Protection’²³ has started but is still inadequate in terms of the tools, capacity and, likely, the financing needed to bring about desired results. Inconsistent alignment among various development interests continues to hold back robust environmental protection progress.

2. China at a Crossroads for a New Environment and Society Relationship

Society within China is already at the point of achieving ‘moderately well off’ financial and other goals²⁴ by 2020 or before. For those areas in China not already at this stage of economic achievement, there is expanded economic development producing the very high GDP growth levels seen by richer coastal provinces until 2008. In some poorer areas with fragile ecosystems the accelerated pace of environmental impacts such as groundwater depletion and grassland degradation is troubling. However there are many efforts and progress to reconstruct damaged ecosystems and to create new livelihoods based on tourism or other sectors in provinces such as Guizhou, Xinjiang and Shaanxi.

Within the richer provinces, economic growth rates are falling, generally to below 8% but from much larger bases than 5 or 10 years ago. Yet from an environmental point of view, even these lower rates may still not be sustainable, as environmental issues are not only related to economic growth rate and scale, but also related to industrial structure, especially rising domestic consumption and lifestyle changes of people. Fortunately, substantial improvement towards education, health care access and other social development efforts are helping to improve economic efforts. Environmental quality has become a major concern since even when targets for pollution reduction are achieved, environmental quality does not improve due to complexity in the environmental pollution situation.

Political support is well enunciated but pathways for success are not well understood or sufficiently implemented, and mechanisms to reduce challenges and policy effectiveness continue to be blocked by special interests, slow movement on enforcement, implementation of important mechanisms and policies such as environmental taxation, subsidy removal, pricing and other economic incentive systems, plus other problems.

In many parts of the China social tensions are on the rise, in part due to perceptions and worries about development directions, and sometimes mixed with other concerns such as local corruption and wealth inequalities. The dramatic increase in social networking and the use of improved electronic communications to highlight what are often legitimate

²³http://www.cciced.net/enciced/event/AGM_1/2011agm/speeches2011/201205/P020120524356500627645.pdf

²⁴ The indicators are described in Xu Xianchun. 2009. *The System of Xiaokang Indicators: a Framework to Measure China's Progress*. Third OECD World Forum. Busan.9
pp.<http://www.oecd.org/site/progresskorea/44120516.pdf>

local concerns on the part of citizens is a subject of worry for China's government.

On the one hand, there are clear messages that the government wants to increase the participation of people in decisions affecting their quality of life, and in the supervision of government performance and project planning. As noted by President Xi, *Anyone who exercises power should serve the people, be accountable for the people and consciously accept supervision of the people.*²⁵ On the other hand, social stability continues to be a major concern, and so, for example, there have been recent efforts to put in place severe penalties for spreading of false information via the Internet.

The right to know—and to use that knowledge constructively; and the need to ensure China's continued effort to create new infrastructure and a modern society should be highly complementary objectives. However at present, it is still a struggle to achieve an optimum situation. China's continued effort to create a scientifically and technologically advanced society provides a great opportunity to expand public inputs into development decisions, but there should not be an expectation that disputes will disappear. There is a need to build stronger risk assessment, dispute resolution mechanisms and environmental rights.

With the new government policy focus on stimulating domestic consumption, urgent action on Corporate Social Responsibility (CSR) and on improved safety and environmental standards for products, are needed. These will assist in reducing excessive and environmentally damaging consumption in government procurement, in business, and in household consumption. China is close to crossing some important ecological footprint thresholds on supplying its needs from resources within the country and perhaps globally.²⁶

Sustainable consumption is largely new territory for policy makers, and indeed for Chinese businesses and consumers. This topic presents a major opportunity for linking Ecological Civilization and green development to purchasing decisions of people, businesses and government, and requires a major focus on green market supply chains. This aspect also has important implications for China's trade and *Going Out* efforts since sourcing of products beyond China's borders will require greater attention to full life cycles of products and greater participation in various programs of international certification and green standards. Sustainable consumption should be considered a huge opportunity for green development and for building an Ecological Civilization.

Shifts in approach for environmental protection are urgently required, although difficult to accomplish in terms of demonstrating rapid improvements to environmental quality outcomes. Renewed emphasis has been placed on control of basic air, water and soil pollution. Yet even as progress is made on some issues, new problems emerge, for example, the extent of groundwater pollution, and the changing sources and complexities of air pollution. The unprecedented level of new investments on action plans provides the timing and opportunity to accelerate the transition to the new path of environmental protection, including solutions to the following questions. Will the new investment be

²⁵http://news.xinhuanet.com/english/china/2013-01/22/c_132119843.htm

²⁶http://www.footprintnetwork.org/images/article_uploads/China_Ecological_Footprint_2012.pdf

efficiently and effectively managed to produce optimal results? Will potential co-benefits be proactively sought and optimized, for example to address greenhouse gases and to ensure public health is actually improved? Will long awaited changes to greater use of market-based instruments and green tax reform be implemented to the fullest extent?

The following issues quite clearly need to be dealt with, and might be considered as near-term and mid-term opportunities for the new administration.

- The targets-based approach to environmental protection needs to be shifted to scientifically substantiated outcomes/improvements based on environmental quality, quality of life, environmental health, and ecosystem health criteria.
- Another shift should be from reliance on local efforts to greater emphasis on ecologically sound regional efforts (especially air, water and soil pollution).
- New opportunities are required for ‘development supervision by the people’; these need to be based on much greater information transparency and participatory approaches, and to be linked to the current drive to eliminate corrupt practices.
- Since environmental damage has reached severe levels and cumulative ecological debt continues to grow, the investment to achieve green development must grow very substantially, probably to 10% or more of GDP when all sources of expenditures are considered, and be based on technical, social and governance innovation and administration.

These points will be considered in more detail at a later point in this Issues Paper.

3. Social Factors and Transformative Environment and Development Shifts

Consideration of social factors generally is dominated by the following issues and subjects: people’s perceptions and values; ethics; rights and obligations; inequalities; individual and institutional behavior; vulnerability, risk and public safety; quality of life; environment and security in wars and in disasters; poverty reduction; access to livelihoods; access to social benefits; freedom of choice; and fulfillment of ‘needs and wants’. Governance is shaped by social factors, with special emphasis on stakeholder relationships, access to services, transparency in decision-making and performance, perceived levels of honesty and trust, quality of government performance, and freedom from corruption.

This daunting list perhaps explains why the relationship between environment and society remains fraught with difficulties. Also, why tensions exist—not only in China but in most other countries—when it comes to matters such as siting of waste incinerators, environmental health concerns from pollution, or access to natural resource use; and on mechanisms for participation in planning decisions and for fair treatment and resolution of environmental complaints. While there is not full agreement on any single unifying theory²⁷, it is certainly possible to sketch out many of the important components of the

²⁷ Among various authors, Prof. Amartya Sen has produced perhaps the most significant theoretical concepts regarding social choice and other aspects of human development that are relevant to environment and society (see, for example, A. Sen. 2009. *The Idea of Justice*. The Belknap Press of Harvard University Press). Prof. Partha Dasgupta has examined the issues carefully in a related but distinctive way, for example,

environment and society relationship, and to consider and identify actual linkages and feedback loops.

3.1. Social Development in China

Social development is an essential element for sustainable development. Within China this relationship has been subject to much study including China Agenda 21, the series of China Human Development Reports, and work by leading Chinese academies and universities. Box 1 lists some key achievements in Chinese social development.

Box 1. Some important Chinese social development achievements

- Reduced population growth rate.
- Success in poverty reduction and many aspects of rural development.
- Increased lifespan and better access to health care; improvements to the social security net.
- Improvement of quality of life and economic status of most citizens.

- China's *Opening Up*, the loosening of travel restrictions for Chinese to travel abroad for pleasure, business and education, and the recent emphasis on *Going Out*, sometimes coupled with development assistance.

- Relative political stability and other factors that have permitted rapid economic development.
- Education and training for both present and future opportunities.
- Massive job creation, and opportunities for rural and urban private sector enterprises.
- Transportation infrastructure and improved mobility within China for people and for goods.
- Public environmental infrastructure including water, sewage and waste management
- Relatively successful large-scale urbanization.
- Food security.
- Improvements in workplace safety.
- Disaster prevention and mitigation.

- Extensive and partially successful programs for strengthening ecosystem services (forest, grasslands, wetlands) with eco-compensation for rural residents.

Despite the considerable progress in social development over the past several decades, some very important challenges remain. Among them are the following:

- **Social management policies**

in *Human Well-Being and the Natural Environment*. Oxford University Press, Rev. ed. 2004. Combining theory and experience from various parts of the world, Jeffrey Sachs has played a particularly important role in the Millennium Development Goals, and has worked to highlight key approaches, for example in his 2008 book *Common Wealth: Economics for a Crowded Planet*. Penguin Press.

- Adjustments to the One Child Policy.
- Urban residency requirements (*hukou* household registration system).
- Land ownership and usufructuary resource rights, especially in relation to rural residents and rural-urban migrants.
- Implications of an aging population.
- **Social safety net**
 - Basic social security still limited.
 - Public health and access to health care improving but limited measures to deal with environmental health issues, workplace safety, and inadequate monitoring for many concerns.
 - Education and training.
 - Job security and insecurity.
- **Information management and institutional freedom**
 - State secrecy requirements.
 - State propaganda bureaucracy.
 - Release of information on incidents, development approval processes, environmental decision-making, etc.
 - Media and communications.
 - Social media expansion and wide usage for social and environmental matters.
 - Monitoring and control over civil society organizations; activities of philanthropic and charitable organizations, and role of local and national social and environmental organizations.

3.2. Social Factors and Environmental Improvements

Social factors generally are still not well understood in relation to Chinese efforts for environmental improvement. Internationally, the same might be said.

With China's great interest in building a harmonious society, there is a genuine need for deepening the public's knowledge of environmental science and for much greater transparency in decisions and accurate information on the state of the environment. These are prerequisites for improving public participation in development supervision, and also important in order to find out more from the public about future 'needs and wants' for a good quality of life. The emerging middle class in both cities and in rural areas is most important, for these are the people who may be most influential in creating the levels of consumption and type of lifestyle for a modern, or even post-modern China.

The transformative period ahead in China, with its many transitions such as rapid urbanization and introduction of new technologies, is likely to be messy with regard to social and environmental factors. Inequalities may persist, and possibly worsen in some ways. It cannot be presumed that sustainable consumption will unfold in a smooth way if governed by people's individual and household decisions alone. Already many people, particularly some in cities, are consuming energy and materials at very high levels. Along with many legitimate concerns about development impacts on the environment, there will be strong vested interests continuing to shape decisions locally and sometimes nationally towards their needs and concerns. NIMBY ('Not In My Backyard') campaigns will likely become more frequent, sometimes driven by perceived risks that may or may not be real.

There also will be disputes for which no environmental consensus may be possible, for example, regarding large hydro dams.

These observations are cautionary notes about social and environmental relationships, and raise the question about what level of disagreements and dissent should be recognized as legitimate in a harmonious society? In many countries, including a number of western societies, but also countries such as South Korea, India, South Africa, Costa Rica, Brazil and Indonesia, the threshold for tolerating dissent within the society has become quite high on addressing environmental protection and development concerns.

There are a variety of internationally well-tested approaches for considering social and environmental needs in planning and management, as noted in Box 2. China is engaged in most if not all of these approaches but not necessarily in a systemic fashion.

Box 2. Social and environmental planning and management approaches

<p>Basic Mechanisms</p> <ul style="list-style-type: none">• Public Participation in Decision-making• Disclosure• Stakeholder engagement• Consultation processes• Freedom from harassment and retribution• Access to complaint processes, legal remedies• Social communication and media <p>Shared Responsibilities in Governance and Management</p> <ul style="list-style-type: none">• Corporate Social Responsibility (CSR)• Co-management and community-based management• Citizen-based science and monitoring• Reporting and control of illegal activities• Voluntary efforts for environmental protection <p>Planning and Assessment</p> <ul style="list-style-type: none">• Environmental and social impact assessment• Risk management and disaster planning• Integrated urban and rural regional planning• Zoning, including ecological functional zoning• Red lining for food security and for ecological purposes <p>Sustainable consumption promotion and analysis</p> <ul style="list-style-type: none">• Shifts in consumer behavior via incentives, laws and voluntary action• Life cycle analysis of energy and material• Green market supply chains• Green certification

3.3. Successes and Challenges in Linking Environment and Social Development

It may be too early to say that the glass is half full with respect to improvements on addressing environment and social development issues in China. But certainly there are some very good results of initiatives in locations throughout the country. Yet there appear to be systemic issues that make it very difficult to achieve progress on some types of problems. Several examples are provided below.

Examples of successful interventions:

- Capacity of senior leaders to provide a coherent rationale and approach linking environment and social considerations, including Ecological Civilization, scientific development, low carbon economy.
- Circular Economy with changes to behavior of individuals, units of government, communities and enterprises towards resource conserving practices, and with major transformation of global recycling.
- Ecological Construction and Eco-compensation initiatives on reforestation and to a lesser extent for wetland reconstruction and grassland protection. Provision of social benefits to both local farmers and downstream inhabitants, with some biodiversity protection and improvement of upper watersheds and water basin resilience.
- Natural disaster planning and early warning action to reduce human injury and death toll from extreme weather events such as typhoons.
- Introduction of environmental amenities and other quality of life improvements in major cities, including green zones, better public transportation, waterway cleanups, etc., in some cities.
- Programs for cleaner rural energy and installation of biogas stoves and other means to improve indoor air quality in rural homes.

Examples of very challenging problems:

- Environmental enforcement programs have failed for a variety of reasons, but often because they have not provided sufficient incentive for enterprises to shift behavior.
- Programs working at cross-purposes, for example, incentives to purchase private automobiles and to use them extensively, while at the same time having inadequate measures to mitigate or contain the resulting smog and other environmental and social impacts.
- Integrated action plans to address environmental management have been put into place in river basins and in some marine subregions such as the Bohai Sea. However they have not curbed unsustainable practices, leading to a variety of serious pollution incidents (e.g., red tides in coastal areas, green algae in major lakes, loss of important species, such as dolphins in the Yangtze River).
- More efforts are needed to address the variety of problems nationwide related to soil pollution (full compensation, timely restoration).
- Emerging signs of chronic health and environment problems facing the public throughout China.
- Failure to alter sufficiently the ‘pollute first, cleanup later’ syndrome linked to very high rates of GDP growth.

- Limited success or effort to equip the public with programs providing necessary information and opportunities to take voluntary action for environmental improvements and for sustainable consumption.

3.4. Opportunities Ahead for China

A solid mix of opportunities for creating a new Environment and Society relationship exists, as noted in Box 3.

Box 3. Opportunities for strengthening links between Chinese social development and Ecological Civilization, green development and environmental protection

- Setting an overall vision for Ecological Civilization and building a relationship to social development aspirations that have been defined for the 12th FYP and beyond.
- Setting specific objectives for green development that can be related to social development sectors including public health, primary and secondary education, job training, and in major processes involving transformative change for people's perception and behavior, especially urbanization and displacement of rural communities.
- Strengthening public supervision role in overall development directions and for specific programs and projects, including addressing matters such as anti-corruption, poor planning, environment and social monitoring of projects, unjust practices by officials nationally or locally in the design and implementation of new initiatives.
- Further opening of public input channels for dealing with environmental and social impacts of development and to have improved mechanisms for addressing public discourse. Social media will continue to grow in significance in terms of their role for both environment and social development matters.
- Creating a more transparent information sharing system for environment and social information. The models of environmental and social information sharing in the USA and many other OECD countries can be examined for relevance to China's situation. There is a need for further relaxation of constraints placed upon Chinese media sources in their reporting of environment and social concerns. On occasion, they have shown a high level of competency in bringing forward some important environmental incidences and issues.
- Implementing better enabling measures for the creation and operation of Chinese civil society organizations that place a major emphasis on environment and social development concerns. These will take many forms, some with very specific objectives, others more general in nature. The process will be aided by responsible linkages and cooperation with international NGOs and professional organizations.
- Fostering CSR practices on the part of Chinese SOEs and private sector enterprises (including SMEs) whether their operations are in China, or include activities abroad through ODI and China's Going Out policy. This effort can be enhanced through enabling measures in laws and regulations, and through various incentives. However, CSR requires direct commitments by enterprises and their associations that should be done on a voluntary basis.

- Creating a national framework of certification and other measures such as product and production standards designed to promote sustainable consumption by households, and sustainable procurement practices by public institutions (hospitals, universities), government bodies, and by enterprises of all sorts. Although such efforts are underway within China, they are still nascent and not well backed up by governmental effort.
- Utilizing banks or other sources of credit as allies to help screen out initiatives inside and outside of China that are likely to have undesirable social or environmental consequences.
- Utilizing environmental improvements to a greater extent in poverty reduction programs, and making these efforts compatible with international post-2015 sustainable development goals, if these prove to be compatible with Chinese interests.

IV. POLICY AND IMPLEMENTATION ISSUES

1. Managing gaps of rising expectations, environmental perceptions and the reality of environmental conditions and problems in China. Even if China is able to significantly reduce the extent of such visible problems as smog and water pollution during the coming 5 years, which should be possible and certainly desirable, there is likely to be continued public discontent regarding environmental quality and livability within cities. There will be more NIMBY cases, reactions to inevitable environmental accidents and changing environmental conditions, and on-going concern about public health and environmental safety. No matter how much is invested in public education and awareness-raising, significant differences of perception will remain. Perceptual and conceptual differences in approach to environment are a normal part of the human condition as shaped by culture, strongly held values, history and past experiences and various other factors including income level and views about the governance system. For many if not most environmental matters there will be public views split into pro-development, development with restraints and safeguards, and anti-development. Many other countries have successfully dealt with such splits.

For development on the level of complexity, scale and rapidity in China there is no other country in the world that can serve as a comprehensive model for what will be required in the coming two decades and beyond. For this reason it is important for China to invest in an approach that will be unique but that draws upon experience from elsewhere. Ecological Civilization provides the opportunity to build a new approach that is indeed capable of dealing with the inevitable gaps that will persist regarding public understanding of environment and development issues, and the scientific, economic and other expert views shaping policy decisions.

Built into this new approach must be a larger window for the public into sometimes very detailed knowledge of issues, and more encouragement of peoples' participation in decision processes and follow-up monitoring. There is much to be done in the way of environmental education to ensure people are capable of understanding and participating. But given that much of the perceptual problem is tied up in trust-building and in raising credibility of both government and enterprises, there must be considerable tolerance of

divergent views; and with dialogue efforts that are seen to be productive by most people.

Many positive environmental actions beneficial to health and quality of life, and to protection of ecological systems and services, are possible. Determining the extent of investment needed should be well backed up by credible analysis in terms that are acceptable to stakeholders and to the public at large. This is a difficult task, as seen in many other countries trying, for example, to come to grips with climate change, or urban development, and where balancing public and private interests appear to clash, especially in the short term. Strong and consistent national approaches such as the Scandinavian countries have developed and applied provide good examples to consider.

2. Balancing traditional Chinese values, contemporary social values in China, and outside influences in seeking progress towards Ecological Civilization, green development and environmental protection. A society changing as fast as China's has during the past 3 decades, demands a remarkable level of resilience, but also can be expected to seek a reasonable balance in what it will desire from old and new. In its opening up, China has taken on board many of the most environmentally damaging approaches to development from abroad, including transportation infrastructure oriented to suburbanization; the tools of advertising that promote overconsumption; and many industrial enterprises that have not sufficiently respected nature or the health of people. On the other hand, the technology revolution in China has promoted communications and other innovation technologies in unprecedented ways. China also has joined many international accords regarding environment and development and these will help to shape future national action for sustainable development within China.

What is the right balance among these often-competing interests from today to 2020, 2030, and to 2050? The answers to this question are still fragmented, and tilted in favour of strong vested interests both within China and outside that seek either stability of existing but ultimately unsustainable practices such as rising fossil fuel use, or look for dramatically expanding markets for products such as automobiles and other consumer goods following western development patterns. As a result, putting it bluntly, what will differentiate a consumer in Shanghai in 2030 from one in Paris or Houston, or São Paulo?

The ideals from past centuries, including Confucian philosophy will undoubtedly be useful in shaping an improved environment and society relationships, for example, in the period to 2020 for the attainment of a Xiaokang Society. However, it is the shaping of contemporary social values through urban in-migration, education and access to social services, livelihood shifts, and the broadening travel and experience of Chinese citizens as they become wealthier that will likely play a crucial role.

3. Making environment and development governance more inclusive, effective and efficient. It has been pointed out that China's environmental crisis is actually a crisis of governance, since it reflects a falling trust level by people concerning whether government on its own can actually deliver satisfactory improvements in environmental conditions. Governance, of course, is a term that reflects relationships among stakeholders to address problems and therefore goes beyond the action of government. Thus improvement in governance must rely on mutual trust-building and people's

participation, greater sharing of responsibilities, for example between government and enterprises, better value for investment in environmental protection and restoration, and efficiency in the sense of not unnecessarily slowing development as a consequence of environmental improvement. None of these points are new, but they are taking on greater significance with the growing levels of both problems and actions to alleviate them.

Several topics stand out for concerted effort. More attention is needed on how to implement integrative approaches to address cross-sectoral conflict, and to optimize among varying development objectives. Solving the critical issue of local-national disconnects about the priority given to environmental matters compared to economic development is essential. There is no doubt that the concern over corruption and other issues of “clean government” are important regarding environmental matters. Many of these issues are linked to the current model of land transfers associated with urbanization. Environmental impact assessments and other planning efforts for regional development and projects must be done with considerably more transparency and with mechanisms that genuinely allow for peoples’ supervision. In the design of new green development, exemplary methods are required in order to build trust. What constitutes exemplary methods is a topic to be worked out jointly by stakeholders.

4. Linking transformative economic and social structural change with transformative environment action. The emphasis on China’s economic shift towards tertiary sector dominance, and domestic consumption, plus the accelerated pace of urbanization are very important points. However, they are not fully linked with the transformative change now underway on environmental protection mechanisms, and very likely also not to some aspects of green development.

China’s environmental protection is largely based on the feature of strong government intervention, and still does not fully embrace a market-based approach, while the current incomplete policy implementation and inadequate enforcement of command and control measures, throw confusion into the transformative economic and social reforms. Genuine progress towards significant improvement in environmental quality and quality of life will require moving environmental protection to an intersecting track with economic and social structural changes. This point has been made by CCICED a number of times in recent years, for example in its work on green economy and on low carbon industrialization in 2011, and in several studies reported in 2012.

Some good signals have been provided by President Xi Jinping and by Premier Li Keqiang, and in the New Path for Environmental Protection enunciated by MEP Minister Zhou Shengxian. The tasks, however, are complex and appear difficult to be brought forward in a comprehensive way. They include, among others the following key areas: fundamental green tax and subsidy reform; widespread implementation of CSR among industries, the energy sector, the financial sector and other sectors such as information technology, mineral development, tourism and agri-business; a robust approach to green market supply chains including greater effort to build credible certification and effective means of green public procurement; and better options for environmentally-sound consumer choices. Some of these points are amplified in the issues noted below.

5. Implementing comprehensive fiscal and tax reform for Ecological Civilization, green development and environmental protection. Although such reforms have been proposed to China by many groups within China, and by some international organizations such as the World Bank, Asian Development Bank, OECD, and by CCICED, implementation has been slow. The moment never appears to be quite right. Now the stakes are higher. In part this is a result of better understanding of problems, and the recognition that incentives are required for action. Furthermore, the costs of inaction in terms of health and loss of ecological services are being measured more carefully. As well, there are questions about the efficiency and effectiveness of traditional regulatory provisions that rely upon expensive command and control laws, even though these are still needed.

The most important new point to emphasize is the great opportunity to expand benefits of fiscal and tax reform as a result of dealing with all three aspects, Ecological Civilization, green development and environmental protection in a common framework where there can be co-benefits and greater efficiency using such measures. For example, if there were a shift away from sale and conversion of land as a means of funding current expenditures by city governments, there would be fewer cases of overdevelopment and less suburban expansion, resulting in lower pollution and more habitable cities. If taxes shape purchasing decisions by consumers, they may buy fewer but more durable items and thereby reduce their ecological footprint. Fiscal and tax reform can be designed to address both social development and environmental protection objectives, for example, those related to public health and air pollution reduction.

The highest priorities should include environmental objectives where measurable environmental quality improvements are possible: fiscal and tax measures directly linked to air, water and soil pollution; a strengthened, comprehensive and long-term eco-compensation program of direct benefit to rural people and the environment locally and elsewhere; environmental tax reform to price carbon appropriately and coupled with additional efforts for carbon emissions trading within China; more appropriate pricing of ecological goods and services; reform of urban taxation policy to encourage a move away from large scale land appropriation; and continued efforts to establish price structures for both manufactured goods and resource structures that fully account for externalities. All these measures require renewed effort to develop an improved system of green accounting, and improved efforts to develop a reasonable benefit/cost approach to environmental reform that takes into account environmental public health and ecosystem goods and services.

6. Using the educational system and public awareness raising to move Chinese society towards actions compatible with environmental and social harmony while still enhancing prosperity. Perhaps it is correct to assume that China is somewhat unique in its capacity to shape views towards sustainable consumption, and other aspects of its environment and society relationship through better use of formal and informal education, and via both traditional and new media mechanisms. However, for a society that is now well exposed to many sources and types of advertising, and to policies that encourage increased consumption, at best there will be many contradictions in the effort to shape lifestyles. Furthermore, knowledge alone is not enough to ensure that green

choices will be made. Thus, while improved awareness and education are essential, they cannot be treated as either a responsibility that is for government alone, or even by government plus business. The situation really does demand a ‘movement’ in which citizens become the critical part of the solution, individually in their lifestyle choices, through their work place, and through the various organizations in which they participate.

How such movements can be fostered is, of course, a matter of debate. One of the most interesting examples is ‘Earth Day’, particularly in its earlier years from 1969-75. This movement had its roots in universities and with a handful of politicians, but quickly grew to encompass public and private schools, and with participation from the media, businesses and many others drawn from all sectors.²⁸ Within a few years it became a global event.

In China and some other countries such as the United Kingdom, perhaps one of the most prominent and relevant movements in recent times has been the embrace of Low Carbon Economy as a new and rather integrative approach to energy, climate change, consumption and lifestyle concerns. It has spread through a combination of public awareness and education by governments, mayors of cities, scientists, some enterprises, media and “opinion leaders”. Yet in most places, it has slammed into institutional barriers that have not yielded to the new movement. Andrews-Speed has noted that *significant or even radical institutional change across the polity, economy, and society in China will be required in order to accelerate the transition to a low carbon economy.*²⁹ The point to be made is that for education and awareness-induced movements to actually create substantive change in conditions, behavior and perhaps values in society, there must be concurrent institutional shifts, better policies and improved coordination.

The rise of social media and the global linkages possible via the Internet are dramatically changing the landscape of educational practices and awareness raising. China has shown itself to be very proactive in the dissemination of officially sanctioned information for shaping public opinion, very wary concerning the “spreading of rumours” via social media, and to set significant limitations on information disclosure, for example regarding environmental assessments or other project and planning documents. There are very difficult matters under discussion for example, regarding disclosure and release of government information on such matters as toxic wastes; and also the debate about what constitutes acceptable and unacceptable practices on the part of members of the public regarding spreading of opinions (in an age where observations can “go viral” in minutes).

Given that China now probably has the world’s largest digitally-connected population, and many of the most sophisticated users of communications technology of any country, clearly there must be new accords reached to ensure that these technologies support not only educational and awareness needs, but also serve as the basis for improved dialogue

²⁸ Adam Rome. 2013. *The Genius of Earth Day: How a 1970 Teach-In Unexpectedly Made the First Green Generation*. Hill and Wang. 368 pp.

²⁹ P. Andrews-Speed. 2012. *China’s Long Road to a Low-Carbon Economy - An Institutional Analysis*. Transatlantic Academy Paper Series. 26 pp.

http://www.transatlanticacademy.org/sites/default/files/publications/AndrewsSpeed_China'sLongRoad_May12_web.pdf

between various interests. Only in this way can there be real movement towards genuine public participation. What constitutes appropriate rights, responsibilities and even duties on the part of the public, businesses and government is an issue that is likely to be tested in various ways, just as happens elsewhere in the world. It will be encouraging if China can indeed find ways in which a well-educated public can become among the world's best monitors of environment and development progress.

7. Engaging the full range of Chinese enterprises in Corporate Social Responsibility (CSR). There are excellent role models for CSR, including many enterprises within China, and there are many types of activities that have been undertaken. These are well documented, and with awards (e.g., Golden Bee corporate award) and other mechanisms to encourage CSR participation.^{30,31}

Progress is still relatively slow in comparison to the needs, and advanced characteristics such as development of green market supply chains leave much to be desired. However, CSR could well become one of the most important bright spots of China's environment and development relationship during the coming decade. If CSR becomes widespread, including SMEs in China and in Chinese companies of all sizes engaged in overseas activities, there will be benefits not only for domestic green development but also for other countries.

What is necessary to accelerate the pace of acceptance? In countries such as the USA, CSR has been driven mainly by specific actions of industry associations and individual companies, coupled with dialogue and approaches involving stakeholders. In China, it is likely that government will be more proactive, perhaps using legislation or other "compulsory" mechanisms. In addition, government could use a variety of tools such as economic incentives, education, and involvement of SOEs in the greening of market supply chains. Some multinational companies in China could be called upon to share their experience as well.

Government might also take a sectoral approach, strategically working with sectors such as automobiles, heavy chemicals, agri-food subsectors, etc., in order to improve many of the specific needs such as green certification and standards, implications of CSR in natural resource development, etc. There are important roles in promoting CSR for the government-aligned chambers of commerce and other business and industrial associations.

While it would appear sensible to pursue a broad program of CSR implementation within China, there are definite challenges and issues. One major concern is simply the short-term profit perspective of many businesses. Tied to this are the still low fines or other penalties imposed in some situations of pollution or social problems created as a result of industrial activities. Some other concerns include the limited push from the financial sector to incorporate environmental criteria into their loan approvals, limited

³⁰ <http://www.csr-china.net/en/second.aspx?nodeid=ddd0b45c-b7c4-4947-b2e3-e20374708733>

³¹ Li-Wen Lin. 2010. *Corporate Social Responsibility in China: Window Dressing or Structural Change?* Berkeley J. of International Law. 28(1):64-100.
<http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1377&context=bjil>

interest on the part of investors in the Chinese stock market to promote CSR, and the limited use of environmental risk criteria on the part of insurance companies. Fortunately there is movement on these concerns. Another issue is the lack of transparency in the operations of many companies—not the necessary level of accurate data and information release on emissions release, monitoring to ensure follow-up to EIAs or other commitments. A major concern has been the local protectionism of local governments regarding the way environmental and social matters are treated. All of these problems are well enough known, but difficult to resolve.

8. Addressing shortcomings in agricultural sustainability and impacts on green development. Food security will always be a major concern for China's government and society, and fortunately there has been impressive progress in food self-sufficiency. However, several major shifts are now underway with major implications for China's green development. One is the consolidation of farms and the complex issues surrounding land allocation, rural-urban migration, and aging farm populations. A second cluster of concerns relates to the very substantial and increasing environmental impacts of farm production and processing. With the shift to animal protein in people's diet, the expansion of aquaculture and feedlots for livestock, and the need to expand agricultural land to supply fodder are creating many pressures. This issue extends to agricultural water demand. Agricultural activities pollute soil, air and water, and issues such as non-point source pollution are very difficult to control. In addition, processing agricultural products have created major pollution in various parts of China.

Rural sustainability is intrinsically and intricately related to China's biodiversity and the health of ecosystems. Grasslands are under intense pressure as a consequence of the expansion of livestock, and also from alternate uses of land. Despite China's great commitment to nature reserves and other forms of land and water conservation and protection, management of social aspects of use, perceived inequalities, illegal harvesting and other problems are working against sustainable use. Functional ecological zoning, and red lining for protection of ecological services are still at an early operational stage. Integrated management strategies for coastal marine areas and for water basins leave much to be desired.

In addition, as recent years of extreme weather demonstrate, there can be no guarantees that China will escape ravages of climate variability and change in the decades ahead. Already a serious and expensive set of adaptations and mitigation efforts is required to lessen the impacts of flood, drought, and severe summer and winter weather in various parts of China. It is a tribute to the resilience of Chinese rural and suburban communities that, even with more intensive use of the natural resource base, there has been considerable progress on disaster planning and management. However, there may be significant tipping points, especially regarding ground water, toxification of agricultural lands, and other ecological concerns including loss of key species such as pollinators.

From a social perspective, the ability to carry on traditional approaches to agriculture is likely to be limited by the outmigration from communities, and through land consolidation and conversion to other uses. Thus China will have to continue innovating, as it is doing by introducing new economic activities such eco-tourism, wine production,

and in some environments such as the desert and semi-arid areas, medicinal crops.

9. Aligning New Style Urbanization with Ecological Civilization aspirations and green development needs. The unprecedented attention being given to urbanization is certainly well justified. It is the most important long-term investment China will make in its stock of built capital and has enormous implications for the environment and people's future prosperity. The rush to urbanization will peak over the coming 15 to 20 years. However the patterns of infrastructure now being created will set the stage for 50 to 100 years. Thus issues such as option foreclosure associated with design of cities, suburban growth and sprawl, and the choices for interurban transportation and environmental connectivity are extremely important. Most urban citizens now or eventually will perceive themselves as part of China's 'middle class.' They will set the pace for sustainable consumption, NIMBY, and other environment and green development matters. McKinsey and Associates³² estimate that the most important group among consumers will be the 'upper middle class' who in 2012 constituted about 36 million households in urban areas. By 2022 their number may reach 193 million urban households. Their use of disposable income will be extremely important in determining sustainable consumption outcomes, and the demands for a high quality urban lifestyle.

'New style urbanization' is a work in progress led particularly by Premier Li Keqiang. It places central emphasis on putting people at the heart of urbanization ("humanity oriented"), but addressing the realities of cities as the engine of economic growth, and the need to seek both "quality and efficiency" in the layout and operation of urban development. Urbanization must contend with improvements to the largest cities, but also place more attention on medium and smaller cities, and on the rate of development of new cities.

Media reports during the last half decade—when economic stimulus funding was easy to come by—of quickly built "ghost cities"³³ with relatively few inhabitants, present a disturbing picture of poorly timed local planning decisions. The very rapid development of national transportation networks and interurban connections sometimes raises questions about actual levels of demand. Considerations in infrastructure investment, such as access to water supply, remoteness from markets, and ecological impacts may play second fiddle to local ambitions and showcased physical results of investment. What is clearly required throughout the country is an integrated approach to infrastructure renewal and construction that is based on realistic goals and, as noted by Premier Li, *a path that incorporates the ideas of green and efficient growth.*³⁴

For New Style Urbanization to properly take hold, the following topics must be well

³²http://www.mckinsey.com/insights/consumer_and_retail/mapping_chinas_middle_class

³³ Ordos, located in Inner Mongolia became the 'poster child' for "ghost cities" after international media coverage including a Time magazine article. Here and in many other spots, empty apartments and unused roads and offices may reflect the time lag between incredibly rapid infrastructure completion, and the sale and occupancy of properties, but the problems appear to be much deeper, including overly ambitious projections of economic growth and poor development planning, corrupt land development practices, and the purchase of multiple properties by individuals or companies but leaving some empty.

³⁴<http://english.peopledaily.com.cn/90785/8393033.html>

worked into the policies for planning and implementation:

- **Job creation** with an emphasis on the service sector, green industrial parks and manufacturing facilities, and appropriate new activities for migrants.
- **Sustainable life style attributes for urban dwellers** so that people of all levels of prosperity have access to basic services; green transportation; environmentally friendly, safe and clean neighborhoods, the means to live comfortably and sustainably, and with equitable access to social benefits.
- **Shifts in revenue sources to meet the expanding needs of transportation, environmental and social development.** In particular, the land alienation process carried out by local governments is damaging in a number of ways, such as encouraging urban sprawl.
- **Reforming the unfair practice of *hukou* and other social and economic discriminatory policies against migrants and their families.** Modification or ending of these inequities has been called for by many Chinese experts, but still appears to be difficult to put into practice.
- **A regional approach to urbanization is required in order to address environmental protection concerns and for efficient infrastructure development.** The inability to handle air pollution, control of floods and other natural hazards, groundwater depletion, and other environmental issues at present is in large measure the consequence of weak regional development planning and monitoring. The problems will expand with climate change and with rapid extensive growth mode. China has made good progress towards linking hinterlands and urban environmental protection through its eco-compensation activities, but these are not operating with optimal efficiency; and financial costs are not being paid by the urban areas receiving the main ecological service benefits.
- **Compact city design and ecological red lining.** Ring roads encourage sprawl and the proliferation of highways contributes to suburban development and the accompanying commute-by-automobile lifestyle that has now developed around many Chinese cities. Urban sprawl cuts into farmland and sometimes into ecologically sensitive areas. These and other problems suggest a need for much more effort to rethink the design of cities to make them more compact and complete. A new but not well-implemented idea is ecological red lining so that areas important for food production, water supply, cultural or other purposes are well protected, with significant penalties if they are disturbed. This is particularly important for areas where suburban development would otherwise be likely.
- **Extract lessons learned from eco-cities, low carbon economy initiatives, and other pilot efforts whether from within China or abroad.** A rich base of experience is available from cities around the world and certainly within China on urban sustainable development. While this experiential learning is well advanced in China, it is not being fully integrated into urban and regional planning. In general, integrated approaches are not a strong point, given the breakneck speed of Chinese urbanization and the compartmentalization of functions within municipal governments.

Despite this rather lengthy but still incomplete list of issues surrounding Chinese

urbanization, many positive things can be said about progress to date, and about the dynamism and willingness of local governments to address the existing problems. Already, many cities are taking seriously the challenge of green development and experimenting with how to define new paths towards sustainability and ultimately towards Ecological Civilization. What should be clear is that during the coming years improvement of urbanization is a central to achieving a better environment and society relationship.

10. Aligning China’s environment and development reforms with international accords including major global environmental conventions, other agreements and post-2015 sustainable development goals. China participates in many international agreements with environmental implications, whether these are part of global UN agreements or via less binding agreements made at the G20 or in other forums. For certain of these commitments, for example on the climate change convention, China has clear goals for greenhouse gas emissions intensity reduction; other obligations will surely follow in the years ahead. As progress is made on defining green growth and green economy, there will be additional opportunities to work cooperatively with other countries in order to achieve necessary transitions. In the UN discussions for a new sustainable development approach, China will certainly wish to have its voice heard and to share experiences regarding green development.

There are many practical concerns regarding each of these points. The metrics for monitoring progress are still relatively weak, and the actual monitoring processes deserve careful attention to ensure information gathered is internationally compatible. This will be very important for matters such as greenhouse gas emissions reporting, and for agreements such as mercury reduction. On matters such as subsidies for green technologies, China will want to avoid repetition of what happened with wind and solar power international trade actions. Regarding post-2015 sustainable development and poverty reduction goals, it will be to China’s advantage to highlight its successful experience during the implementation of the Millennium Development Goals, and to seek ways to build on this experience and to share it with others.

A decade from now, China should be able to demonstrate very clearly how its domestic actions have contributed to improvements in global environment and development. This will require careful analysis and consideration of the institutional strengthening and other advances in order to credibly demonstrate progress. Over the longer-term, as China gains experience in the construction of Ecological Civilization, there should be considerable interest globally and in some other countries in drawing upon this practical experience. As that occurs, China will be well positioned to incorporate key ideas into its *Going Out* efforts.

V. CONCLUSIONS

There must be a turning point in the complex relation between society and environment in China, whereby acute problems related to air, water and soil are seen to be lessening. Exactly when that turning point can actually be reached is uncertain, but it is an urgent matter in relation to the goals for a “moderately well off society” by 2020. Therefore,

performance on environmental protection and green development during the remaining years of the 12th FYP and particularly in the 13th FYP will have to be improved quite dramatically. The shift from pollution emission reduction towards goals based on real environmental quality gains is essential, since targets for individual pollutant reductions alone have not proved sufficient to achieve overall effective improvement of environmental quality. Furthermore the quality and effectiveness of investments for environmental protection must be examined carefully now that government and industry are increasing spending, and will continue this trend with new action plans.

Chinese society clearly values the environment, expects improved environmental quality, and desires improvements that will reduce environmental risks of various sorts, including issues such as food safety. Expectations for quality of life are definitely on the rise as income levels increase, and as people become more appreciative of the many facets constituting a “good life”. At the same time, connections to the land and nature are being lost as millions of rural dwellers leave for cities and new occupations, and as access to electronic gadgets, automobiles and other components of a modern life style shape interests and behavior of populations. Such rapid change presents both challenge for environment and social development concerns and opportunities to redefine what is important to a society, and to reinforce desired pathways. That is the challenge for Chinese society, government, and indeed, governance processes within China.

Citizens express their views in many different ways—in commentary as “netizens”, as consumers, and sometimes as angry demonstrators upset about development decisions, corruption, poor regulation of food purity and other issues. This dynamic provides a specific condition that permits government to learn from the people, and—as is frequently noted by high authorities—for the people to supervise the actions of government. The difficulty is setting in place sufficient but not stifling levels of checks and balances. More broadly, it is concern about rights, responsibilities and duties. Also, it is about improved formal public participation in decisions, and transparency through information sharing. Environmental improvement should be a double win when the right circumstances are in place: the improvements have human and ecological benefits that are real and worthwhile for both present and future generations and secondly, more effective ways of promoting social harmony emerge for problem solving among people and institutions driven by different interests.

What cannot be promised at this stage of China’s transformative changes and reform, is certainty regarding the level of success on longer-term environment and development matters such as those related to intensive exploitation of water resources, climate change mitigation and adaptation, biodiversity protection and protection of ecological services. For all these, there remains uncertainty and serious challenges, as they are closely related to various legacies of the past, and difficulties to address and change the demands created by China’s increasing population and rising consumption patterns. The longer-term problems are some of the most important to be addressed through construction of Ecological Civilization. They must be dealt with through technology and managerial approaches, but also by more effective restraints on demand, as determined by changes in perspectives, attitudes and behavior, and perhaps shifts in values. Society must become both more resilient and more adaptive in order to achieve an optimal environmental

relationship. This is true not only in China but in other countries and societies as well.

Over the past two decades, China's leaders have set in place an increasingly coherent and well communicated set of concepts to guide the country, its enterprises, and its citizens on the subject of environmental improvement. These ideas have been a balance of home grown thinking such as Ecological Civilization and internationally produced concepts such as Green Growth and Green Economy. Now, with the vision of *Beautiful China* there is the opportunity to bring focus to a sense of pride not only in what China has achieved, but also an appreciation of its marvelous endowment, and why it is so important to protect and cherish the natural environment, the cultural attributes and remnants of the past, while shaping as perhaps no other nation is capable, a new lifestyle and physical infrastructure compatible with living within earth's limits.

Reports of Policy Research

China's Environmental Protection And Social Development

Summary

Since the start of its reform process, China has prioritised economic growth in its strategic planning and policy making. The unprecedented speed of economic development has increased standards of living for Chinese people but also led to enormous pressures on the environment and negative impacts on citizens' health, current and future livelihoods, public safety, social cohesion and with inequitable access to resources and basic public environmental services. Population growth, increasing consumption levels and urban migration add to these pressures.

The idea of an 'Ecological Civilization' provides a vision for a harmonious society, sharing the fruits of development, and safeguarding social justice and equity. However there is an urgent need to deepen the currently weak understanding of environmental and social relationships, and to identify priority fields for action, in order to achieve this vision.

This Executive Report of the CCICED Task Force on Environmental Protection and Social Development examines the critical linkages between the environment and social development in China, suggests a preliminary framework to guide policy and practice in both the short and long term, as well as providing some specific policies for implementation and areas for further study.

We have proposed a framework for policy-makers which: develops an awareness of appropriate values and norms; enables and constrains the appropriate behaviour and participation of citizens, enterprises and other social organisations; and develops coordinated governance systems which improve legislation, social and environmental risk management, and the distribution and coverage of public services. The Task Force also identified five principles to guide policy-making: multi-stakeholder participation; coherence between long and short-term visions and targets; policy coherence between environmental and social policy; a strong legal foundation; as well as equity and justice in the distribution of rights and responsibilities, access to environmental resources and participation in decision-making.

Overall, we proposed a Vision 2050/Action 2020 framework to connect the goal of an Ecological Civilization by the middle of the 21st Century with policy decisions and actions necessary in the near term. We also have sufficient evidence to recommend several immediate actions

Recommendation 1 Elaborate a vision of coordinated social, economic and environmental development for 2050 and develop a phased. plan of policy and actions that will be essential to achieve that vision (Vision 2050/Action 2020)

Recommendation 2 Promote social norms and values related to ecological civilization through education and training plans for cadres, schools, vocational training and universities; conceptual and policy-oriented research; and through a variety of media and actors.

Recommendation 3 Encourage everyone in society to exercise their appropriate roles. Specific actions could include advocating healthy and sustainable lifestyles, enhancing public participation, promoting acceptance by enterprises of environmental and social responsibilities, or supporting the further development of environmental and social organizations.

Recommendation 4 Strengthen public governance through: a “whole of government” approach which for example: creates policy coherence between environmental and social development; is underpinned by the 13th FYP renamed the National Economic, Social and Environmental Development Plan and reporting annually; establishes an environmental and social assessment mechanism for major policies; improves environmental and governmental performance evaluation systems.

Recommendation 5 Establish mechanisms to assess, communicate, and mitigate the social risks of environmental protection.

Recommendation 6 Improve the level and distribution of public environmental services.

The work of this Task Force was preliminary. Elaborating and further developing the proposed framework will be a major undertaking. Several strategic studies on complex priority issues would be useful: understanding how to promote shifts in lifestyle and behaviours; developing the legal underpinning for coordinated social development and environmental protection; and, understanding how to make available the financial resources required for implementing and optimizing the positive relationship between environmental protection and social development.

Understanding this relationship will allow China to better develop effective policies that will avoid unintended consequences and maximize the potential for successful outcomes.

1. INTRODUCTION

Sustainable development is broadly understood as a process that must consider simultaneously economic, environmental and social factors. This requires a systemic approach to policy, with an understanding of complex linkages, synergies and trade-offs among these three policy domains. However it has proven to be difficult to conceptualise or implement—in China or elsewhere.

Since the start of its reform process, China has prioritised economic growth development has led to enormous pressure on the environment in the form of air, water and soil pollution, resource over-exploitation and environmental degradation. Harmful impacts are most directly experienced in areas with soil depletion and deforestation, air and water pollution, water scarcity, and industrial environmental accidents that directly affect public safety, health and livelihoods. All citizens are exposed to risks associated with climate change¹, ecological damage that affects the stability of water basins and coastal zones, and contamination of soil that affects food safety. Population growth combined with increasing incomes, and changing consumption patterns (such as the inclusion of more meat in the daily diet), further exacerbate pressures on an already constrained natural resource base.

Ecological and biodiversity degradation is felt less directly by all, but is visible in deforestation and desertification and loss of species. Loss of intangible benefits such as the beauty of China's landscapes, and the loss or threat of extinction of iconic species such as pandas and river dolphins, are also of significance to China: indeed, their protection and survival provide hope and inspiration for the creation of a 'Beautiful China'.

It is not surprising then that while economic growth has generated impressive improvements in the living standards of the Chinese people, it has also led to rising inequalities and conflicts related to the environment. Current environmental conditions have created serious concerns for public health, and also contribute to the unjust distribution of resources and consequent living standards across China. An uneven pattern of economic and social development, across regions and social groups maps in different ways onto environmental inequalities, while social and economic inequalities are exacerbated by environmental problems in specific geographic contexts. Poor rural populations are more likely to be located in ecologically rich but fragile regions that are vulnerable to environmental degradation; they may depend on such environments for their survival, yet further degrade the environment in the pursuit of viable livelihoods. The poor, whether rural or urban, have few if any choices about where to live, so are more likely to suffer from poor air and water

¹ Intergovernmental Panel on Climate Change IPCC Working Group I assessment report, Climate Change 2013: the Physical Science Basis concludes that human influence on the climate system is clear, and this is evident in most regions of the globe.

quality, which in turn negatively affects their health and productivity. In cities, living conditions for both poorer people and the emerging middle class may not allow for a ‘moderately well-off standard of living’ even where income levels are above poverty level. At the same time, an educated and financially well-off middle class now has higher expectations and demands for acceptable environmental conditions.

Such factors have led to an intensification of social conflict around environmental concerns. Unrest may be associated with changing land use, siting of industrial activities, and acute incidents such as oil or chemical contamination, or chronic pollution problems such as air quality – problems that disproportionately affect the poor and tend to reinforce pre-existing inequalities or deprivation. Environmental issues are often at the core of protests against large projects, particularly when there is uncertainty about the magnitude of negative social and environmental impacts. Sometimes these concerns may be more perceived than real but nonetheless they need to be addressed. Limitations in the existing information disclosure system, leading to a lack of accurate, freely accessible information, sets the stage for the spread of rumours or inaccurate information, which in turn can aggravate tensions.

China recognised the importance of environmental protection at a relatively early stage in its reform. The Second National Conference on Environmental Protection in 1983 explicitly emphasized the need for a coordinated advancement of both economic development and environmental protection. With the increasing severity of environmental problems, however, the government more recently prioritised a balanced emphasis on economic growth and environmental protection in its 11th (2006-2010) and 12th (2011-2015) Five-Year Plans. Some positive results have been achieved in industrial restructuring, energy conservation and emission intensity reductions, while coordinated efforts in both environmental protection and economic development have been implemented through a series of laws and regulations, programs, and policies. Despite these efforts, major problems persist, with the health impacts of environmental damage in particular attracting increasing public attention.

Consequently attention is now being directed at trying to better understand relationships between the three dimensions of environment, economy and society. This includes

- **The relationship between environment and society.** Critical aspects include the relationship between the environment and population, poverty and inequality, health and wellbeing, consumption, disaster prevention and mitigation, the provision of basic services, the improvement of peoples’ living environment necessary for good health and livelihoods, and the role of public participation in environmental governance.
- **The relationship between environment and economy.** This covers areas such as links between the environment and economic growth, sustainable agriculture and rural development; industrial growth and environmental pollution prevention and control; sustainable development in the transportation

and communications sectors; and sustainable energy production and consumption.

- The **relationship between resource utilization and ecosystems**. This covers the protection and sustainable use of natural resources; protection of the air, water and soil ecological systems; biodiversity conservation; sustainable utilization of the oceans and seas; desertification control, protection of the atmosphere, and environmentally harmless solid waste management.

For the past 25 years, the notion of sustainable development involving a mutually reinforcing relationship between development of the environment, the economy and society has been represented in a simple diagram such as Figure 1-1. In practice, achieving synergies and managing trade-offs between economic, social and environmental policies and actions necessary for sustainable development has been difficult—as recently reflected in the 2012 Rio Sustainable Development Conference, and has led to efforts to define a set of global objectives for sustainable development.²

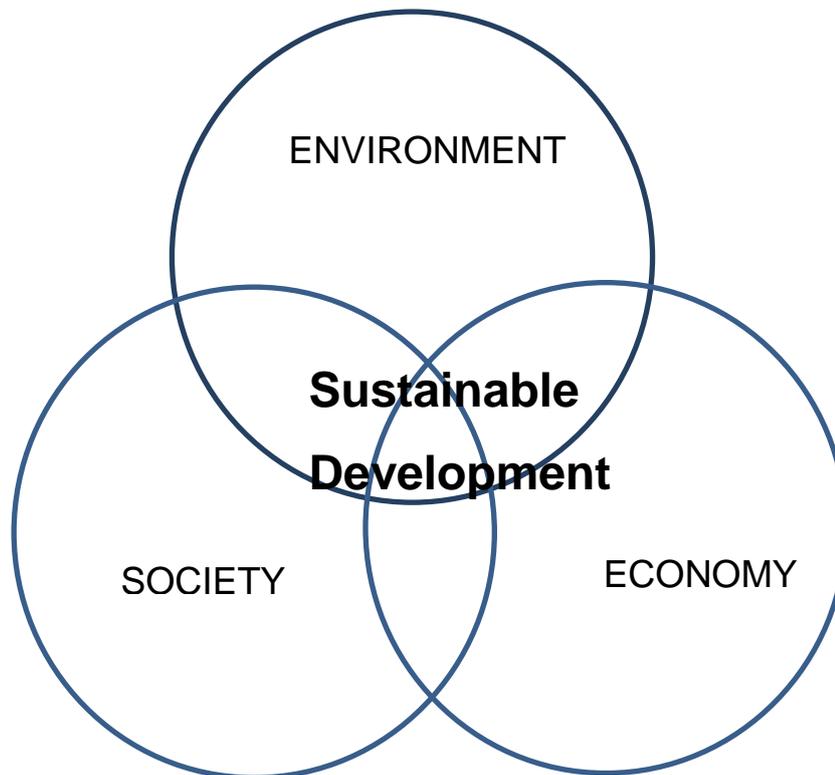


Figure 1-1. A view of sustainable development

Within China, the concept of ‘Ecological Civilization’, introduced in 2007, provides a vision for a harmonious society, sharing the fruits of development, and safeguarding

² <http://sustainabledevelopment.un.org/index.php?menu=1300>

social justice and equity.³ At the 18th Communist Party Congress in November 2012, the concept of Ecological Civilization was incorporated into the Party's constitution, and became a fifth element added to the existing four pillars of development policy - economic, political, social and cultural.⁴ As a result, concerns over the relationship between environmental protection and social development have reached the highest political level, creating an urgent need to deepen the understanding of environmental-social relationships and identify priority fields for action.

This Executive Summary Report of the CCICED Taskforce on Environmental Protection and Social Development examines the critical linkages between the environment and social development in China, with a view to suggesting a preliminary framework that can guide policy and practice both in the short and the long term. It also proposes some specific policies that could mutually support both environmental protection and social development. By comparison to the extensive work done by CCICED over the past two decades on the relationship between environment and economy, the current Task Force's effort is ground-breaking in its focus on social development, but therefore can be expected to yield only tentative conclusions and recommendations at this stage.

Three important questions (Box 1-1) have been at the centre of the Task Force's work. Our Executive Summary Report draws upon information reported by the Chinese members of the Task Force in a longer report,⁵ and the opinions and expertise of both Chinese and international team members based on a series of Task Force meetings and field visits held from August 2012 to September 2013. The Task Force also focused on urbanization as an issue that illustrates both the linkages among the three dimensions of sustainable development and the opportunities that exist for developing policies and practices that are mutually reinforcing. More complete referencing to support observations and conclusions drawn in this Executive Summary Report can be found in the longer report.

Box 1-1. Key questions to be addressed in this report

1. What is our understanding of the current and future relationship between environmental protection and social development in China?
2. What are the most important opportunities for policy and interventions that would address simultaneously and positively the twin objectives of environmental protection and social development, while minimising unintended consequences?
3. In a rapidly changing global context, how can China combine short-term actions, mid-term

³ See the CCICED 2008 Issues Paper *Environment and Development for a Harmonious Society*. 26 pp.

⁴ http://china.org.cn/china/18th_cpc_congress/2012-11/15/content_27118842.htm

⁵ CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. In Chinese.

Chapter 2 focuses on China’s environmental and social achievements and challenges, identifying critical environmental, health and social issues and reflecting on the linkages among them. Chapter 3 draws upon international experience in environmental and social development, summarizes domestic and international research findings, and constructs a conceptual framework based on notions of values, behaviour, and public governance. Chapter 4 illustrates how this framework could be operationalised by specifying objectives for action over various time horizons—by 2015, 2020, 2030, and 2050. Finally, Chapter 5 concludes by proposing some specific policy recommendations. Some terms used in this Report are explained in Box 1-2

Box 1-2. Key terminology

Social development is both a *process* of change leading to the desirable objectives or outcomes decided by a society, and the *outcomes* or measurable achievements of those objectives. Definitions tend to include material, social and cultural achievements (such as good health and education); access to the goods and services necessary for decent living; a sense of security; and the ability to be part of a community through social and cultural recognition, participation and political representation. Social development is shaped by institutions and actors (such as households, communities, civil society organisations, the media, private or market enterprises, or the state). A core element of any social or ‘people-centred’ development is participation by all people in decision-making processes that affect their lives; along with mechanisms of accountability, redress and access to justice.

Environmental protection refers to activities, strategies and policy instruments aimed at safeguarding and prudently using the environmental resources that people and societies depend on for their livelihoods and well-being. The disruption of ecosystems, or specific environmental impacts such as pollution or climate change by, for example, economic activities can affect present and future human livelihoods, as well as health and wellbeing. Environmental protection behaviours are influenced by factors such as legislation, individual and group ethics, and education. Increasing understanding of the complex and inter-dependent relationships between living and non-living parts of the environment are seen to require more collaborative policy and action across government departments or between stakeholders to improve information and understanding, manage trade-offs, create synergies and improve policies and implementation.

A **public service** is provided by a government either directly or through the government financing or subsidising private or social organisation delivery. These services are those which society believes should be available to all people in order to live decent lives, regardless of their income. Examples vary across countries but tend to include energy provision, water, civilian and military security, environmental protection, waste management, education, social security and social services.

A **public good** is an economic definition of a product that one person can use or consume without reducing its availability to others (non-rivalrous), but from which no one can be excluded access (non-excludable). Examples include sewage systems, public parks, or air. They therefore tend to be provided or protected by the public sector.

Environmental justice focuses on the fair distribution of environmental benefits and burdens as well as equal access to decision-making and recognition of community ways of life, local knowledge and cultural and power differences. There therefore tends to be an emphasis on equality. Wider political and economic inequalities are believed to result in higher levels of environmental harm. In other words, those who are relatively more powerful or wealthy gain benefits from economic activities that degrade the environment. The relatively poor tend to disproportionately bear the costs of such activities.

Environmental rights relate to such things as: ensuring human access to natural resources that enable survival, including land, shelter, food, water and air; the ability to enjoy natural landscapes; and securing environmental justice. They can also include non-human rights such as the survival of a particular species. Environmental rights tend to be seen as basic human rights since people's livelihoods, health, and even existence depend upon the quality of, and access to, the surrounding environment. Environmental rights also tend to include rights to information, participation, security and redress.

2. THE CURRENT CHINESE SITUATION

2.1. Introduction

China has made some progress in harmonizing economic, social, and environmental development as it continues its quest towards sustainable development. However, a number of daunting challenges and obstacles remain. It is not possible in this short report to discuss fully all aspects of either China's achievements or major problems and issues regarding the relationship between the environment and social development. There are many sources that do so in both Chinese and international literature. The main purpose of the Chapter is instead to introduce some of the themes of significance to the relationship between social development and environmental protection, and to provide some examples of both progress and difficulties.

Broad public awareness and major expressions of concern about pollution and environmental change became important in China 20 to 25 years ago. However, from the beginning of history, there is evidence that when China was primarily an agricultural society, the Chinese people took measures to improve and manage their local environmental conditions. Traditional land use practices such as rice paddy terraces and multi-species agriculture and husbandry had positive results for the environment. During often devastating natural disasters, revolution and war, the Chinese people have demonstrated resilience and the capacity to live as a conserving society, with per capita domestic consumption rates, sometimes close to the baseline levels for survival. Thus, until recently, despite its size, China has had a low total ecological footprint in comparison to western industrial countries.

Chinese society was however poorly prepared for the speed of environmental degradation and rising levels of pollution that accompanied a natural resource-intensive process of economic development commencing in the 1980s. In rural areas, the direct impacts on health and livelihoods quickly became major

concerns of the rural population. Economic and industrial development, along with creation of infrastructure such as railways, roads and pipelines, has seriously affected the environment and social structure even in isolated communities. With the emergence of an affluent urban middle class, citizens are today increasingly aware of or engaged in environmental issues and activities. Millions of people are expected to migrate to urban areas in the next decade, increasing pressure on the use of energy and natural resources and intensifying the demand for social services.⁶ The changing climate, extreme weather events and natural disasters impact millions of lives each year.

Given the prioritisation of economic growth in the early reform period, insufficient effort or expenditure were dedicated to environmental protection or social development. This changed with the latest (11th and 12th) five year plans (2006-10 and 2011-15). These plans more clearly integrate environmental and social goals, considering both the impact of social and economic development on the environment and the contribution of environmental protection to equitable and sustainable development. The adoption by the Communist Party of *Ecological Civilization* as one of five pillars driving policy is a powerful signal that opens up new possibilities for a strong and symbiotic relationship between environment and social development.

This Chapter describes some of China's recent achievements in environmental and social development. It also raises some unresolved challenges and questions, including how to respond to strong expressions of public protests; how to enshrine in legislation and policy the concept of environmental and social justice; how to develop indicators that accurately and consistently describe the state of the natural and social environment; how to improve the flow of information and increase knowledge to encourage a more informed dialogue about environmental and social impacts; and how to better understand expectations and deficiencies in the respective social responsibilities of civil society, enterprises and all levels of government.

2.2. Accomplishments in linking environmental protection and social development

The First National Conference on Environmental Protection in 1973 placed environmental protection on the national agenda, reflecting heightened environmental awareness on the part of the Chinese Government. Subsequently the Government's increased attention to environmental issues became evident in the introduction of laws and the promotion of such measures as cleaner production, environmental labelling, and corporate environmental information disclosure. The environmental awareness of some Chinese enterprises has improved to the point where corporate social responsibility (CSR) has been introduced, and where banks and other financial bodies are incorporating environmental criteria into their lending practices.

The level of public environmental awareness is on the rise,⁷ as the impacts of

⁶ China Human Development Report. 2013: *Sustainable and Liveable Cities: Toward Ecological Urbanisation*, Beijing: China Translation and Publishing Corporation

⁷ Guodong Yan, Jiancheng Kang, et al. 2010. *China Trends in Public Environmental Awareness*. China Population, Resources and Environment, 2010 No. 10.

environmental degradation are more directly felt, as public understanding of and attention to environmental issues improve, and as the public is more directly involved in activities promoting environmental benefits.

In a 1998 survey, environmental issues ranked fifth after social security, education, population, and employment as an area of public concern. However, in a 2008 poll, environmental pollution ranked third as a public concern.⁸ More recently, media reports about air pollution have also played an active role in raising public awareness and participation in efforts to support amendment to *Air Quality Standards* regulations.

A rising number of non-governmental organisations (NGOs) have come to play an important role in environmental protection. Since the birth of China's first environmental NGO, Friends of Nature, in Beijing in March 1994, the numbers have expanded rapidly: by the end of 2012, a total of 7,928 environmental NGOs had registered with the Ministry of Civil Affairs (MCA).⁹

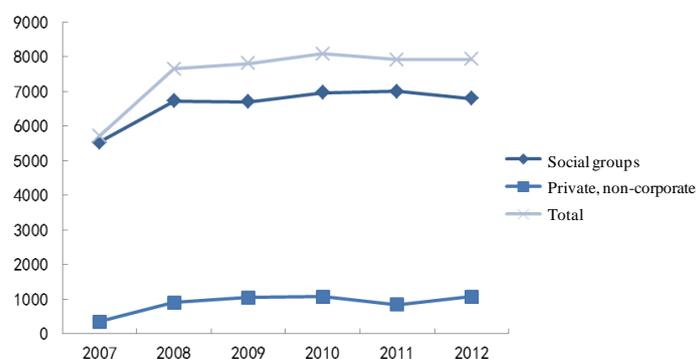


Figure 2-1. Number of environmental NGOs registered in MCA, 2007-2012

Improving environmental behaviour on the part of various social actors

There are signs that public and social organizations and some larger enterprises are also acting to improve the environment. The involvement of these actors is facilitated by the development of environmental regulations, policies, and standards, social supervision and management, environmental information disclosure and environmental impact assessment of major projects. Public engagement is also increasing, as illustrated in 2013 by demands for a better environment and for public involvement in national and local environmental decision-making triggered by issues such as air pollution in Beijing and the PX project in Kunming.

Corporate Social Responsibility

Amid growing attention from the media, the public and the government, Chinese businesses have become more active in implementing their corporate social

⁸ Data come from Survey Reports on National Public Environmental Awareness 2007.

⁹ See CCICED Task Force Report, Report on Environmental Protection and Social Development in China. 22pp-23pp, 253pp-254pp. In Chinese.

responsibility. With the influence of two important priorities embodied in the 12th Five-Year Plan – improved livelihoods and energy saving and emission reduction – some enterprises have effectively developed business management plans that strategically focus on sustainability. The *Grant Thornton International Business Report 2011*¹⁰ showed that Chinese mainland enterprises are increasingly aware of social responsibility, driven by such external factors as public opinion, tax incentives, and regulatory policies. That report also showed that Chinese enterprises placed the most emphasis on human resources and environmental protection. In their telephone survey of some medium and large companies in mainland China, 84% of respondents claimed active involvement in employee health and welfare; 75% stated that they improved products or services in order to mitigate adverse environmental and social impact; 69% and 63% of respondents reported efforts to conserve energy and reduce pollution emissions respectively; and 39% were said to have begun to calculate their own carbon footprint.

The Task Force visited the Elion Resources Group – a well-known example of one corporate group where social and environmental objectives are jointly considered in the restoration and sustainable development of China's seventh largest desert area.

Legislative and administrative framework for environmental protection

Environmental protection has grown in importance in national decision-making, especially since the 11th FYP period. In 2008, the State Environmental Protection Administration (SEPA) was upgraded to the Ministry of Environmental Protection (MEP), directly under the State Council. Systems for integrated management, pollution prevention and control and supervision and law enforcement have gradually improved. To date, the National People's Congress (NPC) has created 10 environmental laws and 30 resource protection laws. Among them, the *Criminal Law* dedicates a chapter to the "crime of destruction to environmental and resource protection" and the *Tort Liability Law* interprets "environmental pollution liability" in a special chapter. Local people's congresses and governments have developed more than 700 local environmental rules and regulations, and the departments of the State Council, have issued hundreds of environmental regulations, including 69 regulations formulated by the MEP. The SEPA issued *Interim Measures on Public Involvement in Environmental Impact Assessment* and introduced *Interim Measures on Environmental Information Disclosure (Trial)* in 2006 and 2007. More recently, the proposed amendment to the *Law on Environmental Protection* embodies environmental and social provisions, while the new ambient air quality standards released in February 2012, and the new *Atmospheric Pollution Prevention Action Plan* released in September 2013, demonstrate a shift in orientation to addressing environmental health hazards.

In theory, these efforts should provide some additional legal protection to the Chinese public in the expression of environmental demands. Furthermore, a number of new initiatives – in areas such as green credit, environment pollution liability insurance, power tariffs for desulphurization, improved coal-fired power generation, ecological

10 See Corporate Social Responsibility: the Power of Perception. 24 pp in the IBR 2011 report. http://www.internationalbusinessreport.com/files/IBR_2011_CSR_Report_v2.pdf

compensation for watershed and mineral development, and ladder tariffs - have been implemented or are being tested in many parts of the country, and have some potential to bring social benefits. However, the real impact will only be seen when these initiatives are assessed, and when legislation, policies and practices are implemented effectively. Weak enforcement is a widespread concern.

2.3. Problems at the intersection of environmental protection and social development

In spite of such progress, China currently faces significant challenges: environmental issues are already a major factor affecting social development (in areas such as health, livelihoods and equitable access to resources) and social stability, and may compromise future economic and social development.

Increasing mass incidents caused by environmental problems

Environmental petitions and complaints have increased by an average of 29% annually since 1996 (Figure 2-2), focusing on such issues as food and water safety, persistent organic pollutants (POPs), hazardous chemicals, and hazardous waste. China witnessed 21,985 “unexpected environmental events” (environmental incidents) between 1995 and 2010 in such areas as water pollution, air pollution, solid waste pollution, noise pollution, and earthquake hazards. The MEP has handled 927 environmental incident cases since 2005.

Examples of such disputes and mass incidents include the dispute on the Environmental Impact Assessment (EIA) for the Yunnan Nujiang hydropower development plan in 2004, the Xiamen PX project, the Beijing Liulitun waste incineration plant in 2007¹¹, the Liuyang cadmium pollution incident in Hunan in 2009, Oji Paper’s wastewater discharge project near Qidong, and the Shifang molybdenum-copper project in Sichuan in 2012¹².

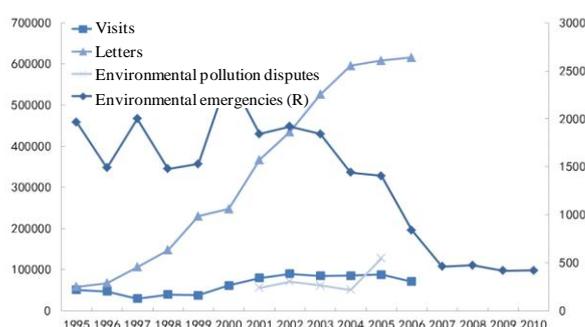


Figure 2-2. Number of environmental petitions, environmental pollution disputes, and environmental emergencies in China, 1995-2010¹³

11 Wanxin Li, Jieyan Liu, Duoduo Li. 2012. Getting Their Voices Heard: Three Cases of Public Participation in Environmental Protection in China. *Journal of Environmental Management*, 2012, 98: 65pp-72pp.

12 Gilbert, N. 2012. Green Protests on the Rise in China. *Nature* 488(7411): 261pp-262pp.

13 Data source: Environmental Statistical Bulletin, 1995—2011.

As a result, construction projects have been suspended or relocated due to strong public opposition and government-led projects such as the Liulitun incineration plant failed to proceed as scheduled because of the strong expression of public concern. Of even greater concern, danger to public health has sparked mass protests, which has even led to the occupation of government offices, judiciary organs, and companies involved, and there have been some cases of rioting. These negative incidents may be factors in social instability. On the other hand, they also highlight the need for greater attention to environmental impacts and scientific monitoring and better mechanisms for early public input to planning of potentially controversial activities.

Public health hazards caused by environmental degradation

Surface water pollution affects the major economically developed and densely populated areas in China because of the concentration of industry in these areas. Farmland contamination is caused in part by mining and non-ferrous metal smelting. Many Chinese are directly exposed to environmental pollutants at levels much higher than international standards. Given the high concentrations and long duration in the environment of some pollutants, China's large and concentrated population base, complex and diverse channels of exposure, and historical accumulation of environmental pollution, health effects of environmental degradation are difficult to fully eliminate in the short term or perhaps even the medium term. The situation is made more complex by health hazards caused by new environmental pollutants, and the difficulty, in a situation where pollution has many causes, in identifying the main pollutants, pollution sources and health hazards.

The *2010 Global Burden of Disease* study by the World Health Organization (WHO) indicates higher stroke and heart disease mortality in China because of PM_{2.5} pollution. Disease caused by outdoor air pollution grew by 33% during 1990-2010, and 20% of lung cancers in 2010 can be attributed to PM_{2.5} pollution.¹⁴ A study in Xi'an indicated that, with every 100µg/m³ increase in the PM_{2.5} concentration, the total mortality, and the mortality for respiratory diseases, cardiovascular diseases, coronary heart disease, stroke, chronic obstructive pulmonary disease (COPD) would increase by 4.08%, 8.32%, 6.18%, 8.32%, 5.13%, and 7.25% respectively.¹⁵ In addition, environmental endocrine disruptors (EEDs), persistent organic pollutants (POPs) and new materials and chemical contaminants can be assumed to further complicate the picture of potential health impacts.

Environmental degradation and poverty

Environmental quality plays a decisive role in people's health, productivity or earning capacity, security, energy supply, and living conditions. In particular, environmental degradation exacerbates the vulnerability of the poor in rural areas who are dependent on land and other natural resources, and intensifies poverty in some regions. In turn, rural poverty may lead to overuse of very limited resources which accelerates ecological deterioration, giving rise to a vicious cycle. Yet the link between these

¹⁴ WHO. 2010. *Global Burden of Disease*. http://www.who.int/healthinfo/global_burden_disease/en/

¹⁵ Ke Zhao, Junji Cao, Xiangmin Wen. Urban Residents' Mortality and PM_{2.5} Pollution in Xi'an. *Journal of Preventive Medicine Information*, 2011,27 (4): 257pp-261pp.

impacts in China's development policies has not been fully recognized.

New social injustices brought about by environmental issues

Against the backdrop of deep-rooted regional, urban-rural, gender and ethnic inequalities in China, environmental and social injustices have become increasingly prominent. These inequalities are reflected in income, access to environmental resources and services, environmental damage, and environmental pressure, and health and social security. In the field of resources and the environment, injustice is manifested in the sharp differences evident in the possession and allocation of environmental resources, and in access to public environmental services among regions and groups. Existing studies related to education and health care call for the integration of public environmental services into the Government's social objectives, given that public environmental services serve as an important means to create a green economy, economic restructuring and the desired "service-oriented governmental transition".¹⁶ Moreover, the *12th Five-Year Plan for Public Services* underlines environmental protection as an important aspect in the equalization of basic public services. Solid waste treatment and urban and rural drinking water safety are considered priorities in environmental protection, and access to public environmental services is also an important indicator of environmental justice.

However, studies reveal distinct provincial differences in the environmental performance of basic public services (see Figure 2-3). Most eastern provinces enjoy better public environmental services than do provinces in the central and western regions. Inequality also exists between economically developed areas and economically underdeveloped areas, and between urban and rural areas.¹² It is evident that, if public environmental services are neglected in the acceleration of economic development in underdeveloped areas, environmental injustice will become more widespread and the relationship between environment and social development will deteriorate further.

¹⁶ State Council. *National 12th Five-year plan (2011-2015)*, 2011.

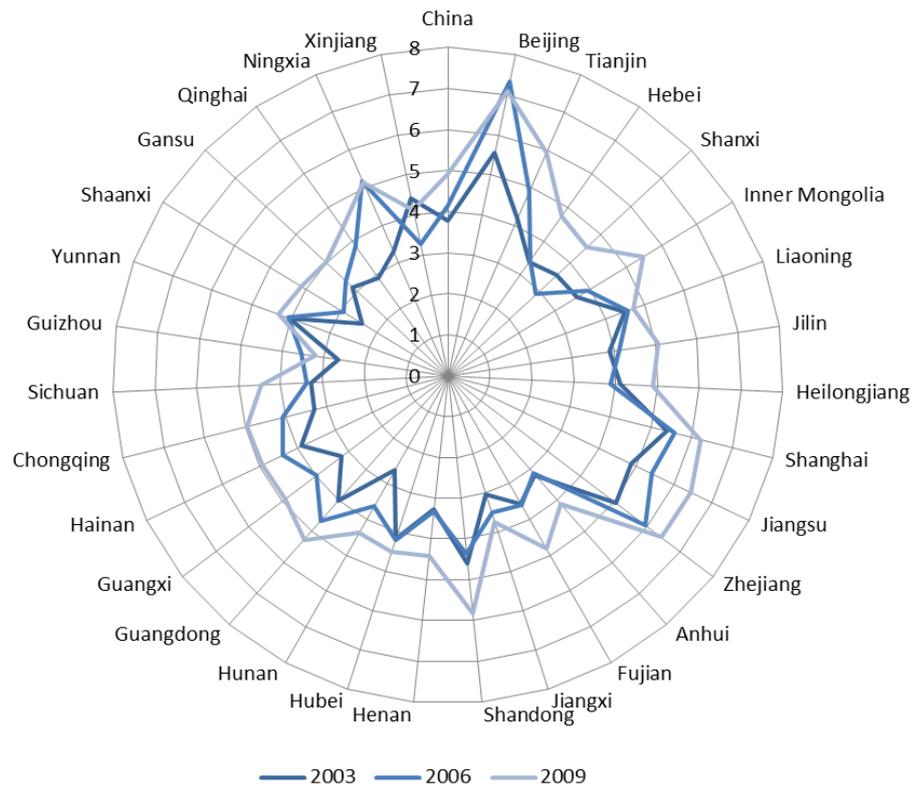


Figure 2-3. Assessment of basic public environmental services by province, 2003—2009 ¹⁷,

Mounting pressure on resources and the environment with rapid urbanization

According to the national census, China’s urban population grew from only eleven percent in 1949¹⁸ to thirty-six percent in 2000 and now to over fifty percent.¹⁹ China’s urbanization rate has accelerated and more than 10 million people flow into cities each year, creating huge challenges for local governments. By 2030, it is projected that the urbanization rate will reach 70% and 300 million people will have moved from the countryside to the cities (see Figure 2-4).

¹⁷ Education, health care and transportation, environmental protection are all important components of the public service system. In China, environmental public service is performed by central and local governments for ensuring the basic supply of high-quality environmental products, such as environment infrastructure construction, environmental management, water resources protection and pollution treatment. Hongyou Lu, Guangping Yuan, Sixia Chen, et al. 2012. *The Quantitative Measurement of Basic Public Service Efficiency of China’s Provincial Environment*. *China Population, Resources and Environment*, 2012, 22 (10): 48pp-54pp

¹⁸ Third National Population Census 1982, 5th National Population Census 2000

¹⁹ National Bureau of Statistics, *China Statistical Yearbook 2012*

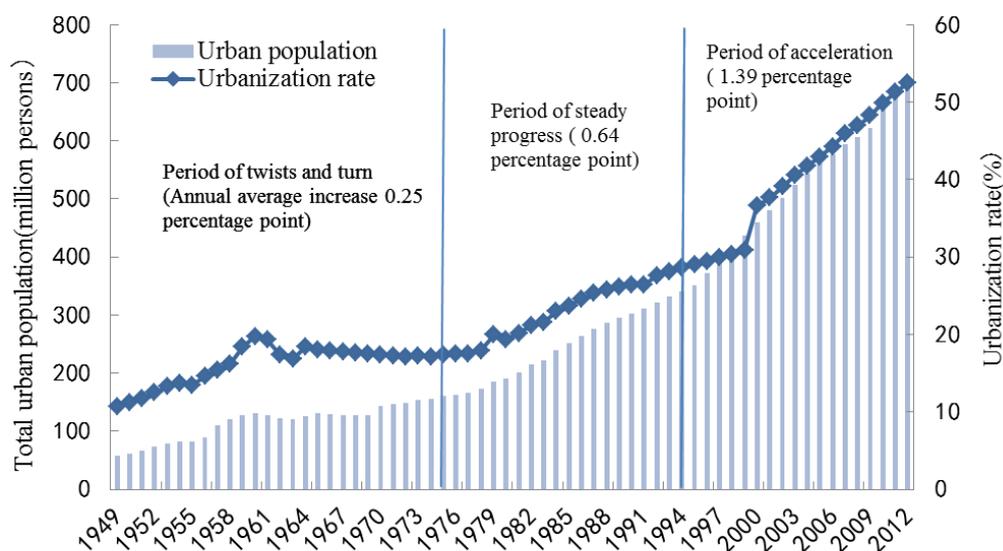


Figure 2-4. Stages of China's Urbanization

The core challenges are to consider how to reconcile the intensive utilization of resources and the carrying capacity of the environment, how to integrate the development of city centres and the surrounding hinterland with ecological protection, and how to coordinate urban and rural development and equitable access to public services among regions. The Wuhan Urban Circle and the Xiangtan Urban Agglomeration, for example, were authorized by the State Council in 2007 and 2008 respectively as pilot projects in the construction of "resource-saving and environment-friendly society". Subsequently, several local governments have begun to explore new models of urbanization.

Urban land use efficiency is low. Land devoted to urban construction land grew by 6.04% annually during 2000-2010, much higher than the rate of urban population, 3.85%. As a result of the rapid expansion of urban space and construction, cultivated land is dwindling. Over 400 of 650 cities face water shortages, of which about 200 are serious. The spatial distribution of cities and towns does not match the carrying capacity of resources and the environment. Urban agglomerations are not designed appropriately. Mounting population pressure in some large cities intensifies the degree to which environmental carrying capacity is exceeded, while middle and small-sized cities, due to the disparity between cluster industry and population needs, have not fully exploited their potential. Uncoordinated urban spatial distribution and size structure push up economic, social and environmental costs. Further, urban construction frequently ignores the protection of existing natural ecosystems, and in most cities and towns, the native natural ecosystems are withering quickly. Due to the mounting costs of the construction of urban environmental infrastructure coupled with weak environmental protection, regional urban environmental problems are increasing.²⁰

²⁰ See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 218-243. In Chinese.

Current models of urbanization will therefore face bottlenecks in water, available land for construction, energy (see Figure 2-5), and eco-environmental quality. Environmental issues arising from urbanization will become increasingly intertwined with social issues, creating a huge challenge for sustainable development. Forecasts for urbanisation suggest there will be a net increase of 1.89 times in the demand for energy, 0.88 times water, 2.45 times construction land, and 1.42 times, eco-environmental overload pressure.²¹

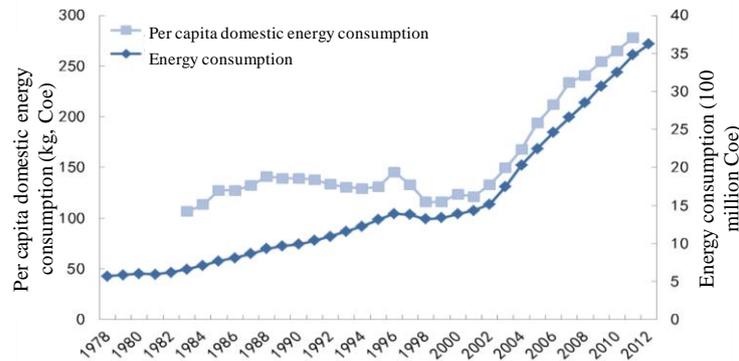


Figure 2-5. Energy consumption in China's rapid urbanization process 1978-2012²²

2.4. Obstacles to environmental and social development

Addressing the above problems at the intersection of environmental and social problems requires attention to a number of critical obstacles. Here we focus on three clusters of bottlenecks identified as significant obstacles to progress. These are: lack of knowledge; inadequate identification and fulfilment of appropriate roles of all actors in the system; and, deficiencies in governance.

Environmental perceptions and lack of information

At present in China there is inadequate research, knowledge and understanding about the inextricable relationships between the environmental and social dimensions of sustainability. Consequently those relationships, whether positive or negative, are not yet a well-developed focus of policy concern. The prioritisation of economic growth at all levels of government means that it has been difficult to design a development path that also meets social and environmental objectives. Frequent and serious environment pollution incidents in recent years, such as groundwater contamination, illegal dumping of hazardous toxic waste, and intentional concealment of pollution are all too evident.

The Chinese public is understandably concerned about local environmental issues that

²¹ Chuanglin Fang, Jiawen Fang. *The Analysis on the Resources and Environmental issues of China's Urbanization*. China National Conditions and Strength, 2013, 4: 33-34.

²² Source: China Statistical Yearbook 2012

directly affect their daily lives, and in the absence of information or alternative channels for redress increasingly resort to protest. Inadequate knowledge may also lead to government planning, such as spatial or urban planning, that may meet economic objectives but cause unintended impacts on the environment or fail to recognize the way in which the daily lives of people are affected.

Challenges also stem from the lack of public trust in government and enterprises. This is in part a result of poor quality or lack of access to information, for example, official environmental and social reports. The belief that environment-based mass incidents are compromising social stability is leading to government measures that affect the use of media, particularly regarding information sources that may prove to be false or open to varying interpretation. It is therefore increasingly difficult to reach a consensus on policies and measures for environmental protection and social development, or to achieve public acceptance of these policies, especially when the process requires compromise or negotiation.

Inadequate fulfilment of social responsibility by all actors in society

Sustainable development requires the fulfilment of roles and obligations by all actors. Businesses, the public and social organizations are not yet fulfilling their responsibilities in ways that would contribute to coordinated environmental and social development. Nor have they been adequately empowered or mobilized to do so. Raising the levels of personal and institutional commitment to practice a green lifestyle, and to engage fully in consistent support of sustainable, green development is difficult.

Although the Chinese leadership, in its drive for Ecological Civilization, has recognized the need to actively engage people to help improve policy design, delivery and implementation of sustainable development, the actual mechanisms for doing so are still lagging. The full range of activities that could systematically and consistently allow for monitoring, investigating and reporting on social and environmental impacts and changes have not yet been implemented. This lack of supportive systems and infrastructure also make it difficult to create a vibrant and active civil society around these concerns. Similarly, corporate social responsibility is in its infancy in China. There is also limited understanding about the role and limits of the market in meeting social and environmental objectives.

Deficiencies in the public governance system

Our preliminary analysis has pointed to legislative, financial and structural deficiencies that limit the realization of positive impacts that would come from understanding and acting on social, environmental and economic objectives at the same time. For example, although the investment in environmental protection has increased, local government funding remains inadequate because of fiscal decentralization, and thus the quality and delivery of environmental and social public services among regions is uneven and may create social instability. Notwithstanding the considerable efforts and declarations of the Chinese Government, a green lifestyle has not been realized and the intensity of resources and energy use has not been optimized.

The rule of law underpinning environmental and social development is weak in its implementation and coverage. Increasing public awareness of environmental benefits and the growing incidence of transboundary damage highlights weaknesses in environmental compensation mechanisms and inadequate mediation capabilities. Increasing environmental violations and mass disputes have underlined inadequacies in the operability and enforcement of environmental regulations. Environmental petition and litigation procedures are lengthy and complex, not well understood or managed by officials or the courts. There is also poor access to, and limited availability of, appropriate redress for people and communities.

In terms of policy development, the current policies on social development and environmental protection and their implementation, as well as economic policies are formulated separately and implemented independently. This lack of integration weakens the likelihood of creating a harmonious and productive relationship between them. Not only are opportunities for synergy not identified and maximized but opportunities to deal with inevitable tensions before they become serious problems are missed. Furthermore, public and stakeholder involvement remains inadequate in policy design, formulation, implementation and evaluation.

This also means that incentives that promote negative behaviour patterns continue to dominate. For example, existing societal norms, pricing of goods and services and how policy outcomes are measured, influence what is deemed to be important and are not challenged. Local government officials are not fully trained, evaluated or rewarded on the basis of achieving environmental protection or social development goals. Reinforcing status norms among the public, such as automobile ownership, or wasteful eating patterns, leads to unsustainable consumption.

Finally, China has profound inequalities between different geographic areas, between rural and urban residents, between genders and ethnicities. These inequalities manifest themselves in income, in access to and benefits from environmental resources and services and in relative exposure to environmental harm and threats to health and social protection. Reducing these inequalities for present and future generations is more likely to be achieved with policies and actions that are based on an improved understanding of the relationship between the environment and society.

2.5. International observations on environmental protection and social development in China

Three major multilateral organizations have previously addressed the relationship of environmental, economic, and social development in China and the need for policy harmonization among them. Brief highlights of these reports appear in Box 2-1. It is noteworthy that the OECD recommendations, presented two planning cycles ago, remain appropriate today, and indeed have become even more urgent.

Box 2-1. International studies on environment and social development in China

1. The Organization for Economic Cooperation and Development (OECD) stated in its *Environmental Performance Review of China* (2006)²³ that, to improve integrated environment and social development, improvements are needed in six areas: (1) increasing the proportion of the population with access to better environmental services (including safe drinking water, basic sanitation and power.); (2) accelerating the collection of environmental health and health-risk information; (3) improving the quality, frequency, scope, and reach of information disclosure on exposure to environmental health hazards; (4) improving channels for the general public's access to environmental information; (5) improving environmental education and dissemination; and (6) strengthening government cooperation and partnerships with enterprises, the public and NGOs to promote corporate social responsibility.
2. The World Bank indicates in *China 2030*²⁴ that China has the potential to become a modern, harmonious, creative, and high-income society, but reaching that goal requires a new development strategy. This strategy should include the implementation of structural reforms to strengthen the foundations of a market-based economy; the acceleration of the pace of innovation and the creation of an effective and creative innovation system; seizing the opportunity to “go green” through a mix of market incentives, regulations, public investments, industrial policies, and institutional development; the promotion of social security for all by facilitating equal access to jobs, finance, quality social services, and portable social security; and ensuring the provision of adequate financing to local governments to enable them to meet their responsibilities.
3. The *China Human Development Report 2013* of the United Nations Development Programme²⁵ conducted in-depth research on China's urbanization process from the perspective of human development and long-term sustainable development. The Report argues that human development should be the over-riding issue and primary benchmark in China's urbanization process and that strengthening governance in the social sphere is the key to future success. In the absence of strong and effective governance structures and mechanisms, it will be difficult to meet the complex challenges inherent in future urbanization.

²³ OECD. 2006. *Environmental Performance Review China*.

²⁴ World Bank. 2012. *China 2030: Building a Modern, Harmonious, Creative, High-income Society*.

²⁵ UNDP-China. 2013. *China Human Development Report 2013: Sustainable and Liveable Cities: Toward Ecological Civilization*.

3. PERSPECTIVES FROM INTERNATIONAL PRACTICE AND THEORY

3.1. Introduction

This chapter elaborates on international experience and perspectives concerning the relationship between environment and society. It examines: (1) the historical association of environmental protection and social development particularly since the industrial revolution; (2) international theoretical research on environment and social development, including alternative disciplinary perspectives; and (3) construction of a conceptual framework for the integration of environmental and social development building on the widely accepted definition of sustainable development. The chapter concludes with some implications for environmental protection and social policies in China.

3.2. Environmental protection and social interaction since the Industrial Revolution

A look into environmental history reveals that the relationship between humans and the natural environment has undergone profound changes in the transition to a modern economy and lifestyle that began with the Industrial Revolution. Yet in that transition from agricultural society, when the dependence on water, land and biological diversity was absolute, to an urban and post-industrial society, the point is sometimes lost that people still have an absolute dependence on nature for their existence and well-being. However much societies may believe that it is possible to “have dominion over nature” or to substitute for the many natural goods and services provided by ecosystems, there are rude awakenings, sometimes in the form of “natural disasters” that often are the result of human action²⁶.

Historical review

This short review (Box 3-1) examines key landmarks at the intersection of environmental, social and economic development, starting with the Industrial Revolution. This marked a critical transformation, with a large share of agricultural labour moving to urban areas, as well as changing production and consumption patterns. Industrialisation enhanced the capacity of humans to use and change their natural environment, while industrial activity led to the deterioration of ecological resources and environmental pollution. Throughout this process, environmental and social issues became increasingly closely linked.^{27 28}

²⁶ Some scientists believe human influence on the environment is so great that we have entered the Anthropocene epoch. <http://www.anthropocene.info/en/home>

²⁷ A more detailed timeline of key environmental events and actions from the early 1960s to 2012 is available from IISD. (International Institute for Sustainable Development.) http://www.iisd.org/pdf/2012/sd_timeline_2012.pdf

²⁸ For regionally differentiated assessment worldwide, considering timelines and linkages between environment and social issues, see for example www.unep.org/GEO and Kok, M, et al.: Environment for Development —Policy Lessons from Global Environmental Assessments. Netherlands Environmental Assessment Agency. the Netherlands: Bilthoven; 2009 – www.pbl.nl

Box 3-1 Timeline of some events and actions affecting environment and society

Time	Major Events and Actions
1760s -	The first technological revolution occurred, in which the steam engine was widely used as a power machine. Social wealth expanded dramatically alongside the production machines. Social lifestyles changed with the development of a large industrial economy. Migration to cities and industrial towns created unsanitary living conditions and local pollution. Natural resources were harvested on a larger scale, often from other less developed countries around the world.
1820s -	The world's population, human activities, and environmental pressure mounted. Because the rapid population growth happened in Europe and large emigration to the Americas, Oceania and Africa, the distribution throughout the world changed as well. ²⁹
1870 1920	– The second technological revolution was marked by the wide application of electric power, internal combustion engines and new means of transportation, new means of communication, and the birth of the chemical sector. The world moved into the "electric era" and increased use of oil-based energy production which fuelled development. Western countries took a number of measures and enacted a series of laws and regulations, such as the British Alkali Act and Rivers Act, Plant Management Regulations of Osaka, Japan, and early pollution prevention regulations of the United States and France. Conservation measures and national parks became popular. Water supply and sanitation was the focus of attention, especially in the new era of urban planning.
1900 -	Local social organizations were active in nature and landscape conservation and tried to achieve the access to and long-term ownership of natural and cultural heritage. Urban planning linked public housing promotion with environmental and social objectives by improving the indoor and outdoor living environment.
1920-1950	Air, soil and waters were subjected to on-going pollution with the formation and development of coal, metallurgy, and chemical industries, consumer and war-time industries thrived but without much pollution control or eco-efficiency, and post-war urbanization led to suburban development. The first great climax of pollution issues arrived, including the farmland water pollution in Ashio copper area in Japan, air pollution in Belgian Maas valley industrial zone, photochemical smog in Los Angeles and the Donora smog.
1950 -1970	The third technological revolution broke out, with significant inventions and breakthroughs in atomic energy, computer, aerospace engineering, and biological engineering. The Western powers competed for development after World War II, accelerating the industrialization and urbanization processes. Health

²⁹ Vries, Bert JM de: Sustainability Science. Cambridge University Press, 2013. Data as compiled in the History Database of the Global Environment (HYDE)
<http://themasites.pbl.nl/tridion/en/themasites/hyde/>

problems increased dramatically as a result of industrial activities and private car use.

A variety of air and soil pollution and food contamination incidents intensified, including the Minamata disease in Japan during 1953-1965, the Toyama Prefecture during 1955-1972, and the rice bran oil incident in 23 counties in Japan, including Aichi and Kyushu in 1968.

The Western countries began to set up specialized agencies for environmental protection, and promulgated and developed a series of environmental regulations and standards to strengthen the rule of law, especially after the USA established the National Environmental Policy Act in 1969.

The awareness at the international dimension of environmental change (cross-border air and water pollution, regional and global issues) was enhanced, for example through the International Joint Commission between Canada and the USA.

1970 – People became aware of and demanded action concerning such
1990 environmental issues as illegal logging and land reclamation, overfishing, stratospheric ozone depletion, chemical pollution, and climate change and demanded action. The first Earth Day (1970) involved thousands of organizations.

Major watersheds in industrialized countries were gradually restored, with urban air pollution brought under control.

New environmental departments and non-governmental departments began to use specialized, integrated and systematic means to address issues associated with public health, natural resources and landscape.

Frequent major industrial accidents forced the adoption of more stringent laws and regulations and also increased voluntary action such as Responsible Care in the chemical industry.

The United Nations Conference on Human Environment was held in 1972 in Stockholm and launched the International Human Dimensions Programme on Global Environmental Change (IHDP). The concept of sustainable development was raised by the IUCN and in 1987 by the World Commission on Environment and Development (Brundtland Commission) and gradually accepted globally and at community levels.

UNEP was founded and began to play a coordinating and facilitating role through the United Nations and its agencies.

Global environmental change was recognized in the early 1970s. International NGOs (such as the Club of Rome) joined in environmental action together with other international, national and local civil society organizations.

A number of regional multilateral environmental agreements came into existence, such as the *European Convention on Long-range Transboundary Air Pollution*, and some protocols on desertification and chemicals.

<p>1990 2010</p>	<p>– Humans entered the era of globalization, and computer network technology, information technology, biotechnology, genetic engineering technology, and microelectronics integration technology were becoming highly integrated and industrialized.</p> <p>Ministerial Conference on Environment and Development held in 1991 in China adopted and announced the Beijing Declaration. In the same year, the CCICED was established in Beijing.</p> <p>In 1992, the United Nations Conference on Environment and Development convened in Rio de Janeiro, Brazil and adopted two programmatic documents, namely the Rio Declaration and Agenda 21, marking that sustainable development had been generally recognized by countries of varying ideologies about development.</p> <p>2002 UN World Summit on Sustainable Development held in Johannesburg, brought attention to poverty eradication and environment links, and to the creation of the Millennium Development Goals.</p> <p>The systematic and integrated assessment and outlook of national, regional and global environment situation, human development and other issues were conducted by the UNDP, UNEP, WHO, and OECD among others.</p> <p>Following introduction of the world wide web, and various social media, communications related to environment and social issues expanded dramatically.</p> <p>A number of international environmental conventions were made, such as the Vienna Convention, and Montreal Protocol, and some consensus and principles on global environmental governance reached, such as "common but differentiated responsibilities".</p> <p>The 2009 Copenhagen Climate Change Conference discussed the global agreement on greenhouse gas emissions reduction by 2020.</p>
<p>2010s -</p>	<p>The 2012 UN Conference on Sustainable Development which took place in Rio focused on two topics: (1) role of a green economy in sustainable development and poverty eradication; (2) an institutional framework for sustainable development including the creation of Sustainable Development Goals.</p>

The above review suggests that the relationship between societal issues and the environment have become complex over time and the dependency between them increasingly close. Environmental protection measures and policies are increasingly constrained and driven by social issues, and the reverse is also true. The following international statements are examples of the clear recognition of this complexity.

Economic and Social Development Links: *We recognize that poverty eradication, changing consumption and production patterns and protecting and managing the natural resource base for economic and social development are overarching objectives of and essential requirements for sustainable development.*³⁰

Green Jobs: *...Coordinated global action and investments of about US\$1.8 trillion to achieve a series of sustainable development objectives might lead to 13 million new*

³⁰ 2002 Johannesburg Statement on Sustainable Development.

<http://www.un-documents.net/jburgdec.htm>

*green jobs per year until 2050. Considering that higher costs in energy supply would replace other jobs through lower consumption, net global job creation would be less, possibly substantially so... Under no conceivable assumptions will green jobs alone be an answer to the global employment challenge to create on the order of 63 million decent new jobs per year until 2050.*³¹

Liveable and Sustainable Cities: ...Denotes urban areas managed to provide for people's basic needs and comfort in the short and long term. Some indicators include sound urban planning and design, urban form, the availability of well-maintained public spaces, adequate and widely available services, the preservation of culture and tradition, the promotion of cultural services and infrastructure and cultural industries, clear sky and clean water, and efficient use of natural resources...³²

Lessons from historical experience

This brief review (Box 3-1) reveals an accelerating pace of economic development and social change that can work both for and against environmental protection and social development, as well as the increasing complexity and dependency in this relationship. The timeline also reveals the influence of innovation and of disruptive technologies that can provide new solutions but also create new problems. It also highlights the important roles that cities have played in development, and the great need to make them liveable.

Even this cursory overview of changes that have been important in shaping development in various parts of the world yields significant conclusions that are important for China's future sustainable development planning and decision-making. Several key points are highlighted below.

- Coal-based and other resource-dependent industries have accelerated industrialization and urbanization, but in the process they have stimulated the rise of unsustainable lifestyles and consumption patterns, leading to serious environmental and social risks and challenges.
- For countries well on in the process of industrialization, government actions to address environmental and social issues can be dated back to the late 19th and first three decades of the 20th century. In general, these actions are driven by: the direct impact of industrialization on human health, but also, sometimes by the conservation of ecosystems; and increasing awareness of the relationship between poverty, ill-health and the environment through public and community health campaigns. The U.S and Japan, for example, took many appropriate measures to

³¹ Rio 2012 Issues Briefs *Green Jobs and Social Inclusion*.

<http://www.uncsd2012.org/content/documents/224Rio2012%20Issues%20Brief%207%20Green%20jobs%20and%20social%20inclusion.pdf>

³² UNDP China. China National Human Development Report 2013. *Sustainable and Liveable Cities: Toward Ecological Civilization*.

http://www.undp.org/content/china/en/home/library/human_development/china-human-development-report-2013/

clean up public waterways, formulated laws on factory management, and carried out public health control measures and social policy initiatives to increase investment in basic public services. However, with a lack of effective policy instruments to address emerging public policy issues, these early actions were quite constrained.

- More complex public policy responses, pollution governance and environmental regulations were rolled out in the second half of the 20th century, with improvements in technology, public awareness of environmental pollution and human health, and the level of attention given to environmental issues. From the 1950s onwards, industrialized countries began the clean-up of contaminated waterways and smog abatement by introducing new environmental laws and organizations, and increasing government spending for environmental protection, (for example, to levels of 1% to 2% of GDP of the United States and Japan). Environmental movements emerged in the late 1960s, registering citizen concern for environmental degradation impacts on human well-being and the economic costs. Environmental issues gradually became the focus of global attention. In 1972, the first United Nations Conference on Human Environment was convened in Stockholm.
- The international background of discussions on the environment has undergone tremendous change as many traditional regional and local environmental issues have evolved into global issues, such as illegal logging, air pollution, climate change, and over-consumption. It is noteworthy that scientific and technological progress, as well as the institutional frameworks, governance mechanisms and social movements for environmental protection in developed countries generally do not mitigate the environmental impact on developing countries, while the discussions on economic development, human welfare and environmental rights become more heated in developing countries.
- Many long-term changes arising from human activities such as emissions, excessive natural resource use, biodiversity and habitat loss are now recognised to be irreversible. Scientific studies of the global impacts of human activity on the environment suggest that some ecological limits are being exceeded. This shifts the calculus of risk, requiring greater emphasis on precaution and preventive measures.
- Actions to protect the environment are intertwined with a variety of political, economic and social issues, such as the liberation movement of workers in Europe in the 1920s, the Western anti-authoritarian sentiments during the Vietnam War in the 1960s and 1970s, the turmoil of the centrally planned economy in Poland in the 1980s, and the minority (Kurdish) national issues in the large-scale water and mining projects in Turkey during the 1990s.
- Over the past four decades, social organizations and NGOs have played an important role in environmental policies and actions, as well as on other social issues. Civil society activities are now widespread in both rich and poorer nations and in the international community. Transnational networks play significant roles

in shaping policy action, and are frequently at the leading edge of social and environmental matters.

- In some developing countries, including China, better-educated, wealthier middle-class citizens with higher environmental awareness have raised new demands from governments. Beyond simple health, livelihoods and short-term environmental issues, their demands incorporate higher aspirations, including participation in decision-making, transparent governance process, information disclosure, and better government attention to environmental issues. In this sense, economic prosperity and rising expectations press for new and better requirements to deal with contaminated products; but also that unsustainable consumption may lead to worsening of environmental problems. Meanwhile, in the context of increasingly quick and transparent information dissemination, the tensions between different interest groups (social organizations, businesses and governments) are more likely to spark public mass incidents.
- Green economic transformation and international partnerships have become a new international trend. In the short run, green economy policies may have similar goals to current policies in promoting economic growth and employment. However, over the longer term, investment should be reallocated to enhance social and environmental benefits. According to UNEP's *Green Economy Report*³³ an annual input of 2% of the world's GDP, i.e., USD 1.3 trillion at the current level, to ten major economic sectors from now to 2050 could be used to catalyze the transition to a low carbon green economy. Under the guidance of green economy policies at national and international levels, priority areas for investment would include agriculture, construction, energy, fisheries, forestry, manufacturing, tourism and transportation. While stimulating growth and creating jobs, an appropriate 'green development' strategy should be designed to reduce pressure on water and other critical resources, and contribute to the eradication of extreme poverty and the mitigation of climate change.
- The current global ecological and environmental protection crisis is resulting in a rethinking of environmental, social and economic policies, in order to identify a new path of green development in the 21st century. Countries in the world recognize that the global ecological environment is also a commons of concern to all people. Increasing population and increasing per capita consumption have shifted the world's attention to climate change, planetary boundary limits, and the Earth's carrying capacity.³⁴ Through the UN Earth Summits of the past two decades and current negotiations over a set of Sustainable Development Goals, finding pathways to sustainable development has now become a priority for the international community. However in practice a failure to implement appropriate policies, the dominance of economic growth and disagreement over the allocation of responsibilities make this new path a profound challenge.

3.3. Theory and practice at the intersection of environmental protection and

³³ <http://www.unep.org/greeneconomy/greeneconomyreport/tabid/29846/default.aspx>

³⁴ Recent reports on these subjects have been produced by the Intergovernmental Panel on Climate Change (IPCC), the Stockholm Resilience Centre, and the WWF.

social development

No single theoretical or disciplinary approach or ‘model’ is adequate for illuminating or explaining the complex and multi-dimensional relationships between environmental and social issues, or the conditions under which they lead to conflict. The goal of an ‘integrative’ framework, that appropriately balances these different elements, remains elusive. The taskforce sought to develop a simple framework that might be of help in identifying some of the more important linkages that should be taken into account when balancing environmental protection and social development needs, in order to identify ‘win-win’ solutions and minimise trade-offs and to provide guidance to policy makers. This section identifies some of the theories and practices that form the basis for such a task; a simple framework is proposed in the following section.

Key policy issues and research fields

Any society or organization in the process of transformation will face certain basic contradictions and problems. These include conflicts between economic, environmental and social objectives, over the reallocation of resources, and among vested interests. As a consequence, tensions among different social actors and groups will arise, sometimes exacerbated by long-standing inequities and uncertainties. Public policy and governance mechanisms and institutional arrangements must play a role in the resolution of such conflicts.

Some key areas of interaction between environment and social issues, potentially leading to tension or conflict, are seen in the following fields:

- **Environment and poverty.** Pressures from environmental degradation, water scarcity, and climate change pressures fall on vulnerable groups through a series of mechanisms. Environmental issues could therefore exacerbate social differentiation. Rural poor populations are often regarded as the managers of the natural resources on which they depend, but they may also be responsible for environmental degradation, usually because of the lack of alternative livelihoods. The urban poor population is likely to be subject to hazards from their living and working environment. In addition, poorer people may be more prone to natural disasters due to their geographical location or limited response capacity.
- **Environment and population.** Important progress has been made in reducing pollution and environmental degradation and improving the efficiency of resource use in large parts of the world. This improvement can be attributed to a significant extent to technological progress. A fear that population pressure would wipe out these gains has been mitigated by a slowdown in the rate of population growth. However, controversy exists over whether the needs of a still growing population can be met within environmental limits through technological advances alone, or whether more profound changes in consumption and lifestyles are required.

Another demographic trend is occurring in many countries, including China, with

rapid population aging. This places burdens on government budgets and social policies, with high and rising costs in care. Elderly people are also more vulnerable to environmental problems such as urban air pollution, which implies that environmental-related mortality and morbidity (and associated costs) will rise as populations age. Relatedly, the World Health Organization (WHO), the World Meteorological Organization (WMO) and the Intergovernmental Panel on Climate Change (IPCC) have drawn attention to the multilayer effects of metropolitan agglomeration, population aging, and extreme climate change.

- **Environment, migration and urbanization.** The movement to cities causes many problems both in the countryside and in cities and suburban areas. For the coming 20 to 30 years such migration will be extremely important in countries throughout the world mostly in Asia and Africa.³⁵ However none will match the scale of urbanization in China. Thus urbanization has rightly become a matter of intense focus for China's leadership.³⁶
- **Environment and health.** Major public health and environmental management activities are driven by the relationship between environment and health. Poor environmental conditions undermine the health and the capacity of populations to cope with disasters or shocks; while conversely ill-health increases the vulnerability to other shocks including environmental hazards. Environment-related public infrastructure and services, such as water, sanitation, and solid waste management, have thus been a critical mechanism for improving public health, and are generally provided by states through public health programs.
- **Environment and employment.** Better employment is a critical mechanism for solving livelihood and poverty concerns, but also requires improvements in workplace safety and the work environment. In this respect, the current thrust towards creating "green" jobs and providing skills training for viable and sustainable economic sectors, may contribute to both social and environmental gains. At the same time, improved eco-efficiency and other innovations could help to meet environmental protection goals in the workplace in ways that would also improve the competitiveness and profitability of enterprises.
- **Environment and social justice.** In low-income areas, environmental and social tensions mainly relate to the conflicts arising from the use of resources (minerals, land, water) and forests, grasslands and other ecosystems to achieve basic livelihoods and well-being. Generally, poorer populations face higher health risks, and are more susceptible to industrial and workplace-related pollution. However, with respect to the rich and those living in more developed regions, environmental concerns tend to relate more to quality of life, or consumption and behaviour patterns, lifestyle expectations, and information needs. Environmental issues rise

³⁵ UN HABITAT estimates that world's urban population is likely to increase from current fifty per cent to seventy per cent by 2050 <http://www.unhabitat.org/documents/GRHS09/FS1.pdf> .

³⁶ Premier Li Keqiang has advocated for a new type of urbanization: "people's urbanization" which should be human-centered, ensure the prosperity of the people, and support China's growth. http://www.chinadaily.com.cn/china/2013npc/2013-03/18/content_16314958.htm

to become pressing political issues when the environmental economic costs become apparent (e.g., reduced productivity and rising health costs) or social conflicts and protests break out.

- **Environment and sustainable consumption** has been a major concern since the 1990s but progress on reducing overconsumption in richer countries has been slow. Sustainable consumption involves a complex mix of values and behaviour changes, and depends upon enabling measures such as access to greener consumer products, green market supply chains, and green government and industry procurement practices. Sustainable consumption also needs to take into account growing environmental footprints and sometimes, trade practices. For large, rapidly developing countries such as China, particular dilemmas include gaining access to sufficient resources, while increasing eco-efficiency in their industrial operations and in energy use generally.

Theoretical perspectives and policy linkages

In mainstream neoclassical economics, environmental and social issues have generally been subordinated to economic ones. A widely held but disputed view is that once societies reach a certain level of aggregate affluence they have the financial means, sufficiently mature political structures and institutions, and technological attainment to respond to environmental challenges, as represented in the ‘environmental Kuznets curve’³⁷. While experience does point to more affluent countries effectively tackling problems of pollution, there is no evidence for a deterministic relationship between income and environmental protection. Furthermore, this relationship has been misinterpreted in assuming that growth, by raising incomes and reducing poverty, will lead to better environmental (and social) outcomes; and that market mechanisms are the best facilitators of sustainable growth.

Even within mainstream economics, the limits of markets are acknowledged: markets are subject to imperfections or failures, or simply do not exist. These limits apply to many essentially ‘non-market’ goods and service such as environmental services and common property resources; to externalities and public goods (or ‘bads’) such as air pollution; cases of natural monopoly as in many environmental services such as sewage, drainage, public sanitation, public transport or energy supply. Cap and trade mechanisms that aim to combine markets with environmental limits have had mixed results. The application of such market mechanisms to environmental services (for example, through pricing policies) also has strong distributional impacts, tending to reinforce existing inequalities in the absence of strong redistributive measures. Often associated with mainstream economic approaches is a corresponding reliance on technological solutions to overcome environmental constraints. Social issues, in such approaches, tend to be relegated to a residual category with policies aimed at

³⁷ Selden T M, Song D. Environmental quality and development: is there a Kuznets curve for air pollution emissions? *Journal of Environmental Economics and management*, 1994, 27(2): 147pp-162pp.

providing minimal assistance only to the most vulnerable.

A number of alternative approaches exist, coming from fields such as institutional and ecological economics or from other social sciences, such as political economy and political ecology. These tend to analyse the more complex links between economic, environment and social issues, including the ways in which markets are socially embedded and reflect broader institutional arrangements, social and power relationships, and diverse values and priorities. For example, institutional economists have shed light on collective action problems related to common property resources; political ecologists are also concerned with how the environment affects or constrains development, and the structural (including gendered) inequalities which are central to environmental degradation. Other social science disciplines point to a range of alternative social, ethical, cultural and philosophical perspectives, allowing for different values attached for example to nature and the environment, different perceptions of risk, and alternative interpretations of rationality. They thus provide greater scope for understanding and addressing sources of disagreement and possible conflict; and for developing more integrative frameworks linking social science with natural science and policy.

The main 'framework' around which efforts are currently being made to build consensus at a global level, and which informs international policy and practice, is that of 'sustainable development'. Following the 1987 Brundtland Report, the dominant view of sustainable development is of three inter-related domains or pillars, with presumed equality between them, which can be reconciled to create a 'triple win' scenario – delivering gains for individuals and societies within environmental constraints and ensuring adequate environmental resources and services now and in the future. In reality, these domains have not received equal treatment, and the social generally remains weakest, as illustrated by the current emphasis on 'green economy' solutions which focus principally on environmental and economic linkages. Multiple critiques have generated on-going efforts to reconceptualise the relationship. One approach is as a nested concept where the economy domain lies within the social domain, and should contribute to social goals, while both need to remain within the (shifting) boundaries of environmental carrying capacity and ecosystem functioning. One representation of this way of thinking can be found in Figure 3.1

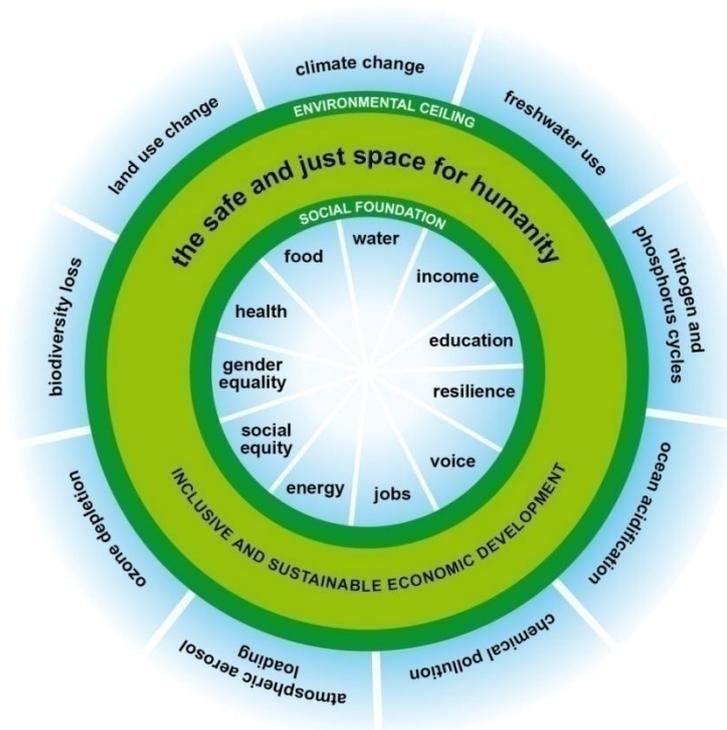


Figure 3.1 The Oxfam ‘doughnut’ showing the balance between planetary boundaries and a social minimum of resource use and environmental impact ³⁸

Despite these theoretical and conceptual debates and challenges, a range of analytic tools and policy innovations have nonetheless been developed which aim to address more systematically the neglected environmental-social linkages. Examples include the following:

- 1) **Capitals:** An approach that has been promoted by World Bank environmental staff examines these relationships through consideration of expanding and contracting stocks of capitals: natural, social, human and built (or manufactured); some also include financial capital.³⁹ This approach recognizes that there can be interplay among these types of capital, for example natural resources can be managed to invest in education and health care, and thus contribute human capital and also, perhaps, to institutions that enhance social capital. The capital approach is useful in defining necessary natural capital in the form of ecological goods and services, essential levels of open green space in cities, and levels of renewable resources to supply the material needs of present and future generations.
- 2) **Risk Assessments, Environmental Impact Assessments (EIA), and Social Impact Assessments (SIA)** provide an important set of tools that help to shape decisions regarding environment and social concerns about projects and policies. However these tools tend to be used separately; most commonly an

³⁸ <http://www.oxfam.org/sites/www.oxfam.org/files/dp-a-safe-and-just-space-for-humanity-130212-en.pdf>

³⁹ See <http://www.forumforthefuture.org/project/five-capitals/overview>

EIA is performed. Joint consideration of EIA and SIA would provide for a more thorough understanding of the relationship between environmental protection and social development and may lead to less conflict over results. Risk assessments allow for a more careful and quantitative assessment of both social and environmental concerns. An objective examination of the nature of risk and probability, and the possible impacts, however, requires that such assessments be carried out in a transparent way by independent agents, and based on good scientific knowledge coupled with follow-up action and monitoring of effectiveness. It also requires openness of information flows and credibility in the information, institutions and processes among the wider public. Access to the decision-making process is also necessary for those affected or likely to be affected by the outcome.

- 3) **Environment and Regional or Urban Development Planning** have long played an important role as an integrative means of addressing a wide variety of social and environmental needs in development planning. The approach should be inclusive and adaptive both from an environmental and social perspective, and this is often a stumbling block. Also, the planning must draw upon a wide range of information with considerable sophistication in the analysis in order to address key concerns such as the creation of green transportation systems, parks and other open spaces, risks related to the siting of natural hazards, and to minimize conflicts of land use that raise environmental and social problems.

Approaches to sustainable development reflect varying perceptions, assumptions or preferences, and fundamental values or conventional wisdom. Among these are views about the relative roles of the market and the state; the relative weight given to efficiency versus equity; methods for the evaluation of various material and non-material resources (such as environmental or cultural resources); the balance sought between the well-being of current and future generations; and alternative choices between pathways towards 'weak sustainability' through incremental reform of current practices or the more transformative action needed for 'strong sustainability'. As far as China is concerned, the current focus on Ecological Civilization suggests a shift from the dominant focus on income and GDP growth to give more attention to non-material and ecological goods and services. On a worldwide scale, similar changes are observed in the discussions about the green economy, especially since the United Nations Conference on Sustainable Development in 2012.

Policy frameworks and priorities also change over time and space. From a temporal point of view, the focus of work changes, for example in the case of food products from the earlier technical approach (as in the green revolution) of the 1960s to 1980s; the community-based resource management approach from the 1970s to 1990s; and then to the more recent emphasis on genetically modified crops and the green economy; and now further to a blend of all of these that takes into account sophisticated environmental protection and food safety factors. From a spatial point of view, regional and global differences can also be observed, further complicating responses given the difficulty of determining environment and social responsibilities, and distributing costs and benefits, in different places or at different levels. An added layer of complexity exists for cross-border issues, which may involve local

boundaries or international borders, or small and isolated communities.

Current Opportunities

In spite of numerous challenges, innovative environmental and social policies are emerging to address systematically a range of interrelated environmental and social development challenges. Such policies have the potential of improving social outcomes, reducing risk and enhancing social justice while achieving environmental goals more effectively. For example, efforts could include the incorporation of environmental and social objectives jointly into long-term development planning and impact assessments, introduction of environmentally-targeted social policies as is currently done for some eco-compensation efforts for watershed protection, as well as the formulation of policies to promote education and training and green jobs. There is also a clear need to enhance environmental information release to the public beyond steps already taken, and to foster the participation of the public in assessments and improve oversight mechanisms.

Increasingly, decision-makers around the world are recognizing that their understanding of the importance of the environment and societal relationships, and the potential contribution of social policies to environmental goals into policies and practice is limited and needs to be transformed. At present, the issues of most concern include: the impact of environmental change or degradation on the livelihoods and health of populations, communities and social groups; the impact of human behaviour and consumption on the environment; the impact of such tertiary factors as economic growth, various inequities, and resource allocation on environmental and social outputs; and governance and participation, including the establishment of mechanisms to address tensions and manage potential or actual conflicts. In fact, understanding the social context helps to identify and analyze key factors in the environmental and social interaction, such as the role of different social actors and the formation of values, social equity and distribution, and social and public policies.

Among these, the potential use of social policies in achieving environmental objectives has not been fully explored, and in fact, may offer significant opportunities. Social policy encompasses a range of public actions designed to manage livelihood risks, protect people against contingencies (such as ill-health and loss of income) and invest in their capacities to contribute productively to the economy. It is also important in awareness-raising and public participation. Social policies thus have a significant role in the transformations required for sustainable development: by reducing well-being deficits associated with unequal resource access; incorporating environmental risks which disproportionately affect the poor; facilitating 'green' employment and skill transitions; creating incentives to change the behaviour of consumers; and fostering social inclusion, cooperation and trust in institutions, which can in turn reduce social tensions and threats of conflict.

A logical further step in the extension of social policies is thus to incorporate environmental objectives into the existing social policy system. Social policies can be designed to extend beyond the scope of protection and compensation mechanisms, to support a structural change towards sustainability of lifestyles, consumption and behaviour of individuals, businesses and governmental bodies, while ensuring the

fairness of the results. These mechanisms may include the collective supply of social and environmental public goods, housing, energy and infrastructure investment for the poor, and low-carbon consumption incentives. In addition, the mechanisms should also cover the design and implementation process of public policies, the right of civil and social institutions to influence decisions, protection of the rights and interests of vulnerable groups, or relevant systems to supervise business and government and improve their accountability.

All change processes are inevitably accompanied by new problems, such as unequal benefits, new resource conflicts and social unrest, and generally there are no easy solutions. Conflicts between the environment and development will not resolve themselves, or be resolved strictly through technical means and the market. On the contrary, the market tends to exacerbate the existing unfair distribution and power relations, while technological solutions tend to be insensitive to social and distributional issues. International practice and theories also clearly tell us that the social conflicts resulting from increasing environmental awareness and concerns over impacts will not melt away automatically, especially as resource use intensifies, and urbanisation proceeds. If environmental protection improvements do not keep pace, public concern and pressure for solutions will become a greater political as well as social problem.

In other words, to solve the social problems created in a changing environment, concerted and coordinated actions by governments are needed to reduce the negative environmental impact on some groups and to resolve conflicts. Such approaches need to be supplemented by appropriate governance, social management and participatory mechanisms. In addition, strong actions should cover polluting enterprises and local governments. The implication for China is that the government at all levels needs to be more innovative in the management of problems, as well as providing a wider space for civil society groups and citizen action, and clarifying environmental and social rights and responsibilities.

3.4. Explorations for a suitable framework linking environmental improvement to societal action

An important challenge is to shift the focus from sector-specific theoretical perspectives and practices towards creation of an integrated policy framework. At the moment, countries around the world are making efforts to reach a consensus on an international set of policies and practices that provides a more robust framework for sustainable development.⁴⁰ However, such a framework will need to be grounded in the development of mechanisms that are relevant to, and implementable in, local situations in countries as complex as China. The contribution of this Task Force toward such an effort will indeed be modest due to limitations of time, and to some extent differing views among members.

⁴⁰ See the efforts for a post-2015 set of global sustainable development goals.

<http://sustainabledevelopment.un.org/index.php?menu=1300> ; and also efforts to establish green economy and green growth experience throughout the world (UNEP and OECD among others).

The Task Force examined several simple word models to demonstrate the links and feedback loops between four key factors: human society, the natural (and in some cases also the built) environment, behaviour towards the environment, and environmental governance. These four factors are interactive.

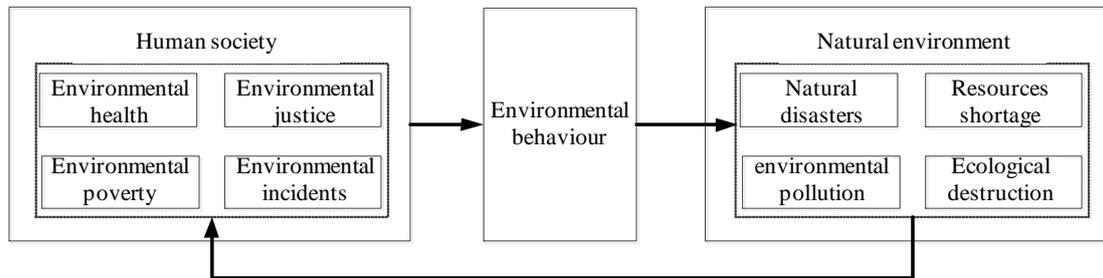


Figure 3-1. Model considering human behaviour towards the environment and the role of environmental governance

The model in Figure 3-2 is based on the assumption that appropriate behaviour in production and living is conducive to the quality of the natural environment, thus contributing to the solution of environmental problems and social progress, and thereby the coordinated environmental protection and social development. What is described here is an ideal, and points to the need for adjustment of uncivilized or irrational environmental behaviour—whether on the part of government, businesses and individuals. In reality, however, tensions between environment and society may be addressed at a local level, but remain problematic overall.

Figure 3-3 reveals in somewhat more detail what must be considered in both responding to environmental problems, and in satisfying society that problems are being properly addressed.

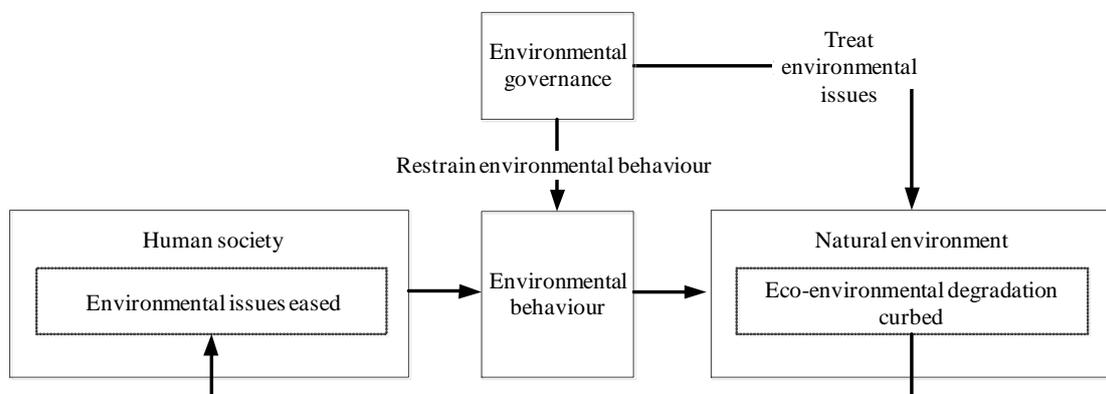


Figure 3-2. Theoretical model considering environmental behavioural variables

In Figure 3-4 a preliminary effort has been made by the Chinese members of the Task Force to put forward a conceptual framework suited to Chinese circumstances – one

that will ensure progress towards achieving an Ecological Civilization. It incorporates concern for maintaining social stability while seeking environmental protection improvements, and for promoting social harmony and acting on environmental values. It assumes continued economic development and innovation in institutional, management and technological aspects, all related to the Scientific Outlook for Development. This model is likely to be quite different from models based on a western democratic society, and yet it will need to be robust in terms of improving both environmental protection and the social condition.

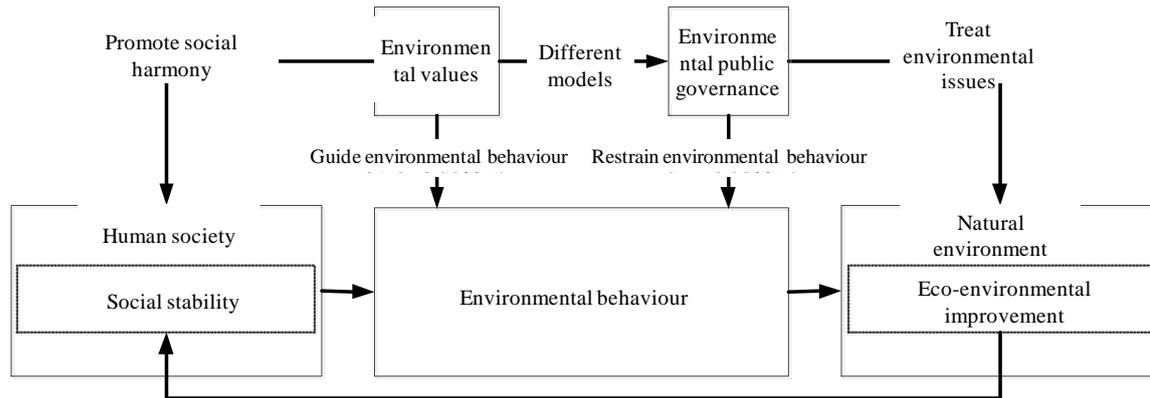


Figure 3-4 Model considering environmental behaviour, public environmental governance and environmental values

Importantly, its application to China will also have to consider some important dynamics over time that affects both environmental and social development. For example, the demographic changes already in motion, the growing importance of domestic consumption and the sheer pace of China’s current changes. These are not shown in the simple version depicted below.

4. A FRAMEWORK FOR POLICY AND ACTION

To achieve a long-term vision or goal of Ecological Civilization the Task Force puts forward for consideration a framework for policy and action that integrates social development and environmental protection. The outcome should be improved environmental and social harmony, and overall progress towards a “Beautiful China”

4.1. Basic principles

The Task Force has identified five principles that can usefully guide the formulation of policies for linking environmental protection and social development.

- **Multi-stakeholder participation.** Attaining sustainable development is a shared responsibility. Experience has shown that the commitment of the Chinese government to economic development over the last three decades has

generated many environmental and social problems and incidents have arisen, some of which undermine the credibility of the Government. This can be attributed, in part, to inadequate opportunities or mechanisms for all actors and social groups to provide input into policy. It is therefore necessary to clarify the roles and responsibilities of different actors. Where necessary, it may be important to transform the functions of the Government, so as to more appropriately drive coordinated economic, social and environmental progress. Mechanisms to enable and recognize the positive contributions of businesses/corporations can also be created.

- **Coherence between long- and short-term visions and targets.** The Task Force emphasizes that environmental protection and social development require immediate practical actions, but also a long-term vision and plan to safeguard future generations and build a “Beautiful China”. Thus, the process of policy formulation should articulate clearly both a long-term vision and develop short-term targets and objectives to make progress toward reaching that vision. Achieving an Ecological Civilization is a long-term vision. To this end, the Task Force suggests setting clear objectives and tasks for China’s future development process associated with environmental protection and social development over short, medium and long-term timeframes.
- **Policy coherence.** Policies for economic, environmental and social development should be interdependent and mutually reinforcing, rather than conflicting or contradictory. For a country moving towards sustainable development, it is necessary to integrate and coordinate the development and implementation of economic, social and environmental policy objectives, even while recognizing the need for parallel and distinct means of accountability.
- **A strong legal foundation.** The Task Force highlights the importance of laws and regulations, designed to support the objectives and needs of economic, social and environmental development rather than being based on the preferences and propositions of vested interest groups, enterprises or individuals. This is an important guarantee for long-term social stability. It is particularly important to protect and safeguard the provision of public goods and services and to ensure that any framework considers the legal guarantees relative to other mechanisms such as market instruments. Laws and regulation should enable public access to information, and create a legal framework for robust and useful mechanisms for public supervision of development policies.
- **Equity and justice.** Environmental resources, rights and responsibilities should be distributed equitably. Access to a clean environment and an acceptable quality of life should be available to all. In order to fulfil their obligations to achieving environmental protection and social development individuals, organizations and enterprises must have the capacity, knowledge and means to behave responsibly. In formulating relevant policies in matters such as green procurement or sustainable consumption, not only equitable distribution of rights and interests among different groups should be secured, but also their obligations to participate in environmental protection and social development should be promoted.

4.2 Vision 2050/Action 2020

Adopting a Vision 2050/Action 2020 approach will require immediate actions in order to bring the 2030 and even the 2050 Visions within reach. That is due to the need to consider the time required to change and/or build infrastructure, spatial patterns and financial obligations.^{41,42,43} Through backcasting from a vision, it is clear that some decisions needed to be taken soon, especially for the 13th FYP, in order to ensure the chances of achieving the vision. Some of these actions have been identified and are recommended in Chapter 5. Such backcasting is also important because it will give direction to a further program of targeted policy-oriented studies following this initial study.

To achieve policy coherence over various timeframes, a number of goals and objectives could be envisioned.

- **By 2015, the ecological, environmental and social targets in the 12th FYP should have been achieved.** People's lives will continue to improve and the main medium-and longer-term goals for environmental protection, production patterns and lifestyles of quality will take initial shape. A more favourable and robust legal system for the coordination of environmental and social development will be established, while the management system and policy system will become better coordinated.
- **By 2020, the aim is to have built a moderately prosperous *Xiaokang society*.** Better spatial land patterns and environmental functional zoning will be in place. A resource-conserving and environment-friendly economic structure and system will basically have been built, although still in need of much more attention. Levels of efficiency of resource utilization should be closer to the most advanced levels in the world, while the energy consumption per unit of GDP will have been reduced substantially. As the total discharge of major pollutants decreases drastically, overall environmental quality will improve significantly. The concept of Ecological Civilization will be firmly rooted in the whole of society. Specific improvements will also have been made in the legal system, policy system, social risk prevention and control system, and public environmental management and service system.

⁴¹ WBCSD (2010) *Vision 2050. The new agenda for business*. World Business Council for Sustainable Development, Geneva. English edition. Chinese edition available.

⁴² PBL (2009) *Getting into the Right Lane for 2050. A primer for EU debate*. PBL Netherlands Environment Assessment Agency and Stockholm Resilience Centre. PBL, Bilthoven, The Netherlands

⁴³ TIAS (2010). *A comparative study of Visioning-Backcasting Initiatives*. The Integrated Assessment Society. <http://www.tias.uni-osnabrueck.de/backcasting/>

- **By 2030, environmental pollution problems will be much more fully resolved.** Upon meeting environmental quality objectives fully, environmental public health needs will be met. Ecosystems will be stable and healthy with robust service functions and improved biodiversity protection. The spatial land pattern and environmental function zoning will be fully established, while the economic and industrial structure will be able to meet the requirements of an Ecological Civilization. Resource efficiency likely will reach the world's most advanced level. With the further penetration of the concept of Ecological Civilization, the values of environmental protection and low-carbon and eco-friendly production and consumption patterns and lifestyles become dominant. A scientifically-based and sound public environmental governance system will have been put in place. A green, prosperous, harmonious society is at the inception, and a "Beautiful China" is being created. China will be widely regarded as having a highly functional Green Economy and a Green Development governance system fully in place.
- **By 2050, the coordination between environmental protection and economic and social development will be the norm, and much more reasonable levels of harmony between people and nature will be realized.** A "Beautiful China" with full ecological civilization will have been born. Most people will be housed in very liveable cities, but there will also be robust, ecologically-sound practices throughout the countryside and in China's ocean and coastal areas. Indeed, most ecologically degraded landscapes will be restored. Climate change adaptation and mitigation measures will be helping to lessen the impacts of climate change. Energy use patterns will be radically different from today, with much less dependence on fossil fuels and with eco-efficient industry, transportation systems and practices.

Previous successful studies have shown that there is greater likelihood of success when any analysis starts with the vision, then reasons back. This allows the identification of the critical steps that must be taken in time in order to keep the vision within reach. The longevity of infrastructure and capital stock is a key factor as illustrated by the urbanization cases investigated by the Task Force (Xixian New Area in China and Randstad area in The Netherlands).⁴⁴

4.3 Policy fields and actions

In response to current and future challenges, finding a symbiotic balance between social development and environmental policies will be essential. Finding those synergies will not happen by accident, thus an organized and disciplined set of actions and actors are described below.

All actions can be seen through the perspective of three functions: developing an *awareness* of appropriate values and norms in society, supporting appropriate *behaviour* of citizens, enterprises and other social organizations, and developing coordinated *governance systems*.

⁴⁴ See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 266pp-272pp. In Chinese.

In terms of **awareness**, efforts should be made to establish values and norms compatible with an Ecological Civilization. By means of a combination of laws and regulations, dissemination and education, policies and measures, environmental rights should be identified explicitly as a right of citizens; and environmental protection and social development presented as a shared responsibility and a basic obligation of the whole society.

In terms of **environmental behaviour**, policy actions should be directed towards enabling and constraining the behaviour of public, government officials, enterprises and other social organizations. Incentive policies should be introduced to encourage public participation in environmental protection, and dissemination of information and education should cultivate environment-friendly habits and conduct and build sustainable consumption patterns throughout the whole society. While environmental laws, regulations and standards are to be further improved and implemented, economic policies and incentives should be put in place to cultivate among enterprises better incorporation of the concept of corporate social and environmental responsibility. With the development of guiding policies, the government should inclusively support public environmental organizations, industry associations and communities, and motivate a new pattern of broad participation in environmental protection and social development.

Various key roles are shown below in Figure 4-1.

In terms of the system of **public governance**, efforts should be made to improve legislation, social and environmental risk management, and the distribution and coverage of public services. In further developing the legal system, it is necessary to protect by legislation the public's right to know about, participate in and supervise or monitor environmental protection activities. To this end, improvement is needed with respect to information disclosure, environmental hearings, environmental public interest litigation, and environmental damage compensation systems. Where appropriate laws and regulations exist, attention should now turn to effective implementation. As already mentioned, environmental protection should be given equal importance alongside economic and social development.

<p>Government</p> <p>Decision-makers from different policy fields and sectors together develop coordinated and flexible policies, so that social, economic and environmental policies operate in parallel, without conflicts.</p>	<p>Business</p> <p>Corporate environmental behavior should meet the requirements of laws and regulations.</p> <p>Businesses shall be active in the decision-making process for environmental and social issues.</p>	<p>Individuals and communities</p> <p>Actively adopt sustainable lifestyles</p> <p>Participate in environmental and social activities</p> <p>Avoid social conflicts caused by individuals or groups.</p>	<p>Social organizations</p> <p>Provide support for individuals and businesses to participate in environmental activities and safeguard environmental benefits</p> <p>Participate in government policy formulation and decision-making</p> <p>As a third party, monitor the execution of environmental and social regulations and policies</p>
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Figure 4-1. Actions of the various players in governance

Efforts are needed to accelerate the formulation of social policies for environmental protection, and to establish a sound assessment mechanism for major social policies. Consideration should be given to creating an independent mechanism for environmental and social policy evaluation that could be related to environmental impact assessment as is done in some other countries. In respect of risk control, it is important to set up a social risk assessment mechanism for major environmental projects and improve public communication and appeal mechanisms. An improved emergency response mechanism should be put in place to cope with sudden environmental accidents. Communication, dialogue, and consultation between the government, businesses and the public should take place on a regular basis. With respect to public services, it is important to build trust and social capital by continuing to improve government openness and transparency.

The following framework (Figure 4-2) summarizes the most important coordinated actions to be carried out in eight policy fields over the next 35 years by various actors in order to achieve a vision of Ecological Civilization and a Beautiful China with harmony between humans and nature.

Stage One begins now and continues to the end of the 12th five-year plan. The focus during this period will be on building the appropriate infrastructure and support systems. Its main task will be to conduct thorough investigations of major environmental and social problems and policies, to establish a sound legal system, and to perform trial environmental and social policies in areas and fields where the conditions are right. Stage Two which is projected to coincide with the 13th five-year plan period until 2020 will focus on institutional improvement. The main task for this stage is to complete the development of parallel yet coordinated economic, social and environmental goals in a manner that ensures strength in all three elements. Stage Three will occur during the decade ending in 2030. This stage is committed to the completion of medium-term targets, that is, comprehensively solving environmental pollution problems, taking into account the contributions of appropriate social development so that environmental quality basically satisfies the health demands of

the public, with stable and healthy ecosystems and restored ecosystem service functions. Stage Four, planned to conclude in 2050 should see the attainment of China’s long-term goals, namely, securing the balance between environmental protection and economic and social development, establishing harmony between people and nature so as to realize an Ecological Civilization and a “Beautiful China”.

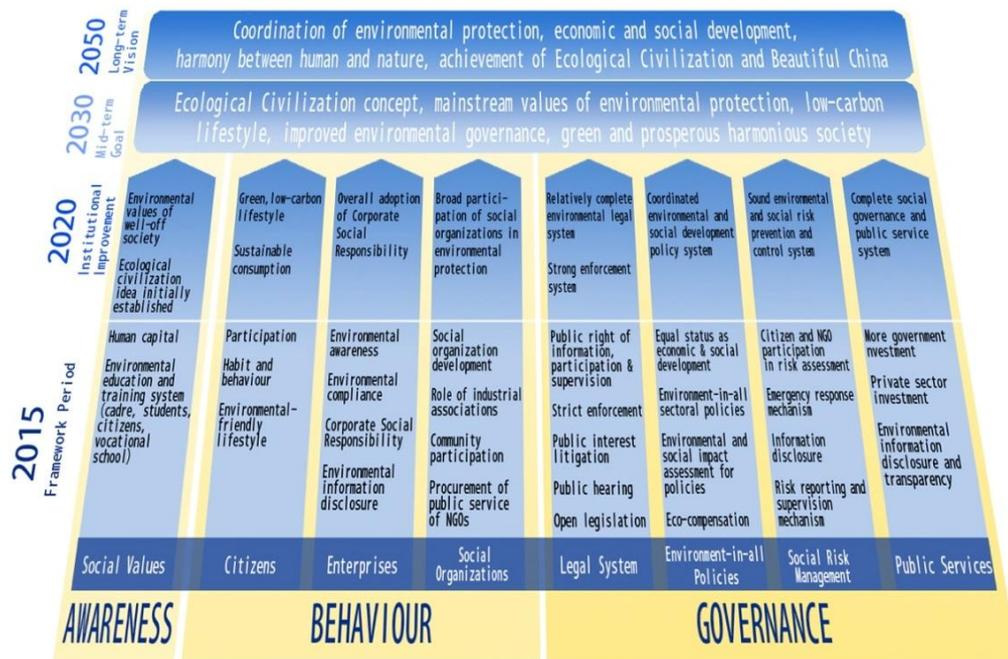


Figure 4-2. Policy and action framework

5. RECOMMENDATIONS AND CONCLUSION

5.1. Introduction

Developing an Ecological Civilization is an ambitious vision. Central to achieving it is the ability to strike a good balance among the objectives of economic growth, environmental protection and social development through coherent, coordinated and consistent policies. Thus far, in China and elsewhere, relatively little focus has been put specifically on the relationship between environmental protection and social development. The Vision 2050/Action 2020 framework presented in Chapter 4 is one way of addressing this deficiency. In particular, the framework would help to connect the long-term vision of an Ecological Civilization and a Beautiful China by the middle of the 21st Century with policy decisions and actions that are necessary in the near term.

Considering these near term issues, it was apparent to the Task Force that for some of these there is already sufficient evidence to recommend immediate action. These recommendations are described only in intent – the actual details of design and implementation were not the mandate of the Task Force. The Task Force underlines that any short-term initiatives should be considered part of a strategic shift and so they should be consistent with the overall vision. For example, environmental protection

initiatives should carefully consider social impacts and any social development initiatives should identify and address their impact on the environment.

The Task Force also recognizes that there are relevant policies and practices that have already been proposed, for example in earlier CCICED reports. Not all are repeated here. However a number are included since they deserve greater attention and strengthened implementation.

5.2. Recommendations

Recommendation 1. Elaborate a 2050 vision of coordinated environment and development and develop a phased plan of policy and actions that will be essential in achieving that vision. (Vision 2050/Action 2020)

The overarching recommendation of the Task Force is to further develop a Vision 2050/Action 2020 framework that will guide actions over the short, medium and longer time frame in a manner that will genuinely coordinate the social, economic and environmental aspects of development in China. See Figure 4.3.

In particular, the proposed framework will be a tool to identify, among the many important challenges and opportunities, those near term policy steps that are decisive in determining whether the long-term vision can be reached (*'back casting'*). The Task Force recommends that the contents of this framework will be elaborated based on specific follow-up studies in a Chinese context. The next recommendations provide an initial list of issues to be addressed in these studies.

In addition to charting key steps over time, the proposed framework serves to highlight the various societal actors that need to be involved – not only the government. We have expressed this by clustering the following recommendations as addressing three dimensions. The first dimension is *awareness* aimed at establishing and enhancing norms associated with environmental protection and social development. The second dimension is *behaviours* – in particular, the behaviour of the general public, businesses and social organizations. The third dimension is *public governance*. See Chapter 4 for a graphical representation of the framework and a brief discussion of these three dimensions.

Recommendation 2. Promote social norms and values related to ecological civilization (*'Awareness' dimension*)

The development of social policy begins with and builds on values and social norms. The Task Force acknowledges that social values and norms related to Ecological Civilization in China are the foundation for the development of future policies and practices in environmental protection and social development. Therefore, it should be a priority to advance the understanding, early on, that a sound environment is basic to the welfare of citizens. To that end, it is important to emphasize both the environmental rights and basic obligations of citizens. The government's role in transparently producing and disseminating information is particularly important. Specific actions could include:

Developing education and training plans such as: (i) Improving cadre training by developing or appropriately modernizing an integrated environmental-social curricula for the party school system, colleges of administration and other training centres for cadres at all levels of government. (ii) Developing an educational initiative through China's vocational school system to ensure that groups that are socially disadvantaged such as the next wave of rural-urban migrants have the workplace skills to contribute to a sustainable modern urban environment. (iii) Investing in the future generation by incorporating basic environmental knowledge and sustainable development approaches within the school system and at universities.

Supporting conceptual and policy-oriented research on the development and implementation of the "five-in-one" system (economic, political, cultural, and social progress, and ecological civilization) emphasizing environmental values that are consistent with Chinese traditional moral and cultural philosophy.

Promoting values related to ecological civilization through extensive use of news media, internet and other communication channels, recognition of positive activities on the part of individuals and organizations and the promotion of distinctive literary and artistic works and publications.

Assessing and communicating actively the potential social risks of environment developments. The Task Force recommends that the Government establish a trustworthy mechanism to implement a comprehensive approach to ex ante environmental and social risk assessment based on principles of openness and transparency and meaningful public access. In other words, the approach should go beyond mere disclosure.

Recommendation 3. Encourage all in society to exercise their appropriate roles ('Behaviour' dimension)

To address increasingly diverse and pluralistic social demands, all individuals and organizations in society should be encouraged to play their respective and complementary roles in a positive and cooperative interaction with government and businesses. Achieving the vision of simultaneous social development and environmental protection in China can be greatly accelerated by connecting to the energy and flexibility of players other than the government. Specific actions could include:

Advocating healthy and sustainable life styles. It will be necessary to foster lifestyles that are healthy, resource-conscious and that consider quality rather than quantity in consumption and personal mobility. Advocacy and education shall be used to promote a sustainable lifestyle and behaviours, including through encouraging leaders of social organizations, entrepreneurs and other public figures to play a demonstration role by pursuing a healthy and sustainable lifestyle.

Public participation. Public participation in decisions that influence daily life, health, safety and enjoyment is important for coordinating environmental protection and social development. This engagement will be contingent upon the protection and

enhancement of the public's right to know through disclosure of environmental information; the affirmation of environmental rights and interests of the public through the legal system; and the encouragement of citizen participation in development and environmental planning, as mentioned in Recommendation 3. China's large urbanization process offers a unique opportunity to make progress in this respect, for example through experiments with innovative, participatory planning.

Promoting acceptance by enterprises of their environmental and social responsibilities. The responsibility of enterprises to conserve resources in a socially and environmentally responsible manner should be encouraged, in a manner that mobilizes their creativity and innovation potential. This has the potential to dramatically reduce pollution and conserve resources, including energy, while strategically moving to longer-term business models. Obviously, this is contingent upon important improvements outside the scope of this Task Force, such as the establishment of sound economic policies putting in place true incentives for enterprises to move beyond environmental compliance to innovation. The Task Force also recommends development of an improved system of tracking corporate environmental impact assessments through independent oversight and public participation.⁴⁵ Similarly it is recommended to promote the active use by the financial industry of environmental and social norms for evaluating loans, insurance and the potential worth of enterprises. These norms should include enhancement of environmental and social standards for access to formal qualifications of listed companies in China.

Supporting the further development of environmental and social organizations. Social organizations should be enabled to contribute by serving as independent assessors and supervisors of development activities, protecting citizens' rights, improving environmental and social awareness, conducting surveys, contributing to community activities, protecting nature and ecosystem services, and offering advice and suggestions for policy formulation. This would extend to a much wider range of social and business organizations than reflected in the current official registration in China. For example, trade associations have a potential role in environmental protection. It would be appropriate to consider policy change around registration of social organizations such as to easing restrictions on their ability to undertake activities across the environmental and social domains. Obviously, promoting the responsible partnership of non-profit environmental organizations is conditional upon conditions being created to overcome difficulties in registration, funds and social

⁴⁵ Insights discussed during the study trip of the Task Force to Europe. See Schijf, B. and Boven, G. van, in: Strategic Environment Assessment in Development Practice. A Review of Recent Practice. 2012. OECD/DAC report 9789264166745 (PDF) ; 9789264166738 (print) DOI :10.1787/9789264166745-en. OECD, Paris. Also in "Views and Experiences nr 11, 2012, Netherlands Commission for Environmental Assessment", downloadable from <http://www.eia.nl/en/publications>.

participation. Specific actions could include: (i) actively encouraging and guiding urban and rural communities to participate in environmental protection, for example, playing a role in publicity and mobilization, (ii) encouraging and enabling social organizations to actively participate in environmental impact assessment and social risk assessments of major projects that promote fair, impartial and transparent proposals as input to project planning, (iii) including environmental organizations in the bidding on government purchases of public services in order to establish a closer relationship between governments and social organizations, make up for the shortage of government's provisions of public services and enable social organizations to provide some public services.

Recommendation 4. Strengthen public governance (*'Governance' dimension*)

At the heart of realizing the vision of ecological civilization will be the development of a coherent and comprehensive set of legislative and policy actions by government, such as:

Establishing a highly functional environmental policy system. The Task Force recommends that the Chinese government sets out a strategy of simultaneously strengthening environment policy per se and also strengthening policy coherence on matters of environment and social development through the full breadth of its policies and institutions. International experiences from the environment and public health domains strongly suggest that a 'whole of government' approach is required to pursue these societal objectives with sufficient political power and at a credible scale.⁴⁶ At the same time, in view of the complex ecological and environmental problems in China, it is necessary to build a strong comprehensive policy field of environmental protection on an equal footing with economic and social policies. Specific actions could include:

- 1) From the 13th FYP, the five-year plan of the Chinese government should be listed as the National Economic, Social and Environmental Development Plan, so that environmental policy and the associated planning will truly become a significant item in parallel with economic and social policies. Meanwhile, the National Economic and Social Development Report submitted by the Chinese governments at the National People's Congress and the Chinese Political

⁴⁶ In particular, the World Health Organization, on the basis of worldwide examples, points out that strong support from the top policy level is always required to achieve effective coordination. It also suggests, by implication, that the period of increasing concern about China's environment and environment-related unrest provides a not-to-be-missed opportunity to embark on such a policy strategy. Obviously, the accountability that would be demonstrated by the Premier should find its way to other layers of government as well, but the Task Force focuses at the Premier to provide the strongest possible example. See (i) report of study trip Geneva and The Netherlands to be included in Long Report of the Task Force; (ii) Leppo, K. et al. eds. (2013) *Health in All Policies. Seizing opportunities, implementing policies.* Helsinki 2013. Publications of the Ministry of Social Affairs and Health 2013:9. ISBN 978-952-00-3406-1 (printed) ISBN 978-952-00-3407-8 (online publication) URN <http://urn.fi/URN:ISBN:978-952-00-3406-1>

Consultative Conference (NPC & CPPCC)) would then also have been changed to the National Economic, Social and Environmental Development Report accordingly.

- 2) To support this point, the Government, represented by the Premier in order to underline the whole-of-government approach, should submit to the National People's Congress an annual report with equal emphasis on the economy, society and environment. The report should list the achievements made by the Government with respect to economic, social development and environmental protection for all Chinese citizens in three clear and separate sections. In this way the Government will demonstrate responsibility for environmental protection in China, and clarify the relationship between environmental protection and social development through the report. To be a fair and credible assessment, the report should cover achievements in the past year based on objectives that were set, using quantitative and qualitative indicators and measurements of success, as well as an assessment of the future significance of current developments and actions.
- 3) An environmental and social assessment mechanism should be established for major policies. An EIA traceability and accountability mechanism should be put in place to force EIA units and individuals to take responsibility for the assessments, and increase penalties for violations. Thus, *ex ante* policy impact assessments in the style of the European Commission would be a key instrument in pursuing policy coherence.
- 4) The environmental performance evaluation and government performance evaluation system should be improved, encouraging local governments to increase investments in environmental protection, by setting up a scientific evaluation system placing greater weight on environmental public services provided. The weight and therefore number of ecological environment and social development indicators should be gradually increased.

Recommendation 5. *Establishing a sound mechanism to assess, communicate, and mitigate the social risks of environment protection*

The Task Force recommends that the Government put in place a comprehensive approach to environmental and social risk assessment. To be convincing, the approach should be based on principles of openness and transparency and meaningful public access. Fundamental to achieving an effective and trusted risk management approach would be the systematization of information. Specific actions could include:

- 1) Establishment of a “pre-approval” system for major projects with environmental and social implications as well as policies and reforms involving public environmental interests to consider procedure legality, policy reasonability, program feasibility, and appeal rights.
- 2) To win the understanding, trust and support of the public, solicitation and incorporation of their opinion should be undertaken in advance of decisions on major projects through seminars, public hearings and public notices. In

particular National People's Congress and Chinese People's Political Consultative Conference industry associations, and community or social organization representatives should be invited to review the social risk assessment reports.

- 3) Cadres who fail to strictly follow the assessment process should be seriously punished in cases of "evaluation failure" and policymakers who do not attach importance to risk assessment should be held responsible for this failure.
- 4) Building a more robust environmental emergency response mechanism should be given priority. Complete and operational contingency plans should be developed that clarify the conditions and timing when the response mechanism should be launched, as well as the personnel and equipment needed.
- 5) The provision of timely, and accurate information during environmental incidents is important, to avoid misleading and untrue reports, speculations and rumours. Full advantage should also be taken of new media platforms such as micro blogging to ensure more widespread and accurate knowledge of such incidents.

Recommendation 6. *Improving the level of public environmental services*

Public services regarding the environment are prioritized here as an opportunity to demonstrate that the government can meet the objectives of improving and protecting the environment and meeting the expectations of citizens regarding their health and well-being. Policy coherence in delivering environment-related public services is particularly important during a time of rapid urbanization and significant change at the urban-rural interface that requires infrastructure planning and decision.⁴⁷ Basic public service is provided by the Government to meet the essential needs of all citizens for survival and development. Basic human needs include clean water, unpolluted air, and productive land. In addition to basic services, increasing attention is required for intangible services like institutional arrangements, standards and laws.⁴⁸ Actions could include:

- 1) Setting up appropriate coordination mechanisms to ensure access throughout China to public services. Development of appropriate scope and standards for basic environmental public services, such as placement of sewage treatment and garbage disposal facilities, clean water, clean air and tranquillity, environmental emergency response mechanisms, environmental information services, the public right to know and to supervise environmental actions.

⁴⁷ See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 127pp-134pp, 218pp-243pp. In Chinese.

⁴⁸ World Bank (2012) *China 2030. Building a Modern, Harmonious, and Creative High-Income Society*. Conference edition. World Bank and Development Research Center of the State Council, the People's Republic of China. World Bank, Washington DC.

- 2) Consideration of outsourcing certain public services. For example, social organizations can be mobilized for environmental monitoring and assessment and carry out “advocacy work” for improving environmental awareness
- 3) Gradually improving the proportion of spending on basic public environmental services. Measures should be taken to encourage multi-sourced financial mechanisms, better possibilities for cross-regional transfer, and better incentives for private investment. In this way, local governments can obtain adequate funding for their social and environmental policies in line with differing regional needs.
- 4) The formation of a more complete ecological compensation mechanism for different functional zones should be pursued, so that ecological environmental protection can increase local revenues and benefit the local people living in ecologically significant areas.

5.3. Final considerations

The work of this Task Force was preliminary. Obviously elaborating the proposed framework will be a major undertaking. The Task Force recommends that several strategic studies on complex priority issues also be commissioned. These studies would involve more comprehensive analysis of previous international work and engagement with various societal actors. Three priority topics are:

Lifestyle and behaviour. A strategic study might be commissioned to explore the best alliances and an efficient package of government measures that would promote the shifts in lifestyle and behaviour that are necessary to achieve environmentally and socially sustainable outcomes. Experience abroad suggests that this is a long-term goal which is difficult to achieve. It also suggests that the direct role of government in influencing lifestyle and behaviour can only be modest, by current Chinese standards. Others, in particular social organizations and entrepreneurs, could be more influential in setting trends. Therefore, significant thought would have to be given to designing the necessary initiatives to be most effective and avoid unintended side effects. The study should advise on combinations of initiatives in education and communication policies with various ‘harder’ incentives such as changes to the fiscal system; taxes; and resource pricing. The current CCICED Task Force on Consumption may provide guidance on this matter.

Legal underpinning for coordinated social development and environmental protection. It is a matter of urgency to explore how to address the sense of injustice in relation to environmental issues and unfair exposure to pollution. For example, protest or ‘mass incidents’ occur in part due to a lack of alternative channels – often where the judicial system would not necessarily be appropriate or available as an option. An effective legal regime is built upon characteristics of integrity, authority and long-term consistency. The legal basis for environment policy as well as the system for expressing complaints are undergoing major revisions at the time this report is being written. It is therefore recommended to evaluate as soon as possible what the current

changes mean in the light of the framework of Vision 2050/action in four stages. At this point in time, key aspects for the evaluation seem to include: the balance between judicial and administrative channels to express complaints; the system of participation during the actual revision of the law, including the system of public notification of intended changes, the system of handling and responding to opinions expressed and the system of legislative hearings; and last but not least, the impact of the changes on feelings and opinions of injustice.

Financial resources required for implementing the twin mandates of environment protection and social development. The highly decentralised fiscal system in China creates challenges and opportunities to build and optimize the positive relationship between environmental protection and social development. It creates structures and incentives that undermine the government's capacity to implement its vision. Even when there is a policy statement of coordination in mandates, there is not always a financial allocation mechanism that provides an appropriate level and timely flow of financial resources to various levels of government to fully implement the mandate. Moreover, in current large urbanization projects it happens that late central interventions, for example in land allocation, put a strain on the projects finances and therefore on the envisaged long-term combination of environmental, social and economic objectives.⁴⁹ Thus, a strategic issue is to understand these challenges on the basis of objective information and good analysis. The recommended study can show where the real commitments are to the implementation of the government's vision.

5.4. Conclusion

China is facing enormous challenges at present, including economic restructuring, and rapid innovation in policy and governance. These also provide rare opportunities to explore the relationship between environmental protection and social development. Understanding this relationship will allow China to better develop effective policies that will avoid unintended consequences and maximize the potential for successful outcomes. The achievements made by the Chinese government in these areas will attract attention from many other nations and international organizations.

⁴⁹ See CCICED Task Force Report, *Report on Environmental Protection and Social Development in China*. 218pp-243pp, 266pp-272pp. In Chinese.

Sustainable Consumption and Green Development

Summary of key findings

Chapter 1 of this report provides definitions of Sustainable Consumption (SC) and Green Development (GD). It was identified that SC is a central component of any Green Development strategy. Furthermore, SC is closely aligned with China's unique approach of creating an Ecological Civilisation and is important for China's on-going urbanisation process. As China's emerging urban middle class will become the main driver for economic growth over the next decades, SC needs to be integrated into urban development strategies to ensure that the urbanisation process will be a sustainable one. SC will also be an important component to finding solutions for the current environmental challenges of China's cities. Furthermore, SC can be an approach to bridge the gap between the rich and poor and differences in living standards between urban and rural areas.

Chapter 2 looks at existing laws and policies in China and how SC is reflected in them. The Task Force found that SC has been on the Chinese policy agenda as early as China's Agenda 21 and that a number of policies aim at promoting SC. However, a systematic policy approach that strongly pushes for SC could not be identified. Such a policy approach would include an overarching framework and perhaps a national action plan. Chapter 2 concludes with a number of opportunities for China that would result from making SC a policy priority, including low-carbon urbanization, changes in household and individual consumer behaviour, innovative business models, high-quality green products, enhanced international competitiveness, and enhanced opportunities for social development among others.

Chapter 3 provides an overview of international experiences on SC and their relevance for China. It identifies the current unsustainable consumption patterns of the industrialized countries as too high, which should not be taken as examples to follow. A range of policy approaches are being applied in various countries to address the issue of high ecological footprints. Best practice policy approaches include Action Plans for SC, stringent product certification and labelling systems, independent comparative product information and testing, local consumer advisory centres, the development of indicators for SC, local community pilot initiatives and the engagement of the retail sector.

Summary of key recommendations

Chapter 4, the final section of this report, provides a set of policy recommendations. The recommendations are presented in three thematic clusters: Recommendation 1 proposes to integrate sustainable consumption into national political and socio-economic development frameworks, Recommendation 2 advises to enable institutional innovations for SC in the administrative system and society and Recommendation 3 encourages initiating multi-stakeholder partnerships for SC.

The Task Force concludes that to successfully promote SC in China, the government should take an overall strategic approach. Strategic goals should be formulated and gradually carried out to integrate with China's medium-term and long-term social and economic development planning, as well as with the existing resource management and environmental policy objectives under the 12th Five-Year Plan (FYP).

Furthermore, measures to establish SC patterns need to be differentiated according to different development levels of Chinese regions. They need to reflect the high level of development and the already high consumption levels of China's eastern regions and major cities, the low level of development of Western and Central China, and the urgent needs of China's rural people—many of whom eventually will become higher-income consumers in urban settings.

It is recommended to feature SC prominently in the 13th FYP(2016-20) and to include SC into existing legal frameworks, particularly the Environmental Protection Law, the Consumer Rights Protection Law and the Public Procurement Law. The recommendations provided address three levels including macro level political frameworks, meso level policies for smooth implementation and specific initiatives and action items to be initiated on local levels. It is further recommended to initiate a SC Roadmap Process and Action Plan in order to establish a solid basis for SC over three stages: now until 2015, until 2020, and after 2020. Furthermore, policies should target specific consumption domains with the highest impacts, namely housing, mobility and food. SC should also become integrated into China's low-carbon urban development strategies.

Concerning the necessary institutional innovations in the administrative system and society, the Task Force recommends the establishment of an inter-ministerial cooperation mechanism and working group on SC. Of high importance is the need to enhance the credibility and independence of China's product certification and labelling systems. Furthermore, the initiation of pilot projects for SC on local level is recommended to generate practical experiences for scaling-up. Indicators for measuring progress towards SC should be developed and used. Regarding multi-stakeholder partnerships, which will be necessary to bring about the required socio-technical innovations, it is recommended to focus on the following: building capacity on the part of local governments to establish local SC practices, engaging the

private sector (particularly retailers and financial institutions), enabling civil society initiatives and public participation, and collaborating more closely on SC with the international community.

In addition, concerning the demand area of mobility, the Task Force strongly supports the recommendations provided by the Task Force on Green Commuting.

Introduction

It is reasonable to expect that the impressive economic growth that China has experienced over the past three decades will continue in the foreseeable future as the country continues to urbanize and rebalance its economy. The traditional economic development model, based mainly on exports and investments, is set to shift significantly in favour of increased domestic consumption. This realignment will be an opportunity to further improve the resource use and energy efficiency of China's economy. Furthermore, boosting domestic consumption could contribute to the achievement of a moderately well-off *Xiaokang* Society by increasing quality of life and contributing to the creation of a socially just and politically stable "Beautiful China" (*mei li zhong guo*).

There are encouraging indications that China is revising its course so that it can continue its economic and social development reform process and move towards pathway of sustainable urbanization. The concept of an Ecological Civilization was added to the CPC constitution during the 18th National Congress of the Communist Party of China (CPC), which has catalysed numerous national initiatives to facilitate the advancement of a circular economy as well as the design of low-carbon technologies and cities. The relationship to China's urbanisation process has also been noted in China's 2013 UNDP Human Development Report: *China is revising urban planning policies and implementing important new initiatives to focus them more on sustainable development in the midst of continued economic expansion...Resource consumption, energy security and critical environmental issues are increasingly integrated in urban planning.*¹

However, sustainable urbanisation and Green Development can not be achieved only through technological solutions without paying great care to avoid unsustainable consumption patterns. China's recent experiences with worsening urban air pollution and increasing municipal solid waste in many major cities are, to a large degree, direct results of unsustainable consumption practices. These include the soaring use of private automobiles, fast growing energy consumption of buildings and lack of waste separation at the household level. Seeing as China's new urban middle classes will become the main driving engine for China's future economic growth, it is necessary to integrate Sustainable Consumption into the urbanization process. This means that consumers will opt for high-quality green goods and services with low environmental impact instead of spending on resource and energy intensive goods and services with

¹UNDP China. 2013. *China National Human Development Report 2013. Sustainable and Liveable Cities: Toward Ecological Civilization*. UNDP: Beijing

little social benefits. Another challenge concerns China's rural citizens who will need to benefit from the next phase of China's economic growth by increasing their levels of consumption.

The benefits of establishing as early as possible the conditions for Sustainable Consumption patterns in conjunction with urbanization are numerous. In addition to solving the immediate environmental issues and health concerns of Chinese citizens, Sustainable Consumption will also be a driver for innovation and experimentation. It will be a driver for education and health services, and create important economic and trade benefits. The shift towards sustainable green products will bring new advantages to China's export economy, and simultaneously reduce China's dependence on foreign imports.

This report introduces and discusses the concept and practical approaches of Sustainable Consumption, its relationship to Green Development, sustainable urbanisation and the resulting implications for China. Chapter 1 introduces the principles and definitions of Sustainable Consumption and Green Development and the consumption challenges that China is facing. In Chapter 2, the current status of policies for SC in China is described and existing gaps, challenges and opportunities are identified. Chapter 3 provides a summary of the most relevant international experiences in the area of SC, including policy instruments and best practice examples. Chapter 4 provides a list of detailed recommendations for the Chinese government on how to successfully foster SC before China's emerging consumers become locked-in to unsustainable consumption patterns.

1. PRINCIPLES OF SUSTAINABLE CONSUMPTION AND PRODUCTION

1.1. Definitions of Sustainable Consumption (SC)

The concept of Sustainable Consumption was first formulated at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 and has been further refined over the following twenty years. Numerous countries (especially in Europe) have prepared Sustainable Consumption action plans and identified both macroeconomic and household-level interventions to achieve quantitative reductions in resource use. Governments have been compelled by the desire to reduce greenhouse gas emissions, enhance competitiveness by limiting dependence on resource-intensive products and services, and to improve quality of life by breaking the linkage between consumerism and perceived well-being. The United Nations Environment Program (UNEP) launched a Ten-Year Framework of Programs on Sustainable Consumption and Production (10YFP) in 2013. Since then, various regional country-groups have been working to design geographically tailored Sustainable Consumption strategies.²

These activities at national, regional, and international levels are evidence of committed interest in Sustainable Consumption and have inspired a variety of different definitions of the concept. A particularly notable one was formulated in the United Nations' *Guidelines for Consumer Protection*(2003):

Sustainable Consumption includes meeting the needs of present and future generations for goods and services in ways that are economically, socially, and environmentally sustainable...Governments should promote the development and implementation of policies for Sustainable Consumption and the integration of those policies with other public policies...Governments, in partnership with business and relevant organizations of civil society, should develop and implement strategies that promote Sustainable Consumption through a mix of policies that could include regulations; economic and social instruments;...removal of subsidies that promote unsustainable patterns of consumption and production.

Green Development is closely connected with efforts to foster SC. As early as 2002, the UNDP-China³ provided valuable insights into the definition of Chinese Green Development. The Report suggested that *Green Development stresses unified and harmonious development of the economy and environment, a positive path of people-centered sustainable development.* The notion that it should be people-centered development makes a particularly strong connection to SC.

²The activities of the Asia-Pacific Roundtable on Sustainable Consumption and Production are particularly prominent. Refer to <http://www.aprscp.net>.

³UNDP China. 2002. *Making Green Development A Choice. China's 3rd National Human Development Report*. Available at: <http://hdr.undp.org/en/reports/national/asiathepacific/china/name,2761,en.html>.

1.2. Consumption challenges facing China

Linking SC and Green Development highlights China's unrelenting demand for energy and materials. This idea also offers a way to alleviate pressure on global resources in a way, as illustrated by the following examples, that is consistent with Chinese preferences.

First, SC in the building of new housing can reduce China's growing need for primary metals, steel, timber and concrete in urban construction. SC principles applied in the usage of edifices will considerably reduce energy, and thereby China's coal and electricity consumption.

Second, promoting SC in mobility patterns, could substantially reduce China's oil consumption which has been rising exponentially since 1990. Currently oil consumption exceeds ten million barrels per day and is expected to grow by a further 50% by 2030⁴.

Third, China's emphasis on household goods and their energy and material efficiency is already one of the best efforts at providing better product choice to consumers—but more needs to be done. Establishing SC patterns in the demand for food, will contribute to both food security and food safety as well as lowered demand on the environment including the use of air, water and soil. China is already the world's top consumer of wheat and rice. Another trend is the increasing dietary reliance on beef and pork.

China's per capita usage of natural resources is increasing rapidly. Though the average per person has not reached the same levels as the United States, Europe, and other industrialized countries, this rapid increase is still of major concern. China first exceeded the world average for per capita domestic material consumption in 1995, and by 2008 was consuming materials at a rate over 160% of the world average.⁵ This also demonstrates China's rapidly growing per capita ecological footprint.⁶ In some urban areas, parts of the population are major consumers.

Current and on-going efforts to restructure the Chinese economy may cause these trends to worsen. The country's economic transformation to reduce its dependence on public infrastructure investment and production for exports while increasing domestic consumption creates an urgent need to ensure that the emphasis is on *sustainable* consumption.

It is projected that by 2030 China will have the largest population of consumers in the

⁴ BP. 2013. *BP Energy Outlook 2030*. Available at: www.bp.com/statisticalreview

⁵ UNEP. 2013. *Recent trends in material flows and resource productivity in Asia and the Pacific*. Available at: <http://www.unep.org/pdf/RecentTrendsAP%28FinalFeb2013%29.pdf>

⁶ WWF-China. 2012. *China Ecological Footprint 2012 Report*. Beijing: WWF-China.

world, with an urban middle class of over half a billion people.⁷ While this transition is arguably necessary to balance the national economy, the sweeping changes that it entails will create new—perhaps even unprecedented—resource demands, especially in household-energy use, transportation, and food consumption. In order to manage these trends, the government has set ambitious targets to enhance efficiency. However, the pace of these improvements will likely be inadequate to offset more than modest increases in consumption.

Overall resource use will continue to rise, perhaps quite markedly over the next several decades. Enhanced efficiency will likely lower the price of resources which may spur more consumption. China's commitment to reduce its economic reliance on infrastructure development and labour-intensive manufacturing, and to instead foster mass consumption, will require a diverse array of interventions to minimize potential adverse consequences.

The absence of full coverage in retirement pensions, medical insurance, and public education in China has led to high levels of savings in urban households. During 1996-2009, disposable income increased from 19 to 30 percent.⁸ The inclination to save, combined with exceptionally high rates of public investment and production of exports, has led to what many economists consider 'insufficient consumption' as a proportion of gross domestic product (GDP).

The Chinese government is enhancing pensions, improving access to health care and good education, while encouraging household spending. These initiatives increase access to middle-class lifestyles and are expected to stimulate consumption. China will partially replace its reliance on exports to other countries with newly emboldened domestic consumers. The absence of policies which mitigate the social and environmental impacts of morean increase of private cars, air conditioning and materialistic lifestyles could prove to be overwhelming. The likelihood of these outcomes suggests the need to formulate a Sustainable Consumption policy program with short, medium and long term objectives. In the short term, consumers must be encouraged to purchase and use energy efficient products which are not resource-intensive. Over the medium to long term, lifestyles should adapt to using dematerialized services and shared goods rather than accumulating more consumer goods.

2. SUSTAINABLE CONSUMPTION POLICIES AND TRENDS IN CHINA

Frugality and modesty have traditionally been regarded as virtues in Chinese culture. These sensibilities are reflected in the country's savings rate which is among the highest in the world. China has entered a new development stage and the combination

⁷See, for example, J. Woetzel, X. Li, & W. Cheng. 2012. *What's Next for China?* Shanghai: McKinsey and Company.

⁸International Monetary Fund. 2011. *Targets, Interest Rates, and Household Saving in Urban China*. IMF Working Paper. WP/11/223.

of its large population and increasing prosperity is driving energy and material consumption to new levels. The consumption levels of private households for both urban and rural residents, but particularly the urban middle classes, will continue to increase. This trend will not only influence the economy, society, resources, and environment of China, but will also significantly influence consumption and production around the world. Enabling the establishment of a SC strategy and framework from the outset is therefore crucial for the success of China's new economic reform. The following section will provide an overview of the current status of SC related policies, the existing policy gaps for successfully promoting SC, and the challenges and opportunities for SC in China.

2.1. The status of current policies with relevance for SC in China

The concept of SC has already been featured in some policies which promote China's sustainable development. An overview is provided below:

In *China's Agenda 21*, released in April 1994, China began to draw attention to the need for the country to *establish a Sustainable Consumption pattern*. China was one of the first countries to propose SC, and this development occurred at approximately the same time as UNEP began to formulate its first efforts in this area. At the Fourth National Conference on Environmental Protection in 1996, President Jiang Zemin emphasized two "insistences" for sustainable development. The first insistence was to *save water, land, energy, material, grains and other resources*. The second insistence focused on *taking the virtuous circle of the biological environment as foundation* and it became the guiding thought for promoting SC in China.

The 2005 Resolution on Implementing the Scientific Outlook on Development and Strengthening Environmental Protection by the State Council stated that *in the consumption link, the government should vigorously advocate an environmentally friendly consumption pattern and implement environmental labelling, environmental verification and government green purchase system*. In June 2007, the National Development and Reform Commission developed the National Action Plan on Climate Change. This document advanced the objective of *enhancing the whole society's awareness of energy efficiency, accelerating the construction of resource-conserving society and slowing down the emissions of greenhouse gases*.

Also in 2007, the 17th National Congress of the Communist Party of China (CPC) set the goal of creating a well-off society that would include building an ecology-conscious culture and formulating a new consumption pattern. The CPC Central Committee for formulating the Eleventh Five-Year Plan (FYP) stated that the government should promote greater awareness in economizing, encourage the production and use of fuel-efficient automobiles and products conducive to energy and water conservation, develop energy-and-space-saving constructions and develop consumption patterns that use resources efficiently.

The 18th CPC National Congress in 2012 emphasized that China should drive

economic growth by increasing its consumption capacity. The Congress suggested that consumption become one of the top three drivers for economic growth. At the same time, it was proposed that China should simultaneously promote *a resource efficient and environment-friendly lifestyle, improve people's consumption rate, increase the incomes of urban and rural residents, and release the consumption potential of the residents*. In the 12th FYP, China's government mentioned the concept of green consumption as an approach to promote Green Development. To summarize, SC is in various ways, part of China's sustainability agenda, but is not yet incorporated in a comprehensive and consistent way.

In recent years, in addition to macro-level guidance frameworks, the implementation departments of the State Council have issued several policies related to stimulating SC. These include the financial subsidy policy for new energy, the investment policy for energy-saving service industries, the establishment of a fund for the development of renewable energies, the provision of subsidies for alternative fuel (mainly electric) automobiles, and the adjustment of taxes for passenger cars. A detailed overview is provided in Table 1.

Table 1. Selected laws and support policies for Sustainable Consumption in China

Title of law or policy document	Enacted/Issued by	Time
Environmental Protection Law	National People's Congress	1989
Law on the Protection of Consumer Rights and Interests	National People's Congress	1994
Government Procurement Law	National People's Congress	2003
Energy Conservation Law (revision)	National People's Congress	2008
Notice on reducing the consumption tax on passenger cars with low pollution emissions	Ministry of Finance	of 2003
Notice on encouraging the development of the energy-saving and environmentally-friendly automobiles with small emissions	[State]General Office	2005
Implementation plan for pilot work of sales of appliances in rural areas	Ministry of Finance and Ministry of Commerce	2007
Notice on implementing pilot of subsidy to personal purchasing of new energy automobiles	Ministry of Finance	of 2010
Notice on adjusting and improving consumption tax policy of the State Administration of Taxation	State Administration of Taxation	2006
Notice on distributing the promotion of the financial subsidies of high-efficiency lighting products (first group)	Reform and Development Commission	2008
Notice on implementing the 'people-benefit project with energy-saving products'	Ministry of Finance and the Reform and Development Commission	2009
Notice on adjusting the financial subsidy policy of energy-saving air-conditioners	Ministry of Finance	of 2010
Notice on further implementing the energy-saving and new energy automobile demonstration and promotion	Ministry of Finance	of 2011
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving flat-panel TV	Ministry of Finance	of 2012
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving refrigerators	Ministry of Finance	of 2012

Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving electric washing machines	Ministry of Finance	of 2012
Rules of implementing the people-benefit project of promoting high-efficiency and energy-saving water heaters	Ministry of Finance	of 2012

These policies demonstrate that to date, the Chinese government has been primarily using financial incentives to encourage the consumption of more energy-efficient products. For example, the *Implementation Plan for Pilot of Appliance Sales in Rural Area* issued by the Ministry of Finance and the Ministry of Commerce has stipulated that financial subsidies shall be provided at a rate of 13% of the sales price of relevant household appliances, 80% of which are provided by the central government budgets while the remaining 20% are contributed by the local government budgets. Further details are listed in Table 2.

Table 2. Subsidies for household appliances and their effects from 2007 to 2013

Programme	Appliance sales in rural areas	“Get new appliance for old one”	Energy saving and people-benefit project
Time frame	2007.12 Start 2013.01 End	2009.06 Start 2011.12 End	2012.06 Start 2013.05 End
Items	TVs, refrigerators, washing machines, air-conditioners, mobile phones and PCs	TVs, refrigerators, washing machines and air-conditioners	Flat-panel TVs, refrigerators, washing machines and air-conditioners
Subsidy limit	13% (with upper limit)	10% (with upper limit)	RMB 70-600/set
Effect	298 million appliances were sold in rural areas, totalling RMB 720.4 billion.	92.48 million sets of appliances were sold, totalling RMB 342 billion	Driving the sales of the energy-saving appliances, totalling RMB 250 billion

Another important piece of legislation is the *Government Procurement Law*, which was issued in 2003 and establishes a legal framework by government entities for green purchasing. As of 2012, twelve energy-saving products and twelve products with an environment label have been issued. Some central and local government departments have gradually implemented green procurement practices and the scale has been regularly expanded. This policy has had some impact on the consumer behaviour of public authorities, but sustainable procurement practices have not yet become mainstream.

Government statistics suggest that during the 11th Five-Year period, the central and

local governments spent RMB 272.6 billion on energy-saving and environmentally-friendly products. This accounted for 65% of total government procurement. Many local governments have increased awareness about sustainable practices among the public and in the private sector. Strategies used for companies have included training enterprises to establish green supplier databases, evaluate the enterprises participating in green government procurement activities, guide and encourage enterprises to improve the quality of green products and promote the supply of green products.

Box 1. Green government procurement and green supply chains in Tianjin

The Tianjin Municipal Government Procurement Center has been conducting compulsory or prioritized procurement of the products listed in the *Energy-Saving Products List for Government Procurement* and the *List of Products with Environmental Label for Government Procurement* strictly in accordance with regulations. Furthermore, it actively engages with stakeholders such as businesses and other local procurement centres in China to develop and apply a set of well-developed and workable standards and systems for public green procurement. In addition, a Tianjin International Trading Center for Green Products is under development.

2.2. Deficiencies of existing policies promoting SC in China

It has been almost twenty years since China first articulated a need to establish Sustainable Consumption patterns. However, SC as a strategic approach to sustainable development has neither been integrated into national development plans and major laws nor has it been systematically instituted into national policy frameworks. SC has yet to become a well recognized part of industrial reforms and innovative policy programs. Compared with technological approaches to pollution control and energy efficiency, SC has played a relatively minor role. Consequently, SC has not been leveraged as an incentive for enterprises to provide greener products and it has not been used as a priority to shape the behaviour of consumers.

Furthermore, existing policies related to Sustainable Consumption do not sufficiently consider differences in China's regional economic development- most notably the comparatively lower consumption in the Western part of the country and higher levels in the Eastern part. Policies regarding consumption have not balanced the needs of poor rural residents or moderated the impacts of relatively affluent people in urban areas.

One reason for limited effectiveness in promoting SC to date is that levels of consumption are not key features in legislation. For instance, the current Environmental Protection Law makes no mention of the concept or how SC policies could effectively be used to reduce industrial pollution and protect natural resources. The Consumer Rights Protection Law neither includes any provisions on the rights of consumers to green products nor provides guidance on how consumers can take responsibility for their choices. Furthermore, these laws do not make the link between

access to affordable ecological products and consumer rights.

SC policy also lacks effective enforcement. For example, the Government Procurement Law from 2003 has not been fully effective in popularizing the choice for sustainable goods by public authorities. Product-selection criteria and the development of procurement practices lag behind and cannot fully steer the public into choosing to make sustainable purchases. In addition, the consumption of green products is still only voluntary for local authorities. Mandatory product standards have improved over the last decade but they also lack effective enforcement. Food safety continues to be a hot-spot in China even though the legislation and food-safety standards have been in force for many years. The current system to ensure transparent and trustworthy product information and certification remains deficient.

To secure the implementation of Sustainable Consumption in China, proper institutional support and structures are needed. The national government must assign clear responsibilities to the multifarious stakeholders involved in Sustainable Consumption: local government agencies, businesses, industries, nongovernmental organizations, research institutes and the public. The awareness and education on SC, especially among the future generation of consumers, is not yet a strong enough part of China's regulatory and policy landscape, but is mainly promoted by the media and civil society. China's official national consumer associations lack capacity and have not yet made strong enough efforts to promote SC.

2.3. Challenges for promoting SC in China

At present, consumption per capita in China is the lowest among large economic powers. Consumption accounts for only 36% of China's gross domestic product (GDP) and is half of American consumption, and two-thirds that of Japan and the European Union. Between 2000 and 2011, China's consumption rate as percentage of GDP of both urban and rural residents dropped from 46.4 per cent to 34.4 per cent, which is a reduction of 11.6 per cent. The detailed numbers are displayed in Table 3. The reason for the drop is not a decline in absolute consumption, but the very high growth rates in investments with which domestic consumption could not keep up. Promoting SC as strategy for sustainable economic growth will therefore also need to take on the challenge of curbing unsustainable investment.

Table 3. Change of consumption rate as percentage of GDP for rural and urban residents in China between 2000 and 2011 (%)⁹

Year	Consumption rate of rural and urban residents	Consumption rate of urban residents	Consumption rate of rural residents
2000	46.4	31.3	15.3
2001	45.2	30.7	14.5
2003	41.7	29.7	12.0
2005	37.7	27.6	10.2
2007	35.6	26.5	9.1
2009	33.9	27.7	8.5
2011	34.4	27.0	8.0

At the same time, the consumption power of both rural and urban residents has increased substantially in recent years. From 2006 to 2011, the annual per capita disposable income of urban residents increased from RMB11,760 to RMB 21,810, an increase of 115%, while that of rural residents increased from RMB 3,587 to RMB 6,977, an increase of 105%.¹⁰ Despite these marked improvements, the gap between urban and rural consumption levels remains significant. Therefore, the challenge for policy, is on one hand to continue to increase the consumption levels and living standards of the rural population according to SC principles while reducing the already high ecological footprint of urban consumers by shifting their consumption patterns.

Fostering SC requires a multi-stakeholder approach because of the need to involve the government, businesses, academics, civil society organisations, communities, households and individual consumers. The challenge is to mobilise these different stakeholders. In China, the role of communities and consumers in such processes remains weak, but their involvement is crucial to the process of shifting the country onto a SC trajectory. Consumers are increasingly concerned about environmental, social, and economic issues, and are willing to act on these concerns. Obstacles including the availability, affordability, convenience, product performance, conflicting priorities, scepticism, and force of habit of consumers do not directly translate into changes in behaviour.¹¹

Furthermore, business must participate in the conception and promotion of sustainable products and lifestyles. Platforms which would support SC have not yet been established as a regular and powerful base. Leading industries such as the food and

⁹Data source: 2012 *China Statistical Yearbook*

¹⁰ Data source: 2012 *China Statistical Yearbook*

¹¹World Business Council for Sustainable Development. 2008. *Sustainable Consumption Facts and Trends: From a Business Perspective*. Geneva: WBCSD.

building sectors have the capacity to mainstream SC towards safe and ecological food and energy efficient buildings. Businesses need to be encouraged to eliminate unsustainable and unsafe products through stricter product standards and regulations. They must also be supported so that they can provide greener goods and services through market-based mechanisms and supplementary voluntary actions.

2.4. China's opportunities for SC

Major opportunities were identified to advance SC in China:

1. By reducing the gap between rural and urban lifestyles, SC can contribute to bridging disparities between rich and the poor, thereby contributing to social equity, and to helping China realize the establishment of a Harmonious Society. Enabling access to green and safe products (see Box 2) for China's emerging urban consumers and rural population will contribute to enhanced satisfaction.
2. Mainstreaming sustainable public procurement practices will be a crucial driver for upgrading consumption practices and greatly increasing the share of green products in the market. The basis for effective sustainable public procurement by the Chinese administration is already established and best practice examples exist. These must now need to be scaled-up to become business-as-usual practices across China.
3. Linking SC and China's rapid urbanization is essential, since it is the emerging middle class of cities of all sizes and in all parts of the country that will make the crucial difference in whether SC practices become widespread. Specifically, low-carbon urbanization will enable China's new urban residents to practice SC from the outset. By developing policy interventions that integrate SC and low-carbon urbanization, it will be possible to reduce lock-in effects related to problematic transportation infrastructures and energy-inefficient residential buildings. SC will also stimulate innovative low-carbon approaches to urban design and new forms of communication and individual mobility. SC can be deployed as a way to reduce the growing volume of municipal solid waste. By fostering sustainable food consumption, which accounts for as much as 50-70 per cent of the solid-waste flow in many Chinese cities, and establishing food-waste collection for food-to-energy generation or composting, the need for new landfills and incinerators can be greatly reduced.¹²
4. Setting advanced green standards for goods and services, resource use, and energy efficiency, as well as developing a trustworthy certification system for ensuring product quality, go hand in hand. If well formulated and enforced, these measures could contribute greatly to increasing product quality, reducing environmental

¹²Tai, J., W. Zhang, Y. Che, and D. Feng. 2011. Municipal solid waste source separated collection in China: A comparative analysis. *Waste Management* 31(8):1673

impacts, making Chinese products more competitive in the international market, and enhancing the quality of life for Chinese consumers. They would build trust in government-supervised regulatory systems. There is also a role for enhanced public participation in the independent third-party supervision of green product standards and comparative product testing. Furthermore, in addition to government regulations, public awareness campaigns to advance SC are required so that the public can be actively involved.

5. Expanding the market for green products will open new economic opportunities. It also will expand the share of green consumption in the GDP. Sustainable Consumption necessitates the creation of innovative business models that improve resource efficiency and that shape consumer behaviour in a sustainable direction by providing better choices. SC will also increase opportunities for green job creation. Businesses taking a leadership role in promoting sustainable patterns of production and consumption and meeting societal needs within ecological limits will be very well positioned in the future to pursue opportunities within China and in export markets through China's *Going Out* strategy. Business can reach these goals through responsible environmental management which will lead to enhanced competitiveness and more profitable operations.
6. SC also has an international dimension and offers China the opportunity to shape up its international image. Moving quickly on SC will enable China to become a leader on issues of immense importance to global and regional trade and investment, and, if it desires, to help drive Green Development and Ecological

Box 2. Community-based organic agriculture and eco-tourism in rural Sichuan

Anlong village is a farming community, located about 30 km to the west of Chengdu city. Since 2005 farmers have successfully started a transition towards 'ecological food production'. The practices applied are basically the same as organic farming, though organic certification is currently still too expensive for small farmers in Anlong. A program was introduced to recycle as much as possible, including human waste. 160 composting toilets have been installed together with 160 household bio-digesters. Communal gardens were set up so that Chengdu urbanites and their families can plant and maintain their own organic vegetable gardens with the help of the local farmers. This addresses the needs for organic food and interaction with nature of Chengdu residents. Teahouses, small restaurants and home stays have been established. Local food processing businesses are showing a strong interest in locally-produced 'ecological food'.

Civilization globally.

3. INTERNATIONAL EXPERIENCES AND INSPIRATION FOR SUSTAINABLE CONSUMPTION IN CHINA

This chapter provides an overview of the most relevant international experiences and best practices for SC as well as a comparison of different consumption patterns and their environmental impacts. After this technical introduction, international developments and policy instruments for SC are summarized, followed by experiences from several regions including the EU, Japan, North America and Latin America. Chapter 3 concludes with a summary of approaches which are deemed to be very relevant for China.

3.1. Global consumption patterns

The effects of consumption on the economy, environment and society become increasingly important. For this report we selected three indicators—per capita ecological footprint, per capita ecological carrying capacity¹³ and per capita carbon-dioxide (CO₂) emissions—to demonstrate the effects of current consumption patterns in different regions. In 2008, the global average per-capita ecological footprint¹⁴ was 2.70 global hectares (gha), while the global per-capita ecological carrying capacity declined to 1.70 gha. The WWF data show that ecological per capita footprints of countries vary greatly. For instance, the USA had a per capita footprint of 7.19 gha, while that of Germany was 4.57, Japan, 4.17, Brazil, 2.93 and China was 2.13. Countries with ecological footprints within the carrying capacity, such as Nepal (0.76) or Kenya (0.95) struggle to meet the basic needs of their population. Likewise, the percapita CO₂ emissions in the world stood at 4.44 tonnes in 2010, but are not distributed equally. The CO₂emissions of the United States was 17.3 tonnes per capita, Canada was 15.7 tonnes, Germany was 9.3 tonnes, Japan was 9 tonnes, China was 5.4 tonnes, Brazil was 2 tonnes, Nepal was 0.1 tonnes and Kenya was 0.2 tonnes. Although the per-capita CO₂ emission in China are low compared to the US and Canada, they are already on par with European countries like Sweden (5 tonnes) and Switzerland (5.6 tonnes).

Based on these indicators it is possible to differentiate four types of consumption patterns: Excessively high consumption patterns, high consumption patterns, medium consumption patterns which are still above carrying capacity of the planet and low consumption patterns. Countries such as the USA, Germany and Japan have unsustainable high consumption patterns with large footprints which need to be reduced significantly in order to become sustainable. The relatively low indicators in China show that there are ‘insufficient consumption’ levels for a large proportion of

¹³See WWF. 2012. *Ecological Footprint Report– Biodiversity, biocapacity and better choices*. WWF International, Switzerland.

¹⁴The ecological footprint is a measure of human demand on the Earth's ecosystems. It is a standardized measure of demand for natural capital that may be contrasted with the planet's ecological capacity to regenerate. It represents the amount of biologically productive land and sea area necessary to supply the resources a human population consumes, and to assimilate associated waste. For more information about ecological footprint please refer to the Long Technical Report of the CCICED Task Force on Sustainable Consumption and Green Development.

the population. Emerging economies including China and Brazil must consider that urban consumers are already consuming on par with those in industrialized countries. The ecological footprint per capita in Beijing and Shanghai was close to 4 hectares in 2008, which indicates that the consumption patterns for these residents have already reached levels comparable to Germany and Japan. In contrast, people in the western provinces of Gansu, Guizhou and Yunnan had ecological footprints between 1 and 1.5 hectares.

Table 4. Comparison of various consumption patterns and indicators of selected countries

	Global average	Very high consumption USA and Canada	High consumption Germany and Japan	Low to Medium consumption China and Brazil	Very Low consumption
Per capita ecological footprints (gha), global average and different consumption modes (2008)	2.70	USA 7.19 Canada 6.43	Germany 4.57 Japan 4.17	China 2.13 Brazil 2.93	Nepal 0.76 Kenya 0.95
Per capita ecological carrying capacity (gha), global average and different consumption modes (2008)	1.78	USA 3.86 Canada 14.92	Germany 1.95 Japan 0.59	China 0.87 Brazil 9.63	Nepal 0.53 Kenya 0.53
Per-capita CO ₂ emissions from fuel combustion (tonnes of CO ₂), global average and different consumption modes (2010)	4.44	USA 17.31 Canada 15.73	Germany 9.32 Japan 8.97	China 5.40 Brazil 1.99	Nepal 0.12 Kenya 0.27

Tabulated according *Ecological Footprint Report* of WWF in 2012 and the *IEA Statistics 2012 edition CO₂ Emissions from fossil fuel combustion*

The relationship between high ecological footprints, high incomes and high consumption patterns is clear. In industrialized countries, per capita gross national incomes are high as are consumption levels. While the world average per capita gross

national income in 2011 was USD 9,491, those of the US, Germany and Japan were USD 48,450, 43,980 and 45,180 respectively. In contrast, the average gross national income of middle-income countries was USD 3,631 and that of low-income countries only USD 567¹⁵. Furthermore, the relatively comprehensive social welfare systems and availability of credit have provided the consumers in richer countries with a sense of social and financial security, which encourages consumer spending which can sometimes reach unsustainable levels.

Looking at these issues from a consumption or demand side perspective, **three areas of consumption—housing, transportation and food—account for the largest impacts**. For instance, in the EU-27 countries, private consumption is 2 to 3 times the level of public sector consumption. Housing, transportation and food/drink are the private consumption realms which have the greatest impact on the environment, are responsible for 74% of EU greenhouse gas emissions, 74% of acid emissions, 72% of troposphere ozone precursor emissions, and 70% of the direct and indirect material inputs.¹⁶

3.2. Policy frameworks and instruments for SC

In the past 20 years, SC has become better understood and attracted the attention of policymakers. A lot of research has been conducted at the global, regional, national and local levels which has led to the creation of a variety of policy initiatives. At the global level, the United Nations Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro in 1992, and the World Sustainable Development Summit held in Johannesburg in 2002, established an international foundation for the promotion of Sustainable Consumption at the regional and national levels. During the 2002 World Summit on Sustainable Development, a call to formulate a ten-year framework of programmes on Sustainable Consumption and production led to the establishment of the Marrakesh Process which was a multilateral dialogue and cooperation platform. This initiative was formalized at the Rio+20 Summit in 2012. To implement these macro-level political agreements, a variety of policies and tools for encouraging SC patterns are available to policymakers. The policy instruments are categorised according to their different approaches and are briefly described in Box 3.

¹⁵Data according to WDI data base of the World Bank and data from *International Statistical Yearbook 2013*

¹⁶ European Environment Agency (2012) Consumption and the environment — 2012 update. Copenhagen: European Environmental Agency. Available at: <http://www.eea.europa.eu/publications/consumption-and-the-environment-2012>

Box 3. Common Policy instruments to encourage SC

Strategies and action plans set out the processes that public bodies or government agencies take to implement targets, strategic objectives and goals set by the national or local government. Examples include, urban waste management strategies at the local level, or Action Plans on SCP which are initiated by a number of governments worldwide.

Regulatory instruments have been used by governments for a long time and have been the basis for effective environmental policy making all over the world. For the promotion of SC, regulations can mandate or prohibit specific consumption behaviours or the use of certain products. Regulations that are of relevance to SC can be divided into the following three categories: environmental quality standards, technical/emission standards and restrictions/bans.

Economic instruments enhance the efficiency and effectiveness of environmental policy making. Most prices for products and services are set by the market and do encourage overconsumption of natural resources and not properly reflect environmental and social impacts.

Information-based policy instruments have become increasingly popular in recent years, partly due to the IT revolution which decreases the costs of information collection, analysis, and dissemination. There are instruments which provide information about a product or service (e.g. product qualities, certification, how to use and discard the product) to consumers, with the hope that informing the consumer or raising awareness about certain product attributes will influence consumer behaviour. Important information-based tools for SC which are currently used are product labels awarded through third-party verification procedures.

Voluntary agreements between a government authority and one or more private parties in order to achieve environmental objectives or to improve environmental performance beyond compliance to regulated obligations. Voluntary agreements can include rewards and/or penalties or sanctions. The negotiation aspect makes these policies different from typical top-down regulatory approaches.

3.3. Country experiences on SC and SCP policy approaches

European Union: At the EU level, Sustainable Consumption and production (SCP) have been the priority in many policy strategies, such as the *Lisbon Strategy*¹⁷ and the *Sixth Environmental Action Programme of 2002-2012*. Sustainable Consumption and production is recognized as one of the ten key objectives of the *2008-2010*

¹⁷The Lisbon Strategy for growth and jobs, launched in 2000 by the European Council, was the EU's joint response to facing the challenges of globalisation, demographic change and the knowledge society. It aimed at making Europe more dynamic and competitive to secure a prosperous, fair and environmentally sustainable future for all citizens. More info at: http://ec.europa.eu/education/focus/focus479_en.htm

Community Lisbon Programme and is among the seven key challenges to be tackled within the *EU Sustainable Development Strategy*. In 2008, the *EU Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP) Action Plan*¹⁸ was adopted to improve the environmental performance of products and increase the demand for sustainable products. The Action Plan includes eight key building blocks: 1) creating eco-design requirements for more products; 2) reinforcing energy and environmental labelling; 3) devising incentives and public procurement for high-performance products; 4) designing green public procurement practices; 5) ensuring consistent product data and methodologies; 6) working with retailers and consumers; 7) supporting resource efficiency, eco-innovation and the environmental potential of industry; 8) promoting SCP internationally.

The EU has experienced some progress in promoting Sustainable Consumption patterns. The market for organic products in Europe has grown rapidly and accounted for more than 50% of the total income of the world organic product market in 2007. Yet it has still not reached 2% of the total expenditure of food consumption in Europe. Household energy and water consumption in Europe is decreasing, and the output of household waste has decreased due to the introduction of effective recycling systems. Products that are harmful to human health and the environment are gradually being eliminated. An example is the phase-out throughout Europe of incandescent light bulbs. The strategies used in different Member States comprise the use of eco-labels, green public procurement (GPP), education of consumers on environment, pollution and waste. Voluntary information instruments are used widely in Europe and include the ecological marking of products (ISO Class I), environmental product statements (EPDs, ISO Class III), organic food labels, and educative material provided to consumers. The EU Ecolabel is a noteworthy voluntary label promoting environmental excellence which is recognised throughout Europe. This label was developed by scientists, NGOs and stakeholders as a reliable way to make environmentally responsible choices. Although it is voluntary, hundreds of companies across Europe have joined because of the competitive edge and demonstration of commitment to the environment which are exemplified by this label.

Box 4. Initiatives for Sustainable Consumption in Germany

Although there is no overarching policy framework, Germany adopted a variety of effective measures to promote Sustainable Consumption:

Germany issued the first *Circular Economy and Waste Disposal Law* in the world in 1994. The concepts and practices of recycling have been integrated into the minds of the producers and consumers and have guided the production processes of various industries and the consumptive behaviour in households.

The “Blue Angel” eco-label is the world’s first environmental label for products and services. It was created in 1978 by the German Federal Minister of the Interior and

¹⁸European Commission (2008) Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan http://ec.europa.eu/environment/eussd/pdf/com_2008_397.pdf

was approved by the federal Ministers of the Environment. More than 11,700 products and services in 125 product categories carry the Blue Angel eco-label today.

Local consumer information and advisory centres operate nationwide. The centres are funded by public contributions to ensure that they are not influenced by commercial interests. These centres have increased the knowledge of consumers and improved their trust in green products and consumption policies.

An independent product comparison testing system (Stiftung Warentest) was established in 1964 to provide and publish the results of independent comparative tests of products and significantly increase knowledge among consumers, influence their choice in products, and improve the performance of many products.

In order to promote energy efficient housing, the German KfW Bank offers low-interest loans (1,41 % p.a.) for the purchases of energy efficient apartments and houses and for the retrofitting of existing buildings. This financial support resulted in the construction of 1.5 million energy efficient housing units worth over 25 billion Euro between 2010-2012.

Japan: Sustainable Consumption in Japan has the following unique features: 1. The green purchasing system is implemented strictly. The *Law on Promoting Green Purchasing* has designated procurement items and environmental selection criteria for each item. 2. The Fundamental Plan for Establishing a Sound Material-Cycle Society, issued in 2000, has the objective of restraining the consumption of natural resources and minimizing the environmental burden. 3. The country announced its intention to establish a low-carbon society in 2008 and accordingly implemented 12 major actions. Measures in the energy efficiency of buildings and appliances, green public procurement, environmentally friendly enterprises, product labelling and carbon footprinting are particularly advanced in Japan.

Box 5. Twelve major actions for the creation of a Low-Carbon Society in Japan

1. Constructing buildings with green and comfortable living environment
2. Using energy-saving devices whenever and wherever possible
3. Promoting the supply of seasonal and local food
4. The use of sustainable and energy-saving construction materials
5. Expanding environmentally-friendly enterprises
6. Providing networks with rapid supply
7. Constructing low-carbon cities
8. Developing and using high-efficiency and low-carbon appliances
9. Developing and providing renewable energy
10. Developing the new generation of low-carbon fuels
11. Implementing low-carbon labels for goods and services
12. Strengthening the organization and leadership to build a low-carbon society

North America: The federal and state governments of the United States rarely issue Sustainable Consumption policies to restrict consumer behaviour. As per the Marrakech Process, the United States and Canada constitute North America. Since 2002, both countries have held two meetings in support of this initiative, but SC has limited visibility in the United States because few programs promote SC at the federal or state level. American policy makers continue to address the adverse effects of resource utilization almost exclusively from the standpoint of efficiency standards, dissemination of information, and public education. To date, the USA has adopted policies and measures which encourage reasonable growth, promote the integrated development of land in cities and suburbs, encourage non-automobile travelling, and implement plans for community agriculture.

The core areas for SC in the United States are the alternative systems of food cultivation and distribution. Farmers markets, community-supported agriculture (CSA) schemes, home gardening and barter networks have enabled small networks to forge innovative arrangements that transcend the customary agro-food supply chains. Similar structures are now developing to support the reuse and sharing of clothing, children's toys, tools, and other household items. The term "collaborative consumption" is increasingly used to describe these developments. In 2008, the United States issued the financing plan of Property Assessed Clean Energy (PACE) to encourage the installation of solar photovoltaic systems on the roofs of buildings. City governments and other government departments have issued bonds with high interest rates to encourage investors to deal with the high cost of purchasing and installing rooftop photovoltaic systems.

Latin America: The Latin American (LA) region has joined the international community commitment to establish more sustainable production and consumption patterns. The LA region was the first to host a regional consultation meeting on the international Marrakech Process on SCP in 2003. During the meeting, a regional SCP strategy was developed which defined priorities, concrete actions and specific pilot projects to be implemented. The strategy emphasized the importance of strengthening the capacity of government institutions as well as the importance of implementing SCP-related policies and activities in the production and financial sectors. A Regional Council of Government Experts on SCP was set up in 2003 to support the implementation of the SCP regional strategy.

Brazil has developed a National Action Plan for Sustainable Consumption and Production (2010-2013) in coordination with other national policies and multi-stakeholder engagement processes. The National Action Plan builds linkages with other strategic plans such as the National Plan for Climate Change and the National Plan for Solid Waste. The plan will be implemented between 2011 and 2013 and identifies six main priorities: Education for Sustainable Consumption; Sustainable Buildings; Sustainable Retail; Green Public Procurement; Implementing an Environmental Agenda in Public Administration; and the Increased Recycling of Solid Waste.

3.4. International SC and GD experiences as examples for China

Although the global challenge of creating SC patterns has not yet been solved, there are a number of initiatives which have been successful. While it might not be possible to emulate these experiences in China, the experiences listed below can serve as examples for China's path towards SC and GD.

SCP Action Plans set the macro-level framework for SC: The EUSCP Action Plan and the Brazilian SCP Action Plan demonstrate that establishing such strategies place SCP on the agenda of policymakers. These plans set a roadmap, provide specific goals and policies to be implemented and measure the achievement of these goals. These frameworks guide the design of specific policy instruments to be implemented at local levels across various sectors.

Establishing legal provisions for SC: Establishing laws, regulations and policy mechanisms for SC can influence public consumer behaviour to shift towards SC, whilst influencing the private sector to provide sustainable products and services.

Product labelling and providing product information from independent sources: Ensuring the availability of credible and transparent information about products which is trusted by consumers is very important. In many countries, such access to information has already contributed to more and better quality green products in the market. For instance, the Danish organic food label has been firmly established and is accepted by 93% consumers. Strict criteria have made Danish dairy products an important sector for export. In Germany, the "Blue Angel" eco-label, the world's first and oldest environment-related *label*, is widely trusted.

Indicators for SC: The development of indicators has proven necessary to measure progress. These indicators go beyond simple GDP measurements and include well-being and social progress. Experiments with alternative indicator systems started in communities in the USA. The European Environment Agency has developed a sophisticated set of SCP indicators.

SC pilot initiatives: There are many local community initiatives promoting different methods of SC. Examples include community gardens, car-free neighbourhoods and sustainable housing. The One Planet Living communities in the UK and the sustainable mobility and energy efficient housing initiatives in the district of Vauban (Freiburg) in Germany are successful pilot initiatives.

Engagement of private sector through voluntary agreements: These have proven successful in promoting SC and increasing the quality and availability of green products in the market. The European Retail Forum engages retailers to enable sustainable choices for their customers and influence their suppliers to improve the quality of their products by reducing the environmental impact generated over the life cycle. The EU Food Roundtable successfully promotes healthy and ecological food consumption habits in many European countries.

Increasing awareness about SC and lifestyles: Consumers in industrialized countries are aware of the need for sustainable products and services. However, this awareness needs translate into the establishment of concrete actions to promote SC.

Synergies between government and civil society initiatives: The experiences of industrialized countries suggest that initiatives by enterprises and non-government organizations could supplement, improve and assist government policies. The proposals from enterprises and NGOs are supplementary in nature as the promotion of the Sustainable Consumption still requires the guidance and promotion of the government. Experiences of the EU, North America and Latin America strongly suggest that advocacy for Sustainable Consumption and green development requires building alliances with a number of stakeholders and opening up channels for various stakeholders to participate and create opportunities. The role of civil society organizations (CSO) has shifted from playing the role of a watchdog to becoming an important collaborative partner in managing societal challenges. In this capacity, the role of CSOs is to ensure that other stakeholders are following the principles of accountability, transparency, participation and equal opportunity.

Municipal waste management: There are many successful international experiences regarding how municipalities manage waste. Germany's "Green Dot" waste sorting and recycling system and the waste sorting program in the city of Londrina, Brazil, which is followed by 100% of the households of the city are two successful examples.

Economic measures to reduce traffic obstruction and eco-taxes are promising approaches: The economic measures to change the driving behaviour of citizens in Sweden and the UK have produced good effects. In Stockholm and London, traffic congestion charging systems are used to effectively reduce the traffic jams during rush hour and resulting high air pollution and PM2.5 levels. Despite initial scepticism, the measures are now widely accepted by citizens.

4. RECOMMENDATIONS FOR CHINA'S SUSTAINABLE CONSUMPTION AND GREEN DEVELOPMENT STRATEGY

Based on the findings in Chapters 1 to 3, the task force suggests three main recommendations to promote and foster SC in China. The proposals and their relationship are summarized in Figure 1 below and explained in detail in the remainder of the Fourth and final chapter.

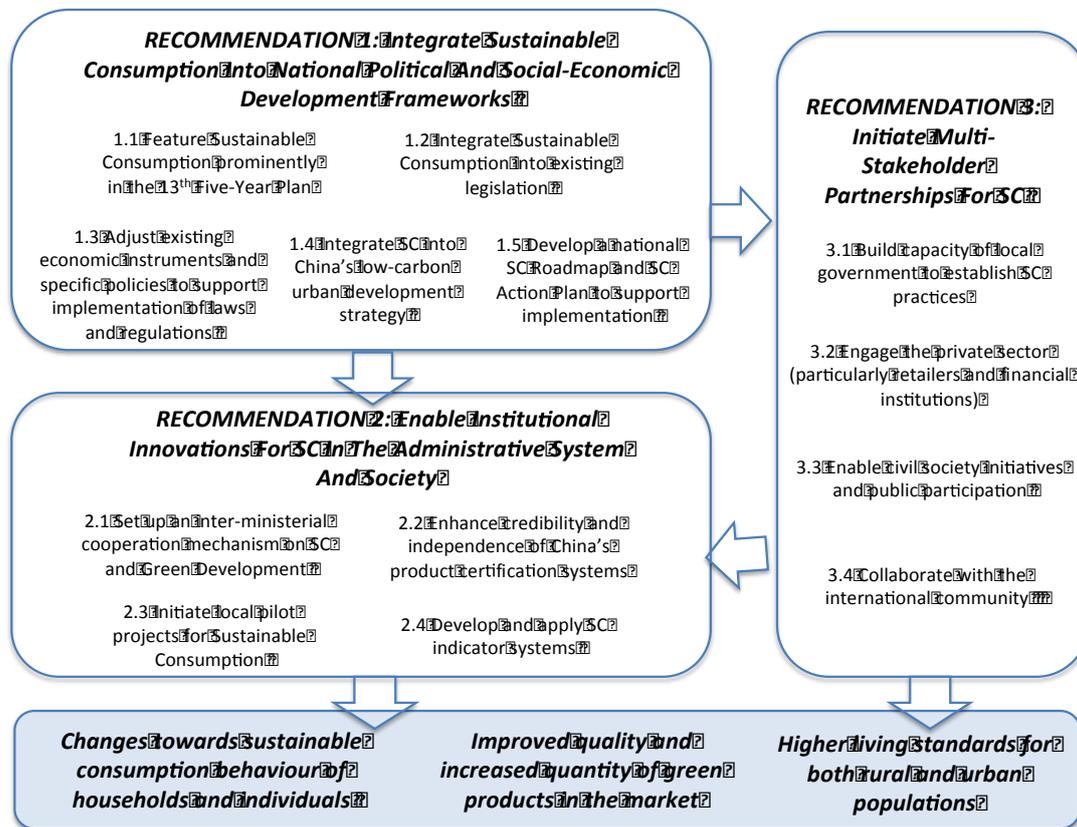


Figure 1: Policy recommendations for advancing Sustainable Consumption and Green Development in China and expected results

4.1. RECOMMENDATION 1: Integrate Sustainable Consumption into National Political and Social-Economic Development Frameworks

Establishing SC patterns will be crucial for the realization of China's Ecological Civilization. The promotion and achievement of SC at a strategic political level will ensure the responsible use of resources and the reduction in energy consumption by the public and private sector, and through the consumption choices of citizens. Sustainable Consumption is also important to ensure that the income gap and consumption levels between the rich and poor do not widen and jeopardize social stability. This first set of recommendations proposes to include SC into the next Five-Year Plan. Furthermore, the relationship between the protection of consumer rights, food safety, environmental protection and SC should be emphasized by including SC into existing laws which are currently being revised. Stronger efforts

should be made to use Sustainable Public Procurement as an instrument for the promotion of SC across society. To ensure the effective implementation of these laws, policies including pricing mechanisms, taxes and subsidy schemes should be included. SC should also be used as strategic approach for sustainable urbanisation and to support the development of China's low-carbon city pilots. Finally, a SC Roadmap and Action Plan should be designed to guide the process in the next decade.

Recommendation 1.1: Feature Sustainable Consumption prominently in the 13th Five-Year Plan

For the next Five-Year Plan, it is recommended to emphasize the link between SC and the establishment of a moderately well-off and Harmonious Society by the end of 2020. The concept of Green Consumption has already been mentioned in the 12th Five Year Plan. Greater attention to SC is needed in the 13th FYP. The focus SC should be on SC as national strategy, including key SC strategies in the housing, transportation and food sectors, and on differentiated SC strategies in China's regions. The 13th Five-Year Plan should use SC as an economic pillar to link China's target to reduce carbon intensity by 40-45 per cent by 2020 over 2005 levels with the economic restructuring and increase in domestic consumption.

Recommendation 1.2: Integrate Sustainable Consumption into existing legislation

The Task Force recommends updating laws and regulations that can help to guarantee a national and local transition to SC. Integrating SC into the legislative process, with the main goal of constraining wasteful consumption patterns and excessive consumer spending, should be enacted as soon as possible since often there is a lag of several years before changes take effect. At present there is only very limited legal guarantee for the mainstreaming of Sustainable Consumption. In particular, SC should be featured in the revised version of the Environmental Protection Law (or in regulations related to the revised law), in the Consumer Rights Protection Law and the in the Public Procurement Law.

The revisions of the **Environmental Protection Law should include specific provisions to curb the environmentally unsustainable consumption behaviour of industry, households and the public.** Furthermore, specific provisions to encourage SC behavior and lifestyles should be included as important element for environmental protection. In particular, the issue of urban household waste can be addressed through SC approaches, in order to reduce the amount of waste produced, and to encourage waste citizens to separate, reuse and recycle.

The Public Procurement Law should be amended to ensure that more Sustainable Consumption practices are incorporated, including restrictions on excessive government consumption among China's public authorities at the national and local levels. A number of important additional regulations have passed in recent

years, but the implementation of sustainable procurement is insufficient. The legal system of government procurement needs to be completed and environmental goals should be clearly defined. The Task Force therefore recommends setting a mandatory share of green products and services purchased by local governments in the Public Procurement Law. Additional support regulations to ease implementation should be issued. It is necessary to revise the two existing procurement lists for energy-saving products and environmental labelling. This would entail improving green procurement standards in the lists, including new sustainable product groups and deleting out-dated low-performance products from the lists. Government business trips should be reduced and substituted with virtual meetings when possible. Sustainable transportation should be chosen whenever possible. Furthermore, green hotel standards for business trips and meetings in hotels should be included into government procurement standards. Bidding systems, bringing new energy and low-emission cars into government procurement lists, need to be revised. Finally, additional measures such as capacity building for local procurement staff on life-cycle costing methodologies are necessary. Green market supply chains, like the pilot program in Tianjin, should become part of the legal criteria for procurement.

The Consumer Rights Protection Law should include specific provisions for SC as a key approach to guarantee product safety and consumer protection. All instruments that promote progress towards SC patterns provide the added bonus of increasing the protection of consumer rights. SC changes should aim to enhance consumers' rights while reducing negative social and environmental impacts. The updated law should include the right for consumers to choose high quality green products and sustainable lifestyles. In addition, SC revisions to this law should emphasize consumer responsibilities, focused on eliminating unsustainable consumption practices in the housing, transportation and food sectors.

In the medium term, the Task Force recommends **passing a specific Sustainable Consumption Promotion Law, which should contain goals for consumption in specific sectors and target values for per capita consumption levels of resources, food, energy and water.** These targets must be interrelated with the targets set in other regulations and plans (e.g. China's greenhouse gas reduction plan). The two main objectives of the Promotion Law should be the elimination of unsustainable excessive consumption in urban areas and poverty reduction in rural areas by increasing incomes and access to affordable green products. Furthermore, the Sustainable Consumption Promotion Law would have to be oriented towards specific sectors such as agriculture and sub-sectors such as iron, steel and cement to promote green supply chains. The levels of resource consumption in cities should be targeted by the Promotion Law, which would also affect household consumption levels. The Sustainable Consumption Promotion Law should target specific product groups with high negative environmental impacts, e.g. large automobiles, oversized household appliances or furniture from uncertified sources. Discussions on the design of this proposed SC Promotion can commence at the Thirteen Five-Year national planning with stakeholders and others so that it is broadly acceptable.

Recommendation 1.3: Adjust existing economic instruments and specific policies to support the implementation of laws and regulations

The policy framework to support the effective and efficient implementation of the laws mentioned above should be facilitated by various methods (coercive, economic and informative) to build synergies among policy measures. A significant number of specific SC approaches exist to support the implementation of legislation. **The Task Force recommends greater use and improvement of existing pricing and taxation systems and financial incentives mechanisms in ways that will support SC.** Mechanisms to improve energy efficiency of buildings, encourage household energy conservation and support the uptake of green products are particularly required.

The promotion of high quality, energy efficient appliances and the phase out of inefficient appliances currently in use should be a priority. Both positive and negative lessons can be drawn from previous experiences of the *Home Appliances Going To The Countryside* policy, and the *Old For New* policy. **Subsidy schemes need to be designed in such a way that these subsidies are only provided for the purchase of the most efficient appliances and also to ensure that they help poorer households.** It is recommended that subsidies should be provided only to the top ten per cent of products with the best performance. The goal of this subsidy scheme should be targeted at low and middle income families which would otherwise not be able to afford efficient appliances. The subsidy should prioritize low-income households and first-time buyers of appliances (e.g., young families) to promote SC in households from the start.

In the specific case of air conditioning units, most small businesses (e.g. small restaurants, shops) and small service provider offices currently have very inefficient air conditioners installed. A specific subsidy policy should encourage small businesses to change their air conditioners. This will encourage their utilization and encourage manufacturers to improve their product standards. Furthermore, take-back schemes need to prevent so-called rebound effects through purchases of new larger appliances which have better efficiency ratings, but increase overall energy consumption. Oversized appliances and luxury consumer electronics such as large screen TVs should be excluded from receiving subsidies.

In addition, pricing policies will be important for the promotion of SC. In particular, **it is recommend to complete and perfect the tiered electricity price policy for households, which was introduced in 2012.** Overall, the current electricity price for higher consumption users of the third-tier, currently paying only about RMB 0.3 per kilowatt hour more than average consumers, is not yet high enough to discourage wasteful consumption. Furthermore, in order not to be regressive, the pricing policy must consider the constraints of low-income households.

Consumption taxes have a vital role to play in reducing overall resource consumption, and specifically in shifting consumption to low energy-usage or less polluting

products. The Task Force recommends expanding the scope of consumption taxes and improving the collection methods of taxes. Taxation on resource and emission intensive consumer goods that are currently not covered by consumption taxes should be introduced to include the environmental and social externalities in the prices of these goods. Life-cycle assessments should be the basis for identifying such products. The expanded consumption tax could already be implemented during the current 12th FYP period. In addition to consumption taxes for high impact products such as cars with high fuel consumption, oversized home appliances, furniture and wood products made from tropical timber, or seafood from overfished marine areas, it is suggested to link household tax breaks to SC. For instance, **to encourage recycling, tax reductions can be given to households that demonstrate high recycling levels or produce little household waste.**

To encourage the construction and uptake of energy efficient and green residential buildings, **it is recommended to provide low-interest credits or mortgages to homebuyers for such buildings. Government subsidies should be complemented by green credit systems of financial institutions.** This low-interest mortgage scheme needs to be implemented in conjunction with an independent verification process that the buildings are indeed low-energy buildings. Furthermore, such credits can be extended to include solar energy technologies, particularly roof top solar photovoltaic (PV) and solar water heaters, heat pump systems, household biomass power generation technology and new energy vehicles. For solar PV products in particular, credits for end-users should replace current subsidies given to PV manufacturers to encourage domestic use of the technology.

In order to simultaneously ensure the uptake of green products and increase the incomes of rural residents, economic mechanisms to promote eco-tourism and organic agriculture are recommended. To encourage these new rural business models, a special fund for Sustainable Consumption and subsidies for environmentally certified products and services in rural areas could be established.

Recommendation 1.4: Integrate SC into China's low-carbon urban development strategy

SC approaches are the key to ensuring that greenhouse gas emissions from households and industry will not grow exponentially when shifting the driver for China's future economic growth from investment to consumption. Considering China's low-carbon city initiatives and pilot projects, **the implementation of SC strategies will be crucial to ensure the reduction of the cities' carbon emissions and contribute to improving air quality.** It is recommended to review the current low-carbon development strategies of the "Five Provinces and Eight Cities" low-carbon pilots and to identify areas for SC and its contribution to emission reductions. Furthermore, in current efforts to clean up urban air pollution, particularly PM 2.5 levels, the regions of Beijing, Hebei and Shandong will be required to reduce coal consumption by 10 percent within the next five years. While this can be partly achieved through efficiency improvements, reducing electricity demand through SC will be necessary

for the regions to achieve this target. It is recommended to include SC into the strategic air pollution reduction plans of these three regions.

Recommendation 1.5: Develop a national SC Roadmap and SC Action Plan

At the moment there is no national Sustainable Consumption Action Plan or a comprehensive roadmap for such a Plan. Both of these are needed to clearly specify relations among Sustainable Consumption, economic development and social development. **China's Action Plan for SC should aim to advance SC not only by making markets more sustainable and limit excessive consumption, but also by ensuring access to Sustainable Consumption choices for both urban and rural consumers in all parts of the country.** To be operational the national Sustainable Consumption Action Plan should focus on consumption sectors with the highest environmental impacts. The priority areas are: housing (including energy use), appliances (including all types of electronics), transportation, and food.

The national government needs to create spaces for opportunity among various stakeholders in order actively participate in implementing a national SC Action Plan through engagement mechanisms that speak most effectively to different actors. Drawing on international experiences of the EU and Brazil, China's SC Action Plan could adhere to the following principles:

- (a) **Take a comprehensive life cycle perspective** which considers all impacts from resource extraction, production, transport, retail, consumption and end-of-life disposition. Only in this way can a shift of environmental impacts from one phase to another be avoided.
- (b) **Enable participation of all stakeholders, including manufacturers, government, consumers, civil society organisations and academia.** Other stakeholders, including representatives of the retail industry, the advertising industry and the financial industry, can play an important role in creating conditions and opportunities for China's Sustainable Consumption and Green Development.
- (c) **Identify and use synergies with existing initiatives for sustainable development in China, particularly low-carbon and circular economy approaches.** To facilitate employment and the acceptance of specific SC policy instruments (e.g. product labelling) and governmental initiatives (e.g. low-carbon cities, sustainable government procurement) parallel processes should be synchronized.

The implementation of China's SC Action Plan should be implemented in three phases:

Phase I (present to 2015, improvement period): Develop and establish the

institutional basis for SC by including it into the 13th Five-Year Plan, revise existing laws and policy frameworks by including SC. Focus is on the four priority areas of implementation: housing (including appliances), transportation, food and clothing. This first phase combines the expansion of green products and the improvements in their quality, the advancement of non-material consumption and services, and the enhancement of the spending power for the rural “lower-consumers”. At end of Phase I, the aspects of energy conservation and climate protection for SC in the four priority areas are fully understood.

Phase II (2015 to 2020, consolidation period): Improve and expand the legal and policy frameworks to actively promote Sustainable Consumption patterns among China’s emerging urban middle classes. Fine-tune and customise policy packages for local contexts and stakeholders. By 2020 Chinese consumers and companies should be fully aware to ensure broad support and active participation in the implementation of the policy interventions for advancing Sustainable Consumption.

Phase III (after 2020, continuous advancement): Continuously improve capacity and degree of SC in the whole society. The aim should be a peak of impact levels of consumption in housing, transportation, food and clothing. Overall per capita consumption impacts are declining and the gap between rural and urban income and consumption levels are closing. China’s SC strategy is on par with those of other regions including the EU, Japan and Brazil. China as a whole should then be on track to implement a Sustainable Consumption and production system.

4.2. RECOMMENDATION 2: Enable Institutional Innovations for SC in the Administrative System and Society

Innovation is crucial for the advancement of SC. Innovation includes not only technological, but also that of various institutional levels in public administrations and society. In most countries, including China, some existing administrative and social institutions are geared towards perpetuating unsustainable consumption patterns. To advance innovation for SC in these two important areas, the following recommendations are provided:

Recommendation 2.1: Set up an inter-ministerial cooperation mechanism on SC and Green Development

The task force recommends setting up an inter-ministerial cooperation mechanism or working group on SC. As consumption-related policies are cross-cutting and often touch upon the domains of various ministries. It is necessary to coordinate SC policies, particularly those relating to financial incentives or pricing mechanisms, but also those relating to urbanisation and construction, supervision of standards and education. It is recommended that a senior member of the State Council leads the inter-ministerial working group. The working group comprises members of the following ministries and agencies: National Development and Reform Commission and Ministry of Environmental Protection (to take the lead), Ministry of Agriculture,

Ministry of Commerce, Ministry of Education, Ministry of Finance, Ministry of Housing and Urban-Rural Development, Ministry of Land and Resources, Ministry of Transport, Ministry of Science and Technology, Ministry of Water Resources, State Administration for Industry and Commerce, State Forestry Administration and State Administration of Taxation.

The working group should be established as soon as possible and become involved in including the topic of SC in the 13th Five-Year Plan. The working group should report directly to the State Council and be put in charge of developing the SC Action Plan and SC Roadmap. Furthermore, the working group should be involved in the design and feasibility and effectiveness assessment of existing and new policy instruments for the promotion of SC. There should be close coordination with the existing Leading Group on Climate Change and other related working groups on the economy and environment.

Recommendation 2.2: Enhance credibility and independence of China's product certification systems

The task force identified the strong need to reconcile an international and Chinese green product certification that is credible. In order to avoid an unreliable and non-transparent product information that is not credible among consumers, **it is necessary to strengthen the existing institutions such as the China Quality Certification Centre** which supervises the standards of products. The China Environmental Labelling Program should be further extended with the goal of increasing the number of certified products and gaining consumer trust and recognition. Strong efforts should be made to mainstream successful international experiences from product certification and labelling in China. In addition to official certification bodies, independent consumer information associations need to be established. These proposed associations should be allowed to carry out independent comparative product testing and provide information to consumers. The independent product testing will increase consumer trust in product-related information and potentially lead to increased sales of these products and services. Furthermore, support should be provided for the establishment of independent consumer associations and consumer advisory committees, which could offer sustainability-related advice to consumers and provide information from the independent testing panels. In addition, **an open-access green product information platform for consumers should be established. Green product information should be collected in a national database, which is operated and controlled by an independent third-party organization.** Furthermore, relevant departments should improve the efforts to make product life-cycle information widely available to manufacturers and consumers.

Recommendation 2.3: Initiate local pilot projects for SC

China is already implementing pilot projects to build eco-cities (e.g., in the Tianjin

Binhai area) and has initiated a number of low-carbon pilot cities and provinces. **To complement these efforts, small-scale community pilots and local demonstration projects for SC should be implemented.** Ideally, these model communities are not built from scratch, but are existing communities that include SC initiatives as part of their transformation process. The pilots should combine local knowledge and international best practices. For example, **one or more communities for “One Planet Living” can be set up in China, leading community residents to adopt lifestyles within the carrying capacity of our planet Earth.**

Buildings could be zero-energy buildings (equipped with solar PV, heat pumps and according to highest efficiency standards). In addition, they should be equipped with waterless toilets, grey water recycling systems and constructed with local, renewable building materials. New buildings should be designed in such a way as to be able to be used for rooftop farming. Community-based gardening should be encouraged, combining local food production with food waste recycling, composting systems and biogas generation. In terms of mobility, urban design should prioritise highly efficient transport, cycling and walking. Furthermore, pilots should be a ‘living lab’ where experiments for collaborative consumption such as electric car sharing systems can be tested. Every project should set up a visitor and training centre, in order to show to the interested public and other external stakeholders how this community works, and what sustainable lifestyles look like in practice. The SC pilot community can also be linked with existing initiatives for low-carbon cities. In addition, sharing economy approaches and the use of alternative indicators for social well-being should be experimented. Local government should participate by implementing strict sustainable public procurement practices. Progress of the pilot projects should be measured by a SC indicator system. This proposal would be based on the successful model of One Planet Living, which is based on ten principles of sustainable living.¹⁹

Recommendation 2.4 Develop and apply SC indicator systems

It is recommended that China designs, tests and implements a SC indicator system for tracing progress on SC and the contribution of SC to Green Development. It is proposed that indicator systems of SC be closely linked with indicator systems currently used to measure low-carbon urban development and social progress beside GDP. These initiatives, which have vital significance for the development of an Ecological Civilization, have already started. **For It is suggested that local indicator systems in addition to traditional GDP indicators should be developed and used by local authorities.** These would measure people's happiness and life satisfaction based on indexes such as the OECD Sustainable Consumption

¹⁹The principles were developed by BedZED ecological village in London, which was selected as the world's fourth most influential green building area in 2012 by American architects. At present, similar projects have formed an international network. More such communities can be built throughout China, then be expanded in scale, and promoted to other cities.

Index Framework, and monitor whether implementation of SC policies is on track. Furthermore, the European Environment Agency has developed a highly sophisticated SC indicator system, which should be used as reference.²⁰ To advance the understanding of SC indicators, it is recommended to establish a specialized working group within the CCICED.

4.3. RECOMMENDATION 3: Initiate Multi-Stakeholder Partnerships for SC

To successfully implement SC policies mentioned above and to promote SC beyond government requirements within business and society, multi-stakeholder partnerships are necessary. The following section contains recommendations on how to engage the most influential stakeholders to become pro-active partners for fostering SC in China.

Recommendation 3.1: Build capacity of local government to establish SC practices

Local governments should ensure the implementation of Sustainable Consumption strategy and practices. Sustainable procurement practices on the part of local governments, creating infrastructure that enables sustainable lifestyles, and establishing local centres for awareness raising are some of the most direct ways through which local governments can show their commitment to SC. Sustainable public procurement not only stimulates the market for sustainable products and services, but also legitimizes sustainable norms in social behaviour. Capacity building on methods like life cycle assessments will be necessary. Local governments will also have the task to ensure quality and safety of green products by following the standards set by the national government. Technological innovation should be encouraged to reduce power consumption and improve product quality. Increases in the number of staff in local quality supervision departments will be necessary.

Recommendation 3.2: Utilize the power of the private sector (particularly retailers and financial institutions)

All types of businesses should assume responsibility for shaping consumption patterns into a sustainable direction by incorporating SC into their codes of conduct. Retailers play a critical gate keeping role in supply chains, since they chose product which enter the market supply and control the information flow between consumers and manufacturers. Retailers should support creation of markets which encourage sustainable products by:

- Placing demands on and stimulating producers to manufacture and offer sustainable products and services,

²⁰European Environment Agency (2010) **Towards a Set of Indicators on Sustainable Consumption and Production (SCP) for EEA reporting**. Available at:http://scp.eionet.europa.eu/publications/SCP_Indicator_frame

- Choosing and offering sustainable products in retail shops, and
- Providing information in shops to consumers on food safety, quality and nutritional value, as well as on the environmental and social features of products. Besides having access to information, consumers also need incentives and support to choose and use products and services in a sustainable manner.

To enable easy access to credible information about SC products and services during and after sales, retailers will have to employ innovative technologies through ICT supported platforms and devices, e.g., smart-phone scanners of RFID tags, bar codes and quick response codes. And, to assist the creation of sustainable markets, **retailers should support independent and credible 3rd party certification schemes for products and services that could help to increase trust of environmental and ethical products.** The retailers must practice responsible and pro-sustainable marketing and advertising and offer the appropriate training to customer support staff.

In order to undertake this wide range of tasks, retailers need to be educated. **The government should support Sustainable Consumption actions in the retail sector by organizing an on-going multi-stakeholder forum on SC operating at all levels of government, and by strengthening the capacity of retailers to build demand for SC.** In addition, the government at both national and local levels could facilitate alliances between retailers and consumer organisations in order to increase transparency and to foster environmental and social quality assurance in supply chains. These steps are essential to raise consumer trust in sustainable products and services.

Through the integration of Sustainable Consumption goals into core business, financial institutions, including banks, insurance companies, funding agencies, investors, etc., should fundamentally contribute to shaping consumption practices of individual consumers and institutional customers, and make long-term investments in infrastructure more sustainable. Financial institutions play a catalysing role in facilitating the incorporation and mainstreaming of Sustainable Consumption practices at various levels of society and among different stakeholders.

Specifically, **financial institutions should engage in providing mortgages and loans only for energy efficient buildings, which would ensure long-term sustainability. Financial institutions should take the lead and encourage investments in infrastructure that facilitate sustainable lifestyles**, e.g. ‘10-minute neighbourhoods’ (all necessary services are within 10 minutes walk), and integrated mobility systems that encourage and enable the use of public transportation instead of private cars. In addition, they should devise innovative financial products in order to stimulate entrepreneurship for SC and lifestyles.

The government has to create an enabling environment for the financial sector to fulfil its role in promoting SC at different levels of society. Specifically, **the government has to encourage, promote and ensure that financial institutions invest in those**

businesses and market players that integrate SC activities in their operations and practices. The government should commit to close collaboration with the financial sector in building the markets for long-term, sustainable lending, investment and insurance products and services. These should encourage Sustainable Consumption patterns that support and enable sustainable lifestyles for consumers. The government should also support the integration of SC goals into the portfolios of financial institutions by organizing a high-level multi-stakeholder forum to discuss SC challenges and solutions in the financial sector. This should be done at the national and more local levels, including cities. The government can assist in building capacity of financial institutions on SC and by joining the international Finance Initiative run by UNEP which acts an exchange platform for international best practices and innovative financial tools for sustainable development.

Recommendation 3.3: Enable civil society initiatives and public participation

It is important to encourage civil society, particularly environmental groups and consumer groups, to actively engage in the implementation of SC patterns at national and local levels. Input must be solicited from civil society and consumer groups when it comes to making SC strategies operational in different geographical localities and for various stakeholders. Civil society groups have a particular role in raising people's awareness and initiating bottom-up initiatives, which stimulate social innovation for SC. Consumer CSOs can help change unsustainable practices and habits by structured approaches that are adapted to local consumer preferences. The current potential of innovative approaches from civil society organisations is in many cases restricted. One outstanding issue to tap into the full potential of civil society groups for SC is to **perfect and ease the regulations for registration and fundraising of civil society organisations.**

The Task Force recommends **enabling the establishments of local consumer advisory centres**, operated by citizens in cooperation with other stakeholders to provide independent information on products and sustainable lifestyles; and to engage in awareness raising and consumer education. To ensure independence from business interests, local governments should provide funding to cover the operations of the centres without being overly involved in implementation. The consumer advisory centres could provide information about environmental and social features of products and services that are available to consumers in shops, on local markets and through other distribution channels. Connected to these local consumer advisory centres could be facilities that provide repair services for products. The centres can also provide dialogue platforms between citizens, social entrepreneurs, local business and local governments on topics such as sustainable lifestyles, quality of life and happiness.

Internet-based initiatives that activate social entrepreneurs and consumers to change their consumption patterns should be encouraged. International initiatives are building on the idea of 'Sharing Economy and Collaborative Consumption', where individuals allow others to access their products, e.g., cars, gardening equipment, leisure sports

articles or electronics. There provides an opportunity for social entrepreneurs to engage through offering shared services and to provide electronic platforms for the exchange of services.

Finally, to complement information initiatives for existing Chinese consumers, **SC should be actively promoted in schools to raise the awareness of the next generation of consumers that are very susceptible to messaging about lifestyle and consumerism.** Schools are the place to create new social norms around SC. Specific initiatives in school should focus on recycling, sharing products, saving water and energy and healthy food. School gardening activities in urban areas demonstrate that they shape students awareness of food, nutrition and understanding of ecological processes. Government can assist by mandating SC in national and local curriculum development initiatives.

Recommendation 3.4: Collaborate with the international community

China has the huge potential to promote SC and as such should actively participate in international exchanges and cooperation programmes on SC. On the international and regional level, China should actively participate in multilateral policies framework discussions for SC. An important example is **participation in UNEP's 10 Year Framework Plan on SCP, to gain global perspective on SC related issues and promote SC at a global level.** Furthermore, more attention should be given to integrating SC in the negotiation process of WTO's Agreement on Government Procurement.

It is necessary to establish institutions charged with the task of tracking international developments and trends in SC policy, research and practice. **The Task Force therefore recommends setting up an international research platform and knowledge hub on SC to enable long-term cooperation between Chinese and international experts.** Specific cooperation activities could include cooperating with UNEP on their on-going "hot spot" initiatives and collaborating on European product footprint initiatives. Furthermore, a National Sustainable Consumption Centre must be established so that it can complement the work of China's existing National Cleaner Production Centre. The Centre would lead China's national research and consultation on SC and be a focal point for international research collaboration.

Furthermore, **SC activities and initiatives of Chinese domestic industries, business associations and enterprises must be aligned with the latest international developments.** It is particularly vital to align processes for domestic products with international product standards. Chinese product certification associations should enhance their cooperation with well-recognised international organizations such as the ISO, the Forest Stewardship Council (FSC), the Marine Stewardship Council (MSC) and other national certification bodies. Aligning with certification procedures and product standards would increase the international competitiveness of Chinese products and services and would promote SC in China.

Media and Public Participation Policies on Promoting China's Green Development

Glossary

Environmental accident: a judgmental term defining an event that causes an unintended change to environmental conditions or harm to economic, social or ecological situations.

Environmental communication: communication by government of such information as environmental pollution, environmental policies and action and environmental data, and communication from citizens and other stakeholders to policymakers on environmentally related topics.

Environmental incident: similar in meaning to an environmental accident, but without the value judgment that it was an accident, since some incidents are the result of planned activities or activities without tractable drivers; often used in safety and health reporting as well as for matters affecting ecosystems.

Environmental information: a term for information in any format on: the state of the environment; factors affecting the environment, such as pollution, noise and radiation; activities, including policies, legislation and plans that may affect the environment; and the state of human health and safety as it may be affected by the state of the environment.

Environmental protest: a public expression of objection, dissent or interest, by words or by actions or violence, to particular construction projects, planning, or policy, in which participants attempt to make their opinions heard, to express discontent or to influence decisions.

Green development: an advanced development model that focuses on economic structural adjustment and the elimination of out-of-date production, so as to achieve a more environmentally friendly and more sustainable, upgraded economy in China.

New media: media characterized by on-demand access to digital content on multiple devices, as well as interactive user feedback and creative participation. Examples include Facebook, Twitter, Sina Weibo, WeChat, and instant communication tools, such as QQ.

Public participation: in this SPS study, public participation implies the active search for, and response to, input from citizens to enable meaningful involvement in environmental decision-making.

Summary of key findings

1. The Chinese government lacks experience in turning public concern about environmental issues into legal and orderly public participation. This has resulted in a growing incidence of environmental protests and a serious loss of trust between the public and government that could negatively affect China's green transformation and economic upgrading.

2. Full public participation is necessary to rebuild trust between the government and people, to improve policy formation and implementation, and to build ecological civilization. Full participation is closely related to information since information enables participation, and participation adds to the information available to policymakers, thus enhancing the quality of policy outcomes. Participation requires clear rules to promote and facilitate early public involvement in environmental decision-making and systematic education of the public and government at all levels on environment and sustainable development. The Chinese experts in the policy study found that public participation should be promoted systematically as both a right and responsibility. This did not reach full agreement between all of the policy study members.

3. Full public participation in environmental protection has been hampered by inadequate implementation of existing government laws and regulations and the lack of sufficient channels for concerned stakeholders to represent their legitimate interests or to protect themselves against the consequences of poor policy decisions.

4. The government's support for the goal of public participation has been inadequate; insufficient resources have been devoted to environmental education, and environmental information is not optimized or integrated. Improvement is further required in the following areas: environmental information disclosure; response to letters and visits from the public and environmental complaint hotlines; definition of competencies and responsibilities of different organisations and agencies across government; and optimization of resources and functions to support public participation in environmental protection.

5. Government performance in the following areas is also inadequate: communications in environmental emergencies; environmental monitoring and pollutant control and elimination; environmental information disclosure; response to the media and the public over pollution incidents; and controversial new construction projects and other environmental issues of concern. Further research could help to illuminate the lessons of recent environmental incidents and protests, so as to avoid future mistakes.

6. The government lacks an active and systematic strategic plan for environmental

communications. A strategy to upgrade and integrate environmental public relations, identify potential environmental risks, provide systematic solutions, and offer open information and proactive communications is required.

7. New media have become important channels for the Chinese public to access environmental information, to express their wishes and opinions, to participate in environmental decision-making, to exercise their right of supervision, and to make green choices that benefit the environment. Government at every level has an inadequate understanding of the important potential for new media to promote public participation and improve interaction with the public and this is hampering its efforts both to understand public opinion and to communicate effectively with the public.

Summary of main policy recommendations

1. Strengthen legal and orderly public participation in environmental fields as an important basis for promoting Ecological Civilization, building a ‘Beautiful China’ and bringing benefit to the Chinese people.
2. Promote and develop open environmental information systems; consolidate and improve information management capabilities of central and local government and enterprises, and effectively implement open information legislation.
3. Create a comprehensive environmental communications strategy to include the accelerated introduction of national environmental education legislation, in order to raise environmental awareness and promote environmental participation across all sectors of society.
4. Improve the implementation of existing laws, regulations and policies on public participation in planning. Reform and introduce new laws, regulations and guidelines to improve public participation where necessary.
5. Adapt government communications to the new media context; promote an open media system suited to the challenge of green development, with support for environmental reporting and enhanced two-way online communication between government and the public.
6. Improve environmental incident response mechanisms.

Background and implementation of the project

The emergence and rapid development of information technology, such as the Internet, social networks and instant communication tools in China have changed the form of public participation in Chinese society. The collection of and response to public opinion is therefore also facing unprecedented challenges. In this new environment of information and social transition, how can the government make comprehensive use of traditional and social media to conduct environmental communication and education more effectively? How can the public learn to express its demands and participate in environmental protection? How can new media broaden the channels for public participation in environmental protection? And how should the government respond to the growing number of environmental incidents in the country? These are the new issues that central and local governments face. This CCICED Special Policy Study (SPS) aims to provide policy recommendations to the State Council on media and public participation to cope with these challenges.

This SPS was a cooperation between Chinese and international experts. The research team includes co-chairs, core experts, supporting experts, advisory experts and coordinators. The study began work in late February 2013, and the main research work was completed at the end of September 2013. In the past seven months, the research team completed the following: convened three working meetings (March 20; May 9-10; and July 22-23) and one writing meeting (September 12-13) in Beijing; completed one international field trip in the end of June to Sweden and Germany; and conducted seven Chinese field trips to Jinan, Shandong, Xi'an, Shanxi, Chengdu, Pengzhou, Shifang, Xiamen and Jiangmen. More than 10 relevant organisations and personnel were interviewed, including officials in the Ministry of Environmental Protection, social experts in Chinese Academy of Social Sciences, influential NGO leaders, local governmental leaders, participants in environmental protests and enterprise leaders from controversial projects. During the research process, we kept close contact with the CCICED teams, with more than four oral presentations to the secretary on this study.

We sincerely hope that these SPS policy recommendations will offer a timely and positive contribution to China's green development.

1. INTRODUCTION

The rapid industrialization and urbanization of Chinese society represents remarkable economic progress. However, the speed of change and the unbalanced character of economic and social development have brought severe social stresses and environmental degradation. In the next 15 years, China will further accelerate its urbanization and industrialization and aim to build a moderately prosperous society. Although the 18th CPC National Congress paid unprecedented attention to “ecological civilization” and proposed the building of a “beautiful China,” public expectation is very low due to the continuing deterioration of the environment.

Public discontent over such serious long-term environmental problems as air, water and soil pollution has contributed to a growing mistrust of government communications, associated public demands for transparency and participation in environmental decision-making, and a mounting tally of social protests. Achieving an ecological civilization will require full public participation. Without this, lasting environmental protection cannot be ensured, discontent will continue to grow and trust will not be restored. Such public participation would be a bottom-up, sustainable force. To participate effectively, the public needs to be informed and environmentally aware. This requires education, good government communications through both formal and social media, and improved information disclosure.

In September 2013, Premier Li Keqiang chaired an executive meeting of the State Council, which concluded that the disclosure of government information is required by law, both to allow government to maintain close contact with its citizens, and to ensure that government officials support the citizen's right to know, to participate and to supervise. This report echoes Premier Li's earlier remarks at China's Seventh National Environmental Protection Conference that channels of public participation in environmental protection should be smoothed to allow citizens' voices to be fully heard in environmental planning and decision-making, to expose environmental violations, and to enhance social supervision.

But despite the introduction of the Interim Measures for Public Participation into Environmental Impact Assessment, the Environmental Information Disclosure Ordinance, and other related regulations, most of the government's decision-making process remains closed, with no participation from the general public or other stakeholders.

Mechanisms for public participation are weak; access to information is often blocked; everyday government communications and emergency communications during environmental incidents are inadequate; and citizens' voices are not heard. Public participation in environment and development is a necessary part of the decision-making, policy formation, and implementation required to build an ecological civilization. The public increasingly distrusts closed processes, where

decisions are made by experts and enforced by government, and demands participation and transparency in policy formation and implementation, as well as access to environmental information.

Furthermore, the digital age has transformed the way citizens receive, process and distribute information. In the new media digital age, the public can no longer be expected to be passive recipients of top-down information, but increasingly produce their own content, choose their own sources, and decide for themselves whom to trust and what to believe. Today more than ever, green development depends upon good two-way communication and information disclosure. Where access to information has been blocked, where information has proven unreliable or its release has been unnecessarily delayed, public trust has been undermined, rumours have flourished and the risk of social conflict has grown. Without more open information, more responsive and effective government communications through all available media, and more effective public participation, green development and ecological civilization cannot be achieved. Where information is withheld and meaningful participation thwarted, frustrations will continue to find expression in protest. Rebuilding trust between citizens and government in the digital age is a multi-faceted task that begins with removing the obstacles to citizen participation and access to information and requires an open and trusted system of government communications at every level.

This study aims to identify obstacles to full public participation, access to information and deficiencies in government communication on environmental issues in China, to present a positive vision for best practice on public participation, communication in the digital age, and open information for green development and ecological civilization. Additionally, it aims to make recommendations with a plan for improving communication, participation, policy outcomes, and implementation, thereby helping to build ecological civilization and trust between citizens and their government.

2. PUBLIC PARTICIPATION

2.1. Introducing public participation

Public participation in China's green development involves three aspects: information disclosure, public participation, and communications. Full public participation should be a cooperative, joint enterprise between government and an informed, engaged public, where citizens should not only have the right to object, but also the right to participate in the early stages of decision-making. In other words, the public should be involved in deciding what kind of environment they would like to live in.

Environmental education is an important aspect of public participation. Public participation should support the citizen's ability and opportunity to learn. Likewise, an environmentally educated public can be expected to make better consumer choices and to play a full part in environmental decision-making. International experience of

collaborative planning shows that the public’s willingness to engage with scientific and technical information is closely related to their capacity to understand and do something with that knowledge in a deliberative context. If people have real power to effect change, or to participate in environmentally significant planning decisions, they will engage with information in a sophisticated manner. If they do not have power, they are more likely to display apathy, indifference or hostility, which can lead to public protest.

This Special Policy Study considered environmental incidents, such as chemical spills, and social incidents, such as protests related to planning and environmental decision-making. Both environmental and social incidents, when poorly handled, can do lasting damage to public trust in government, restricting the progress of China’s green transition. All require transparency from government and rapid, responsible and effective communications. Representative examples of social incidents in China related to proposed projects in recent years are presented as table 1:

Table 1: Representative examples of social incidents in China

Year	Place	Focus of protest
2007	Xiamen, Fujian	Proposed PX project
2007	Shanghai	Maglev train route
2007	Yantai, Shandong	Haiyang nuclear power station
2007	Beijing	Liulitun waste incinerator
2008	Chengdu, Sichuan	Pengzhou petrochemical project
2008	Guangzhou, Guangdong	Nansha petrochemical project
2008	Nanjing, Jiangsu	PX project
2009	Guangzhou, Guangdong	Waste incineration
2012	Shifang, Sichuan	Copper refinery
2012	Qidong, Jiangsu	Waste-water pipeline from paper factory
2012	Ningbo, Zhejiang	Zhenhai PX project
2013	Kunming, Yunnan	PX project

Where public participation in environmental decision-making is non-existent or ineffective, public suspicion of development projects is high and levels of public trust tend to be low. In the absence of effective channels for public participation in environmental decision-making, and in the event of environmental incidents, citizen voices frequently find their outlet through protest. Protests related to environmental problems have increased at an average annual rate of almost 30% in recent years. This is a situation that not only undermines social cohesion but also indicates and contributes to less sustainable policy decisions, potentially threatening its green development plans and economic upgrading. China has thus reached a critical point in its green transformation.

Legal and orderly public participation in planning ensures more environmentally, socially and politically sustainable decisions and improves the chances that better and more acceptable decisions will be made, which will be more readily supported by the public. Public participation may prolong the planning process, but international experience suggests that the benefits of higher quality decisions, greater public acceptance, and the resulting increased legal security for investors and enhanced social harmony, outweigh the costs of a delayed process and help to mitigate the risk of project cancellation at later stages, a risk that is unnecessarily high in China today. Informing the public at the earliest juncture about the public participation process and the scope of the decision to be taken, rather than soliciting public participation after a developer submits an application for a project, is also shown to be more sustainable, since it allows the public to contribute to improved or alternative development concepts. This offers the opportunity to turn potential hostility into involvement and support, and allows the authorities to better evaluate not only which is the best concept, but also which will gain greater public acceptance.

In China, offering a structured process for legal and orderly public participation will help to increase social harmony, maximize fairness, improve policy outcomes and implementation and address the highly uneven nature of public participation at a time when there is a low level of public trust in the political authorities.

BOX 1: STUTTGART 21

Stuttgart 21 is a railway and urban development project in the German city of Stuttgart, the details of which were negotiated in the early 1990s among different government and industry stakeholders, and although no laws were broken in the development process, no great effort was made to ensure the fullest possible public participation in the planning of this large-scale project. Protests broke out in 2009, when residents were surprised to see construction crews arriving on the site and trees being cut down. The following year, hundreds of demonstrators were injured when the police deployed water cannons, pepper spray and batons to clear protestors. This police overreaction infuriated the public, leading to a 50,000-strong protest the following day, organised via social media, and a major electoral victory for the Green Party in the state elections that followed.

This experience forced the Stuttgart city authorities to change strategy. The developers created a web-forum to solicit structured public participation, where opposing views on the project were sought, questions regarding the project were collected on a daily basis and the most important and relevant ones were chosen by participants through an online voting mechanism, to be answered by the relevant authorities. The Stuttgart 21 case thus provides an illustration of how following limited public participation procedures is sometimes insufficient to achieve complete understanding of popular sentiment, and a more cooperative and early-stage approach is required to gain public acceptance and avoid social conflict around a controversial planning decision. Such a digital platform facilitating early-stage public participation

provides a model for potential pilot projects to help avoid social conflict in planning in Chinese cities, where plans for large industrial developments, power plants and other projects have sparked frequent conflicts.

2.2. Public participation in green development

The core of international agreements on public participation in environmental decision-making is Principle 10 of the Rio Declaration agreed at the United Nations Conference on Environment and Development, (the “Earth Summit”), in Rio de Janeiro in 1992:

“Environmental issues are best handled with participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous material and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”

The Rio Declaration thus links public participation to access to information and access to justice or redress. Basic implementation guidelines for Principle 10 are set out in the *Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters* (the “Bali Guidelines”), which were adopted in 2010 by the governing body of United Nations Environment Programme, which includes China. These guidelines are not laws, but represent the international consensus on public participation in environmental matters, as well as the importance of information disclosure as a basis for such participation, and thus provide a benchmark against which the implementation of Rio Principle 10 can be assessed. More than 90 countries have since adopted framework laws or regulations for access to information, including China, Indonesia, Nigeria, Liberia, Mongolia and Brazil.

BOX 2: THE BALI GUIDELINES RELATING TO OPEN INFORMATION AND PUBLIC PARTICIPATION

Guideline 1: Any natural or legal person should have affordable, effective and timely access to environmental information held by public authorities upon request (subject to guideline 3), without having to prove a legal or other interest.

Guideline 2: Environmental information in the public domain should include, among other things, information about environmental quality, environmental impacts on health and factors that influence them, in addition to information about legislation and policy, and advice about how to obtain information.

Guideline 3: States should clearly define in their law the specific grounds on which a request for environmental information can be refused. The grounds for refusal are to be interpreted narrowly, taking into account the public interest served by disclosure.

Guideline 4: States should ensure that their competent public authorities regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment. To that end, States should establish relevant systems to ensure an adequate flow of information about proposed and existing activities that may significantly affect the environment.

Guideline 5: States should periodically prepare and disseminate at reasonable intervals up-to-date information on the state of the environment, including information on its quality and on pressures on the environment.

Guideline 6: In the event of an imminent threat of harm to human health or the environment, States should ensure that all information that would enable the public to take measures to prevent such harm is disseminated immediately.

Guideline 7: States should provide means for and encourage effective capacity-building, both among public authorities and the public, to facilitate effective access to environmental information.

Guideline 8: States should ensure opportunities for early and effective public participation in decision-making related to the environment. To that end, members of the public concerned should be informed of their opportunities to participate at an early stage in the decision-making process.

Guideline 9: States should, as far as possible, make efforts to seek proactively public participation in a transparent and consultative manner, including efforts to ensure that members of the public concerned are given an adequate opportunity to express their views.

Guideline 10: States should ensure that all information relevant for decision-making related to the environment is made available, in an objective, understandable, timely and effective manner, to the members of the public concerned.

Guideline 11: States should ensure that due account is taken of the comments of the public in the decision-making process and that the decisions are made public.

Guideline 12: States should ensure that when a review process is carried out where previously unconsidered environmentally significant issues or circumstances have arisen, the public should be able to participate in any such review process to the extent that circumstances permit.

Guideline 13: States should consider appropriate ways of ensuring, at an appropriate stage, public input into the preparation of legally binding rules that might have a significant effect on the environment and into the preparation of policies, plans and programmes relating to the environment.

Guideline 14: States should provide means for capacity-building, including environmental education and awareness-raising, to promote public participation in decision-making related to the environment.

2.3. Public participation laws and their implementation in China

In China, the main laws that provide for public participation in new development projects are the *Environmental Impact Assessment (EIA) Law* (2002), *Administrative Licensing Law* (2003) and the Ministry of Environmental Protection's *Interim Measures on Public Participation in the EIA Process* (2006). Article 5 of the *EIA Law* stipulates that: "The state encourages relevant entities, experts and the general public to participate in the appraisal of the environmental impacts in appropriate ways." However, at present the solicitation of public opinion comes not at the early, scoping stage, but only after a project design is finalized and an EIA completed, though before it is submitted for official approval. Article 17 of the *Interim Measures* states that "construction units [and] EIA agencies authorized by the units should take public opinions seriously and make it clear whether to adopt or not in the EIA Statements."

In China, the methods of public participation popularly employed to comply with these measures include public hearings, surveys, expert consultations and seminars. Public hearings can and should be held in China throughout the entire process of preparing EIAs, the issuing of licenses for proposed construction projects, the issuing of some administrative penalties for environmental violations, and where new environmental legislation is proposed. At present there are no detailed, standardised instructions for the conduct of hearings, nor is there a standardised way for selecting public representatives to participate in hearings. Chinese local governments also use polling, by both governmental and non-governmental pollsters, in environmental decision-making. By the end of 2009, 23 provincial governments had established polling companies.

BOX 3: HOTLINE 12369

China's Hotline 12369, operated by the Ministry of Environmental Protection allows the public supervision of the enforcement of environmental regulations through telephone tip-offs about pollution incidents. However, many people do not know about the Hotline. A survey conducted in 2005 showed that fewer than 20% of those questioned knew that it existed. In June 2013, the hotline received a total of 149 complaints from the public, suggesting awareness of the hotline is extremely low.

2.4. Public participation in practice

The Bali Guidelines state that members of the public concerned should be informed of their opportunities to participate at an early stage in the decision-making process. The "public concerned" is defined in those guidelines as the public "affected or likely to be affected by, or having an interest in, the environmental decision-making". Furthermore, non-governmental organisations (NGOs) promoting environmental

protection (and meeting any requirements under national law) are also deemed to have an interest. This is often not the case in the Chinese context, where the process of identifying the public concerned has not been standardized and NGOs are typically not given the opportunity to engage in legal and orderly public participation processes, reducing the effectiveness of the public participation process, decreasing the likelihood of public acceptance, and increasing the likelihood of unrest and social protest. In Germany, for example, qualified NGOs (those that are non-profit, operate in the whole nation and serve the common interest) can register to obtain a legal status that entitles them to be consulted by government on environmental issues and challenge government decisions in court.

The US Environmental Protection Agency notes that a thorough process of identifying the interested and affected public is the “cornerstone” of public participation. It recommends that environmental protection officials identify the public concerned through:

- **Research:** into the community, its history, groups and past environmental decisions, including through the use of surveys, questionnaires and scientific sampling to identify those who might be concerned or affected by the issues;
- **Communication:** with community groups and leaders, individual stakeholders, experts, local officials and environmental organisations, as well as other environmental protection officials;
- **Publicity:** about the clearly defined reason for public participation, stressing the value placed on the community’s participation, using diverse sources of media, including email, printed flyers, mailings, meetings, door-to-door contact, radio, or advertisements in newspapers.

International experience suggests that the public participation process that follows this identification of the public concerned should take multiple forms and that an effective process of public participation must be underpinned by procedures that allow a decision to be challenged in the court of law. Various methods should be employed in order to promote a positive dynamic of interaction between empowered and mobilised citizens and a government committed to cooperating with the public. Based on academic literature and the investigations carried out by this Special Policy Study, table 2 is a brief overview of some of the methods used for various purposes in the public participation process.

Table 2: Brief overview of public participation methods

Purpose	Appropriate method
Disseminating information	Press conferences; printed media (e.g. flyers); websites and online notices; government microblogs; presentations; exhibitions; public displays.
Gathering additional sources of ideas and information	Citizens’ juries; consensus conferencing; focus groups; deliberative opinion polls;

	online polls; crowd sourcing; online forums; social media analysis; citizens' panels; referenda.
Monitoring and appraisal by citizens	Design dialogue; citizen science; online mapping; community-needs analysis; priority search; public scrutiny; village appraisal; parish mapping; community indicators.
Broadening of public acceptance and reducing social conflict by bringing together stakeholders (including government)	Public hearings; consensus-building; future search; community visioning; round tables; online forums.

BOX 4: BOTKYRKA

The “design dialogue” method for public participation in urban planning has been successfully demonstrated in the municipality of Botkyrka in Sweden. In a series of structured workshops over a period of around two months, different members of the community, including school-age children, were invited to share their knowledge and feelings about their community, evaluate different development options and come to a consensus on a development plan. Photographic documentation and visualisation techniques, conversational aids, such as game boards and storytelling, as well as exhibition showrooms, were used to facilitate dialogue and flatten differences in status and educational level. Thus, the municipality, working closely with the architecture firm Nyrens Architect Bureau, came up with a long-term urban re-development plan that has helped to turn a relatively poor and marginal community, with many social divisions, into a socially and ecologically sustainable community.

3. ACCESS TO ENVIRONMENTAL INFORMATION

3.1. Introducing open environmental information

Transparency in environmental information is not only desirable for its own sake, but also because it leads to better policy outcomes and higher levels of public consent. These outcomes are more sustainable environmentally, socially and politically.

Government information strategies, in any country, serve a variety of purposes. Governments may be concerned to: provide citizens and organisations with the knowledge and means required to alert them to environmental problems, so that early action can be taken to avoid harm to people or social order; raise awareness of existing or anticipated environmental problems or emergencies, such as pollution or flooding, to provide guidance to citizens on how to protect themselves and provide

clear information about government action in the emergency; have a better understanding of citizens' and stakeholders' sentiments, anxieties and priorities on environmental issues; or to build policy around citizen and stakeholder perceptions.

Citizens and organisations that make use of information may also have different purposes. They may be concerned, for example, to: ensure that policymakers are properly informed about the contexts of environmental decisions, including the concerns of citizens and stakeholders, and to influence policy decisions that affect them; and to obtain reliable and relevant information and guidance to guide their choices in daily life in pursuit of green consumption. Informative labeling and rating systems, for instance, help to identify green choices, and consumers might choose between brands on the basis of information about the environmental performance of the manufacturer. Government approaches to information provision are most effective when they recognise and accommodate these user priorities, as well as serving the objectives of the providing agencies.

3.1.1. The new media context

The last 10 years have seen great changes across the world in the ways in which information is provided and shared, stemming from developments in information and communications technology. The development of the Internet and the World Wide Web has enabled information providers to make much more information available, in new forms, and has enabled users to gain access to a much broader range of information, from a wide variety of official and unofficial sources. The more recent development and adoption of online social networks and microblogging facilitate fast information sharing within both closed and open user groups, accelerating the spread of information. The integration of these communication applications with audio, image and video applications has greatly enriched sharable content. The proliferation of mobile phones and more recently of smart phones has made the Internet and social networking applications much more readily available to many more people, on the move as well as from fixed locations, intensifying online activity.

According to the China Internet Network Information Center, China has 591 million Internet users and more than 460 million mobile Internet users. China's Internet has already been through three, major development stages, from the era of large, portal websites in 2003 to the rise of the search engines and bulletin boards in 2008 and the take-off of Chinese language micro-blogging in 2010. SinaWeibo, the largest micro-blogging service, has more than 500 million registered users. The QQ instant messaging service had 798.2 million registered users at the end of 2012. Today citizens use a new range of media platforms, such as bulletin-board systems (BBS) and QQ groups, to share information on and organise opposition to polluting projects, waste incinerators or infrastructure projects. Opinions can be shared among the public with ease, and stories that emerge in new media can become important issues in traditional media, amplifying the debate in the public sphere. New media platforms have also

given a platform to new, charismatic opinion leaders and citizen journalists.

There are important distinctions between the approach to information provision through traditional media and those that are effective in the new media environment. Traditional media mechanisms for environmental information based around print media, broadcasting and even formal consultation, have generally been hierarchical. They have enabled policymakers at every level of government to deliver messages to citizens and communities, but offered little scope for the interaction or feedback that might help policy makers learn from citizens. New media, by contrast, particularly social media, such as online social networks and microblogging sites, are networked rather than hierarchical, and highly interactive, enabling users to exchange views and contribute their own content, including multimedia content, to discussions in real or near-real time, thus blurring the boundaries between information and participation.

This has two important implications for policymakers and officials, who need to adapt to the dynamics of these new information channels. First, it makes it much more difficult to control the flow of information on environmental issues, particularly where these environmental issues may have powerful local impacts. Policymakers must expect information and comment on environmental issues to spread widely and rapidly through social media, influencing public opinion. Some, but certainly not all, of this information will be accurate; some may be malicious, self-interested, or merely misinformed. The best way for government agencies to ensure that public discussion is fair and well-informed, and to reduce the influence of rumours, be they innocent or pernicious, is for policymakers and officials themselves to provide accurate, comprehensive, reliable and timely information that the target audience trusts. Second, social media should be used alongside traditional media within a cohesive framework for providing environmental information. The inclusion of social media in information strategy is important both because of the speed with which information can travel on social media and because they are increasingly influential. Different social media have different characteristics, however, and should be incorporated in different ways. Successful strategies are likely to be those that understand and exploit the value of horizontal networking among networks' user communities. Strategies for using social networks that see them as channels for top-down information management are unlikely to be effective.

Information provision should aim to secure more sustainable policy outcomes and enhanced public involvement, understanding and therefore consent to environmental policies and decision-making. These aims are closely linked with public participation. Public trust and confidence in the information made available is extremely important. This is partly a matter of trust in the source, partly of its perceived reliability, and partly of its relevance to the users' own circumstances. As shown in the case studies of environmental incidents below, information that proves unreliable, inaccurate or out of date jeopardises confidence in future information, fosters rumours, anxiety and misunderstanding, and encourages alternative sources.

For example, attempts by government authorities in China to censor and regulate online media coverage of protests almost invariably provokes a public backlash, greater confrontation, greater credence for rumour and greater public sympathy with the protestors, not to mention a further reduction in levels of public trust in government. It is clear that if government departments are concerned about the spread of rumours, the most sustainable and effective strategy is to respond with greater transparency and the timely provision of accurate information.

BOX 5: CHONGQING ENVIRONMENTAL PROTECTION BUREAU

In an effort to create a communications platform between the government and the public that is effective in the new media context, the Chongqing Environmental Protection Bureau started a series of microblog accounts. These accounts, on Sohu, Tencent and Sina Weibo, are intended as new platforms for faster information dissemination, greater transparency and improved responsiveness to public opinion and citizen complaints. The accounts have around 300,000 followers, and there are individual accounts for each of Chongqing Municipality's 40 districts. EPB employees have specialized training on how to use and coordinate microblogging effectively. This training outlines various principles, including maintaining a culture of openness that accepts criticisms from the public as valuable information, valuing accuracy, and admitting errors where they occur, thereby increasing public trust. The accounts are used for releasing air quality information, tips on more environmentally responsible behaviour and practical advice. When environmental emergencies occur, the accounts are used to give citizens fast and accurate information about the risks and hazards; this method is much quicker than traditional media, helping dispel rumours, Xinhua news agency has praised the accounts as a model for helping to avoid social unrest.

3.2. Open information laws and their implementation

International agreements on access to information do not have the force of law in China, however, they are foundation documents that have emerged from extended discussions within the United Nations framework and provide a sound starting point for legislation and implementation in UN member-states, including China. The Bali Guidelines call for public authorities in all countries to provide “affordable, effective and timely access to environmental information” to citizens and organisations on request, including “information about environmental quality, environmental impacts on health and factors that influence them... information about legislation and policy, and advice about how to obtain information.” Underlying these principles is the idea that information raises the level of debate and influences opinions that might otherwise be compromised by mistrust and bias, thus helping to underpin more sustainable decision-making. Governments are thus expected to establish processes for the regular collection and publication of “information about proposed and existing activities that may significantly affect the environment,” and to build the capability of public authorities and the public to make use of information access.

3.2.1. Open information laws in Europe

The principles of information transparency that emerged from the 1992 Rio Summit underpin approaches to environmental engagement, particularly information transparency, that were subsequently adopted by a number of governments and regional organisations, most extensively in Europe. There are two key European institutions: the Aarhus Convention of the United Nations Economic Commission for Europe (UNECE), whose membership also includes North America and parts of Central Asia, and the European Environment Agency (EEA).

3.2.1.1. The Aarhus Convention

The *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters*, known as the Aarhus Convention, was agreed by member-states of the United Nations Economic Commission for Europe (UNECE) in 1998. It grants extensive information access and participation rights to individuals, communities, businesses, NGOs and civil-society organisations on issues concerning the environment.

The Aarhus Convention requires governments to publish or make public both general environmental information and information of environmental significance relevant to specific individuals or communities. It states that the public should be informed “early in an environmental decision-making procedure and in an adequate, timely and effective manner” about any specific environmental matter that affects them, afforded the information necessary to understand and analyse its impact, and provided with the means to express their views.

As well as encouraging publication of environmental information, the Convention grants individuals and organisations the right to obtain unpublished information. Under the Aarhus provisions, any individual or organisation can request and obtain any “environmentally relevant” information (as defined above) from any national or local government agency, any public body, or any private company that provides public services (such as a privatised utility). Applicants do not have to give any reason for their request. There is also a presumption in favour of disclosure: public agencies must provide the information requested, within set time limits, unless there are very specific and narrowly defined reasons why it would not be appropriate in a particular case. Information is not confined to data and final policy documents, but includes material related to decision-making processes.

BOX 6: POLLUTANT RELEASE AND TRANSFER REGISTRIES

<p>A 2003 Protocol to the Aarhus Convention established the Pollution Release and Transfer Register (PRTR). PRTRs are national databases of potentially hazardous materials that are released into the environment (air, water or soil) and/or transferred</p>

elsewhere for treatment or disposal. Businesses and public sector bodies responsible for pollutants are required to report regularly on the quantities of pollutants they release or transfer. Published data enable governments and other stakeholders to monitor businesses' environmental performance, hold high polluters to account and take any necessary enforcement action. The public reporting requirement tends to encourage companies to reduce their pollution and, in some cases, to identify ways of making productive use of waste materials. European Union directives require EU member-states to implement the Aarhus Convention, including the PRTR, in national legislation. Encouragingly, China's Ministry of Environmental Protection introduced a PRTR system into the nation's *Measures for the Hazardous Chemical Management and Registry*, enforced in March 2013. Related regulations were published in July 2013. However, the list of substances concerned has not yet been published.

3.2.1.2. *The European Environment Agency*

The European Environment Agency (EEA) is an agency of the European Union, although a number of non-EU countries have also chosen to participate in its work. It defines its role as being:

“to support sustainable development and to help achieve significant and measurable improvement in Europe's environment through the provision of timely, targeted, relevant and reliable information to policy-making agents and the public.”

The EEA gathers and makes available data sets, including near-real time data, on the whole range of environmental issues; produces integrated environmental assessments and thematic analyses; monitors the effectiveness of environmental policies; and seeks to anticipate emerging issues to gather information ahead of policymakers' needs. In 2013, a typical year, it will prepare and publish around 35 annual and analytical reports on major environmental issues across Europe.

Eionet is a partnership between the EEA and its member-states, built around a network of 1,500 contact points, research institutes and key informants, which collate and share data for dissemination, and develop thematic and integrated assessment reports and national State of the Environment Reports. It currently works around six topic centres: air pollution and climate-change mitigation; climate-change impacts, vulnerability and adaptation; biodiversity; inland, coastal and marine waters; spatial information and analysis; and sustainable consumption and production.

The EEA is developing a Shared Environmental Information System (SEIS), networking the information systems of EEA member states to “create an integrated web-enabled, EU-wide environmental information system.” This represents a shift in the overall approach of environmental information dissemination; “from individual countries or regions reporting data to specific international organisations, to creating online systems with services that make information available for multiple users – people and machines.”

The principles of this shared environmental information system were crystallised in an important document from the Eye on Earth Network, known as the 2013 Dublin Statement, which states that data and information should be:

- Collected once and shared with others for many purposes
- Managed responsibly at source
- Readily available to easily fulfil reporting obligations
- Easily accessible for users and available in national languages
- Enabling comparisons on the appropriate geographical scale and to support citizen participation
- Supported through investment in common standards and interoperable systems

The emphasis on supporting citizen participation signals support for citizen science initiatives, which the EEA supports as high quality, cost-effective methods of data collection that improve public participation and policy implementation.

BOX 7: MAPPING FOR CHANGE

Mapping for Change is a London-based social enterprise founded by Muki Haklay, a professor of geographic information science, and Chris Church, a veteran environmental campaigner, which uses online maps as tools for public participation in sustainable development. For example, when Mapping for Change was approached by residents of Pepys Housing Estate in Deptford, a disadvantaged area of south London, who wanted to campaign against an unpopular local scrapyards, the organisation developed a methodology for collecting noise measurements with cheap, hand-held devices that the residents could use to create an online map of noise pollution in the area. For the first time, the community had a visual way to show what they had been struggling to argue for eight years, and at a public meeting, the community were able to present the authorities with the evidence. The local authorities and the environmental agency were able to see that there was a problem, which was subsequently confirmed by professional acousticians. The environmental agency subsequently revoked the license for the scrapyards. The case demonstrated the value of citizen science, not only in public supervision, but also in improving environmental education and social cohesion. For example, one of the women from the community in Deptford, who did not have a high level of formal education, reported that her involvement in the project inspired her to study for a work-based qualification.

3.2.2. Implementation of open information laws

An appropriate legal framework is essential for effective environmental information provision. Legislation, however, is not sufficient in itself to ensure that information provision is an effective part of environmental governance. European experience suggests that three further aspects are required:

- Government agencies and officials need to ensure that legislation is effectively implemented. This requires training and awareness-raising across government.

- Businesses and organisations responsible for activities that affect the environment need to implement procedures that enable them to provide information and respond to information requests promptly and proactively. European experience, notably with the PRTR, suggests that businesses which do so can gain significant competitive advantages, as they become more aware of their own environmental impact and of potential cost savings that may result from mitigation.
- Information needs to be provided in ways that are relevant and appropriate for different audiences, and which build public trust in the information that is made available. This is best achieved through an open approach that provides relevant information in ways that can be readily understood by non-specialists and which recognises the value of feedback from those affected.

The overall aim of environmental information provision in Europe and elsewhere is to develop a culture of information provision that is supported both by legislation and these essential elements of implementation. Such a culture presumes that information should be provided unless there are strong reasons not to do so. To achieve this, it is important that the scope of environmental information is clearly defined in legislation and in guidelines to officials.

Environmental Impact Assessments have also proven particularly important in determining the suitability of industrial and other development proposals. Their publication in full has been important in European efforts to engage public opinion and ensure that developments are environmentally sustainable.

3.2.3. Open information laws and their implementation in China

The Chinese Academy of Social Sciences established a specific research institute focusing on open government information laws in 1999. In 2006, this institute submitted China's first draft regulations on open government information to the State Council. The *Open Government Information Regulations of the Peoples Republic of China* (OGIR) came into effect in May 2008. The *Measures on Open Environmental Information*, the first decree specifically based on the OGIR, entered into force at the same time.

The measures require not only environmental authorities but also enterprises to disclose environmental information, both proactively and in response to information requests from citizens. In the measures, "government environmental information" refers to information made or obtained by environment authorities in the course of their environmental protection work; "enterprise environmental information" refers to information about environmental impacts arising from an industry's operations.

The measures stipulate that environmental protection departments should disclose government environmental information on their own initiative: "by means of government websites, government gazettes, press conferences, as well as through

newspapers and other publications, radio, television and other methods that make it convenient for the public to be informed.” Enterprises are also encouraged to disclose environmental information voluntarily. The government also mandates the disclosure of certain types of information from industry, including emergency plans for sudden environmental pollution accidents, and discharge information if polluters have exceeded national or regional pollution limits. The measures also specify that government environment information should be made available to the public within 20 working days; responses to information requests from citizens should be answered within 15 working days; and major polluters must disclose and report emissions data within 30 days.

Independent studies have been conducted to assess the enforcement of these regulations. These have consistently shown that while many environmental departments have stepped up their efforts in environmental information disclosure since the adoption of the measures, considerable shortcomings remain, and progress has been highly uneven. Local authorities vary hugely in how and to what extent they disclose environmental information to the public. One positive example of increased proactive disclosure is the transparency around air quality information, pioneered in Beijing in 2012.

BOX 8: PM_{2.5}

Beijing suffered terrible air pollution in late 2011, but official monitoring data merely indicated that the air was “slightly polluted”, stirring strong dissatisfaction among citizens. A major focus of attention became small particulate matter, known as PM_{2.5}, which was collected but not reported in the Ambient Air Quality Standards, leading to a significant gap between the official data and people’s impressions. Citizen science efforts and independent air quality measurements, including from US Embassy measurements that were posted on social media, confirmed the high levels of PM_{2.5} and widespread concern about the issue on social media caught the attention of China’s decision-makers. On November 15, 2012, then Premier Wen Jiabao said that monitoring standards for environmental quality should be improved and should gradually reach international standards. At the Seventh National Environmental Protection Conference, then Vice-Premier Li Keqiang also demanded that the air quality standards be revised and published as soon as possible. PM_{2.5} has now been included in real-time pollution indicators in many Chinese cities, including Beijing.

Many of the regions where pollution is at its worst have not enforced the regulations effectively. The primary concern is that requests for information from citizens concerned about environmental risks are routinely rejected on spurious and unlawful grounds, such as inconvenience. Scholars have suggested this is due to a lack of capacity, training and specificity in the regulations, as well as a pervasive bureaucratic culture of secrecy at a local level. Citizens’ requests for Environmental Impact Assessments (EIAs) are frequently rejected. Although EIAs are required in Chinese

legislation, they are not generally published in full. Access to information about the most hazardous pollutants, such as heavy metals and dioxins, is frequently barred. Polluting enterprises have been allowed to maintain an indifferent attitude towards the information disclosure measures. This has the unfortunate effect of undermining public trust in government when it is needed most.

The following scorecard in table 3 indicates China’s current level of compliance with the Bali Guidelines.

Table 3: China’s current level of compliance with Bali Guidelines

BALI GUIDELINES RELATING TO INFORMATION ASPECTS OF ENVIRONMENTAL INFORMATION AND PARTICIPATION	CHINA’S REGULATIONS AND POLICIES ON OPEN ENVIRONMENTAL INFORMATION
Guideline 1: Any natural or legal person should have affordable, effective and timely access to environmental information held by public authorities upon request (subject to guideline 3), without having to prove a legal or other interest.	<p style="background-color: yellow;">≈ Would benefit from improvement.</p> <p>China’s <i>Measures on Open Environmental Information</i> (2008) state that: “Citizens and legal persons and other organisations may request environmental protection departments to obtain government environmental information.” In practice, many find that access is refused or delayed.</p>
Guideline 2: Environmental information in the public domain should include, among other things, information about environmental quality, environmental impacts on health and factors that influence them, in addition to information about legislation and policy, and advice about how to obtain information.	<p style="background-color: yellow;">≈ Would benefit from improvement.</p> <p>The <i>Measures</i> define “government environmental information” as “information made or obtained by environmental protection departments in the course of exercising their environmental protection responsibilities and recorded and stored in a given form.” In practice, certain forms of environmental information, such as information regarding EIAs or the disposal of hazardous waste, are difficult to obtain.</p>
Guideline 3: States should clearly define in their law the specific grounds on which a request for environmental information can be refused. The grounds for refusal are to be interpreted narrowly, taking into account the public interest served by disclosure.	<p style="background-color: red;">✘ Ineffective.</p> <p>The <i>Measures</i> state that information should not be disclosed if it may “endanger state security, public security, economic security and social stability.” These grounds for refusal are unspecific. In practice, many refusals do not cite this article in the <i>Measures</i>, suggesting that it</p>

		has been interpreted broadly.	
Guideline 4: States should ensure that their competent public authorities regularly collect and update relevant environmental information, including information on environmental performance and compliance by operators of activities potentially affecting the environment. To that end, States should establish relevant systems to ensure an adequate flow of information about proposed and existing activities that may significantly affect the environment.		* Ineffective.	
		The flow of environmental information is inefficient and opaque. Enterprise environmental information is a particular problem, with rare instances of mandatory reporting for enterprises and little compliance with voluntary measures.	
Guideline 5: States should periodically prepare and disseminate at reasonable intervals up-to-date information on the state of the environment, including information on its quality and on pressures affecting the environment.		≈ Would benefit from improvement.	
		Government departments produce annual reports on the environment, but these are often incomplete. Indicators and targets are vague and difficult to compare over time.	
Guideline 6: In the event of an imminent threat of harm to human health or the environment, States should ensure that all information that would enable the public to take measures to prevent such harm is disseminated immediately.		* Ineffective.	
		In the event of environmental emergencies, access to information is still commonly barred.	
Guideline 7: States should provide means for and encourage effective capacity-building, both among public authorities and the public, to facilitate effective access to environmental information.		* Ineffective.	
		Supervision capacity among the public and the authorities, and the enforcement of existing regulations, are major problems. However, these shortcomings have not been sufficiently acknowledged and little has been done to address the implementation gap.	
Legend: Scores based on research by the SPS, as well as secondary literature.	* Ineffective. China does not have relevant policy requirements or has not effectively implemented regulations that meet the guideline.	≈ Would benefit from improvement. China's policies provide for partial or occasional implementation of the guideline.	✓ Effective. China has adequate regulations or policy in place, with effective implementation.

4. RESPONDING TO ENVIRONMENTAL INCIDENTS

4.1. Introducing emergency response

Environmental incidents are regrettably common in China and government responses to environmental incidents underscore the need for transparency and public participation. If poorly handled, such incidents can do lasting damage to public trust in government. If properly managed, legal and orderly public participation can help to support effective government action to remedy environmental problems and reduce public alarm and rumour. Moments of environmental crisis can be highly charged with public emotion and are subject to intense public and media scrutiny. Thus they have an enormous impact on public perceptions of official conduct, shaping lasting views on governmental competence and transparency.

It is therefore a mistake for environmental officials to shut down channels of public communication in an environmental emergency. Failing to communicate bad environmental news is bad public policy with long-term consequences and should be avoided at all costs. In an age of broadly distributed media power, attempts to “manage” public opinion through partial, incomplete, or misleading information will fail. Worse, such attempts will inflame public outrage and foster rumour and speculation.

Official misinformation and lack of information are often reversed or corrected only after the damage to public trust and official credibility has been done. As the case study below from the United States demonstrates, officials should release all information quickly, provided they are confident that it is accurate. Similarly, rushing to release falsely optimistic information or temporarily refusing to release crucial information undermines public confidence in official credibility and competence. In an age of citizen science and social media, accurate information from other sources can expose official misinformation and undermine governmental credibility, just when trust is needed most.

BOX 9: THE DEEPWATER HORIZON SPILL

The blowout of BP’s Macondo well on April 20, 2010, which triggered the Deepwater Horizon oil spill, caused crude oil to gush from the floor of the Gulf of Mexico for 87 days. The disaster was a colossal environmental catastrophe — the largest offshore oil spill in history — and as responders struggled to staunch the flow of oil, the grim spectacle triggered a deep loss of public trust in both industry operations and government oversight.

This loss of public confidence was compounded by serious communications errors committed by federal authorities. The Federal On-Scene Coordinator consistently downplayed the size of the spill. Official estimates were gradually raised to 10 times the original estimate. In all, some 4.9 million barrels of oil leaked from the seabed before the broken well was capped on July 15, 2010. Independent scientists, using a small amount of publicly available flow data, generated more accurate estimates that called into question the official accounts. These unofficial estimates were widely disseminated by news media and social media, but the oil company BP attempted to

dismiss their work. The combination of inaccurate official estimates and dismissive treatment of good-faith third-party estimates led to a breakdown of public trust.

Despite their mistakes, the responders did many things right in their approach to communications. They set up a “Common Operating Picture (COP)”, digital tools that tracked every aspect of the response, with thousands of data layers, and posted a version of it at the website GeoPlatform.gov, to give direct public access to response status information. However, the communications measures they got right were negated by what they got wrong. Key facts were mangled, and with them, official credibility. A clear lesson from the incident is that officials should not withhold information arbitrarily, or release falsely optimistic information, as the US Coast Guard did, undermining public confidence in their credibility and competence.

4.2. Whistle-blowing

In the context of environmental controversies, especially where there have been failures in the information management system, it is inevitable that so-called whistle-blowers emerge from time to time, claiming to have information about environmental hazards and/or alleged public or private improprieties. Since it is impossible to determine at the outset which of them may be exposing authentic impropriety and which may be mistaken, misguided or malicious, all must be protected from official or unofficial retribution, and all of their allegations must be seriously investigated and evaluated.

BOX 10: MILLSTONE 2

In the mid-1990s, an engineer at the Millstone 2 nuclear power station in the US state of Connecticut became disturbed by what he regarded as the plant’s unsafe maintenance practices. The engineer, George Galatis, noted that spent fuel rods from the reactor core were being stored indefinitely – in violation of US Nuclear Regulatory Commission (NRC) regulations – in the spent fuel cooling pool outside the containment vessel. If the pool was ever drained of its water by an earthquake or malfunction, Galatis calculated that the result would be a significant and dangerous release of radioactive steam outside of containment.

Galatis brought his concerns to plant management and was rebuffed for purportedly exaggerating risks. Galatis took his concerns to the NRC and was rebuffed again, by inspectors whom Galatis believed had close ties to the power plant’s management. Finally, Galatis sought formal whistle-blower protection under US government statutes, and contacted the Union of Concerned Scientists, an NGO that took his concerns to the media. Special Policy Study expert Eric Pooley was then a reporter for *Time* magazine and investigated Galatis' claims for a 1996 cover story. The story triggered an NRC investigation that uncovered multiple safety violations and led to the permanent closure of the Millstone 2 plant. Since then, federal whistle-blower protections in the United States have been strengthened. Today, it is likely that

allegations such as Galatis' would be widely aired via social media, before becoming fodder for traditional news outlets, which is all the more reason for authorities to put in place protection measures and fairly evaluate whistle-blower allegations.

In developed nations, government and corporate officials alike tend to be hostile to whistle-blowers, but these whistle-blowers often serve the greater social good. For this reason, official procedures must be put in place to ensure that whistle-blowers are protected from retribution and given the benefit of the doubt. For example, protection for whistle-blowers is accepted as an important part of environmental decision-making in Sweden. The Swedish Public Access to Information and Secrecy Act is designed to permit government officials to leak otherwise secret information. With certain specific exceptions, such as protection of another person's integrity or state security, the law permits an official to read from a secret document to another person, if the purpose is to publish the information. Journalists have no right to reveal the source of the anonymous information. Only the informant or the court can revoke the confidentiality between a media outlet and a source.

BOX 11: THE BOHAI GULF SPILL

On 21 June 2011, users of the Sina Weibo microblogging service read this short post: "Two wells at a Bohai oil field have been leaking for two days. I hope the leaks are controlled and pollution prevented." It was then just a rumour, but it turned out to be true. It was likely written by a whistle-blower at China National Offshore Oil Corp (CNOOC), the state-owned Chinese company that forms half of a joint venture with ConocoPhillips at an oilfield (Penglai 19-3) in the Bohai Sea, off China's northeastern coast. In the end, the size of the oil spill officially reached about 2,500 barrels, polluting around 4,250 square kilometres of seawater. However, despite an increasing volume of concern both online and in the traditional media, the State Oceanic Administration (SOA) did not confirm the leak until an entire month later – a secretive response which led to a serious loss in public trust.

However, decision-makers learned an important lesson from their initial response. On July 12, another small oil leak occurred at a different CNOOC field in the Bohai Gulf. This time, SOA announced the news within 12 hours. Even more significantly, on July 13, SOA ordered the field to halt operations and required that information on the leak be made public: the first time a government department had urged a polluting company to disclose information on an incident of this kind. This was a breakthrough for transparency and was widely praised.

5. POLICY RECOMMENDATIONS

5.1. Strengthen legal and orderly public participation in environmental fields as an important basis for promoting Ecological Civilization, building a 'Beautiful China,' and bringing benefit to the Chinese people.

Legal and orderly public participation is an important basis for higher quality, sustainable decision-making. It will help to address the loss of trust between citizens and government, foster social peace, especially regarding potentially controversial planning and development decisions, and ultimately, improve green development and build an Ecological Civilization.

Access to information is essential for effective public participation. In an era of rising citizen concern, more complex environmental issues and proliferating sources of digital information, creation of a sustainable strategy for open environmental information is a complex task. It will be most successful if it is carried out as a joint enterprise between people and government, in which the benefits of social media concepts such as crowd-sourcing, two-way information flows and citizen science are harvested for improving sustainable development potential.

Therefore, in order to promote public participation in China's sustainable development, this Special Policy Study recommends the following measures:

5.1.1. Government officials at all levels should be encouraged to recognise that full, early and effective public participation can help promote green development with better quality decisions and greater societal acceptance. Government should proactively seek participation in a more transparent manner, including during the planning phase for industrial projects, the setting of national and local economic development plans, and through the promulgation of environmentally relevant laws and policies. These steps will ensure that concerned citizens have adequate opportunities to express their views. Mechanisms for handling complaints from the public should be improved.

Methods of public participation might include public hearings, citizen juries, focus groups, publicly-accessible displays, and opinion surveys. Government should recognise that participation in the early, scoping-stage is especially important for sound and efficient environmental decision-making with less social conflict. It is also much less costly than having to stop, redesign, or relocate a project at a later design stage. This approach demands a new ethos among officials charged with achieving sustainable development, and should be enforced by administrative and legal sanctions in cases where officials fail to adequately seek public participation.

5.1.2. Citizens should play a substantive role in creating a sustainable Ecological Civilization by taking part in the collection and monitoring of environmental information. Government should harness the potential of citizen science and crowd sourcing as potentially high-quality and cost-effective methods of data collection that improve policy implementation, increase public trust, enhance social inclusion, improve environmental education, reduce the spread of false information, and advance citizen supervision of sustainable development. In an era of information sharing and widely proliferated geographic and computing technologies, Chinese

citizens can no longer be expected simply to consume expert-produced information, but should be actively involved in its production. This effort could be advanced by building upon successful local government and NGO pilot schemes. For example, in the field of solid waste management and treatment, citizens could submit data and information about solid waste issues via websites and smart-phone applications. This info would then be compiled for use in open online maps and other digital tracking tools that would enable greater citizen participation and public supervision.

5.1.3. Government should take steps to strengthen citizens' overall understanding of public participation and promote responsible public environmental behaviour. While upholding the public's environmental rights, the government should create an open information system in which accurate information can flourish and promote plentiful forms of public participation, including positive environmental behaviour to foster active participation in a green societal transformation through green consumption, sustainable travel, and environmentally friendly lifestyle choices.

5.1.4. Public participation can benefit from the establishment of an effective, long-term, and reliable institutional mechanism that allows effective public opinion solicitation and the widest possible incorporation of expert opinion, including opinion from beyond the narrow scientific and technical community. Today, there are clear inadequacies and deficiencies in the current institutional arrangements for environmental decision-making. For example, the MEP currently has two advisory committees on environmental decision-making, both with a very narrow constituency in the scientific and technological expert community: the National Environmental Advisory Commission, chaired by the MEP Minister, with membership consisting of the most senior and most well-established scholars, and the MEP's Science and Technology Committee, chaired by a Vice-Minister. The pool of experts staffing these two bodies is too limited to deal effectively with environmental problems that are positioned within broader social problems. We recognise this and recommend the establishment of a Committee for Environmental Communication and Public Participation as the appropriate institutional mechanism for broadening the expertise base of environmental decision-making.

Members of the Committee should include scientists, social scientists, technical experts, NGO members, and members of the public. The principles of fairness, public interest, and openness should guide the selection of Committee members, so as to ensure the inclusion of individuals who can truly provide quality advice on environmental decision-making.

5.2. Promote and develop open environmental information systems; consolidate and improve information management capabilities of central and local government and enterprises, and effectively implement open information legislation.

Open, extensive, detailed and accurate environmental information provide an essential foundation for effective public participation and for sound and sustainable policy outcomes. Since 2008, China has made great strides in information provision, but policies and regulations are unevenly implemented across different provinces, regions and municipalities, and throughout different departments and ministries of the central government. Despite the regulations, many enterprises and local governments still do not pay enough attention to the citizen's right to know. Where access to information is blocked, where information is unreliable, or where its release is unnecessarily delayed, public trust is undermined, rumours flourish, policies are poor, the risk of social conflict grows, and the central role of the public in constructing an ecological civilization is eroded.

The principles agreed in the 1992 UN Conference on Environment and Development (and elaborated in the UNEP Bali Guidelines of 2010) represent the international consensus on public participation in environmental matters and the importance of information disclosure as a basis for such participation. The Dublin Statement of 2013, originating from the Eye on Earth Network of the European Environmental Agency, represents leading edge international expert opinions on open information and citizen science, which China can harness in its new efforts to build an Ecological Civilization. The Special Policy Study recommends the following measures:

5.2.1. Government should more fully implement the information provisions set out in existing legislation and guidelines, such as the *Regulations of the People's Republic of China on Open Government Information* (2008) and the *Measures on Open Environmental Information* (2008). It is a means for facilitating both the proactive publication of environmental information and for opening public access on request to information that is not proactively published. Government should mandate a presumption in favour of open and timely access to information, subject to clearly defined and limited reservations, for instance in respect to commercial confidentiality. This will require a new culture of transparency among officials, enforced by administrative and legal sanctions where officials fail to respond appropriately.

To aid the public supervision of this measure, government should ensure that any citizen, who considers that a request for environmental information has been unreasonably refused or in any other way not handled in accordance with the law, can challenge this decision through a review procedure before a court of law or another independent body.

5.2.2. Government should demonstrate its commitment to international standards of access to environmental information by passing Chinese legislation to more fully implement the Rio Declaration principles and elaborated in the Bali Guidelines. Government should formally recognise that the provision of timely and reliable information leads to better policy outcomes and enhanced public consent and should use these UN-agreed principles as the basis for its new approach.

5.2.3. Government should establish a national environmental information system, in which data and information are: collected once and shared many times; managed responsibly at source; readily available to fulfil reporting obligations; easily accessible for users, including citizens, and preferably in real time; usable for comparisons at the appropriate geographical scale to support citizen participation; and made more valuable to users by investment in common standards and interoperable systems.

Enterprises, departments, bureaus, and even pilot citizen science schemes that collect environmental information from the public should be required to submit environmental information to a single, national information system. Information and data will then be shared for compiling pollution inventories (see recommendation [5.2.4]), for assessing the state of the environment, and for enforcing and supervising environmental regulations at central and local levels by citizens and government. This national environmental system will improve the quality of existing information services of all central and local government departments and bureaus relevant to the environment, including the National Bureau of Statistics, the Environmental Protection Bureaus, the Ministry of Environmental Protection, the Ministry of Water Resources and others. It will also have a positive educational impact on officials and the public.

5.2.4. Government should improve the monitoring and public availability of environmental data through the adoption of an inventory of pollution from industrial sites and other sources. We welcome MEP's introduction in March 2013 of a Pollution Release and Transfer Registry (PRTR) system (as detailed at www.prtr.net). This is a coherent, nationwide system of pollution inventories on a structured, online and publicly accessible database, under the *Measures for the Hazardous Chemical Management and Registry*. However, the regulated hazardous chemical inventory has not yet been published and there is as yet no unified platform on which the public can access information on these pollutants. We recommend that the government publish the regulated chemicals list and disclose the registered chemical information to the public through an open online platform. Using the example of hazardous chemicals as a pilot, the government should standardize the reporting and public disclosure of all hazardous chemicals based on the PRTR system. The government should adopt this PRTR model of mandatory annual reporting, and support it with effective, independent auditing. This would help reduce pollution and help businesses, particularly in the chemical industry, improve their environmental performance and contribute positively to their "social license to operate," thereby allaying public fears, rebuilding trust, and advancing sustainable development.

5.3. Create a comprehensive environmental communications strategy to include the accelerated introduction of national environmental education legislation, in order to raise environmental awareness and promote environmental participation across all sectors of society.

Accurate, effective and responsive government communication is a necessary aspect of sustainable environmental decision-making, but government at present lacks a proactive, national environmental communications strategy. In the absence of such a strategy, the response of central and local governments has been reactive and inadequate, undermining the building of trust between the public and government. Furthermore, the level of the public's environmental awareness and scientific understanding can negatively affect the quality of public participation. To encourage more active government environmental communication and to foster a more informed public, the Special Policy Study recommends:

5.3.1. To enhance public environmental awareness and environmental protection, government should develop national strategies for communication in the following areas: communications on key environmental issues related to the government's annual and Five Year plans, such as measures to control air, soil and water pollution control. Government should also develop comprehensive national communications strategies, to be implemented on such key topics of public concern as haze pollution, groundwater pollution and nuclear energy. This would emphasize and encourage public participation, help create better access to information, build trust between people and government, and be implemented by government departments at all levels.

5.3.2. Further research should be conducted on the design and effect of environmental education laws elsewhere, including but not limited to, Taiwan, the United States, Japan, Brazil and South Korea. For example, the Environmental Education Act in Taiwan requires high school staff and students, staff and leaders of government branches at all levels, and employees of state-run enterprises, to take four hours of environment-education classes each year. Building on not only international experience but also successful pilots at the local level in China, such as those in Ningxia Province and Tianjin Municipality, the State Council Legislative Affairs office should accelerate the introduction of a national environmental education law to address the needs of urban and rural citizens, officials at all levels of government, and managers in private and public enterprises, where environmental education should be linked to strict corporate social responsibility practices.

5.3.3. Environmental communication and education are currently under-resourced and inefficient. The government should optimize and integrate resources to improve environmental communication and environmental education, and to establish a unified, government agency to deal with these issues.

5.3.4. Beyond the formal education system, environmental education should involve new and traditional media, mass organisations and community-level communication channels, including those at the neighborhood and village level. Environmental education should support: consumers to make responsible, informed, and sustainable consumption choices; urban and rural citizens to supervise environmental protection and to build Ecological Civilization through responsible environmental behaviour;

enterprises to pursue green development; and officials, especially at the municipal and other local levels, to make more sustainable decisions, to encourage and support public participation, and to work effectively in constructing an Ecological Civilization.

5.4. Improve the implementation of existing laws, regulations and policies on public participation in planning. Reform and introduce new laws, regulations and guidelines to improve public participation where necessary.

Constructing an Ecological Civilization requires the rigorous enforcement of existing planning laws and, where necessary, the reform of laws pertaining to public participation in environmental decision-making. To improve policy quality and implementation, to rebuild trust between the people and the government, and to avert a deepening social crisis, this Special Policy Study recommends the following steps:

5.4.1. The *Environmental Impact Assessment Law* (2002) at present requires the publication only of abridged reports. Government should mandate full public disclosure of Environmental Impact Assessments (EIAs). In the context of rapid urbanization and an increasingly informed public concerned about the impacts of new developments on health and the environment, there is an urgent need to reform urban planning guidelines to enhance and expand legal and orderly public participation and to develop trust in the integrity and quality of environmental impact assessments. Online public disclosure of EIAs in their entirety, as is common practice in Europe and the USA, subject to limited restrictions for commercial confidentiality, is essential to secure public trust in new developments through open discussion and debate, and to raise the quality of project designs and EIAs. In addition, disclosure of all other relevant information, such as feasibility investigations, social-stability risk assessments, and approval documents, should also be mandated through relevant legislative reform.

5.4.2. Government should reform the EIA system to mandate early and more comprehensive participation of stakeholders in the EIA process. The *Environmental Impact Assessment Law* (2002), the *Administrative Licensing Law* (2003) and the Ministry of Environmental Protection's *Interim Measures on Public Participation in the EIA Process* (2006) provide legal channels for public consultation on new development projects, including industrial development, through such methods as public hearings, surveys, expert consultations and seminars. At present, however, the solicitation of public opinion comes only after a project design is finalized and an EIA completed, though before it is submitted for official approval. This is too late for effective participation. It fails to capture the capacity of stakeholders to improve project design, and can raise the risk of conflict and project failure. To improve project design, public acceptability and sustainable development and decision-making, government should establish a mechanism for stakeholder and public consultation in the conception and planning stages of development, public works, and infrastructure

projects. This will improve the project quality and the legitimacy of decisions, thus enhancing social harmony. Government should strengthen transparency in the participation process and provide a clear, robust, independent appeal mechanism, supported by law, to guarantee affected citizens unimpeded access to legal remedies.

5.4.3. Government should introduce or reform relevant laws to ensure that public participation mechanisms include the participation of recognised environmental NGOs. Government should simplify the registration process for environmental NGOs and should encourage the growth and development of independent NGOs and think-tanks, recognizing their important role in promoting public participation and fostering constructive, two-way dialogue between people and government, thereby reducing the incidence of social conflict.

5.5. Adapt government communications to the new media context; promote an open media system suited to the challenge of green development, with support for environmental reporting and enhanced two-way online communication between government and the public.

New media have become the main channels for the public to express, participate, and supervise environmental issues. It is important for government to understand the importance of new media in the disclosure and dissemination of environmental information and in environmental communications. An informed and networked public increasingly challenges closed models of environmental decision-making and communication, where decisions are made by government and supported only by experts. If projects are to gain public acceptance, government agencies must communicate with the public and clearly demonstrate how citizens have been actively involved in decision-making. Government agencies at all levels should pay more attention to the roles of different media—mainstream and new media, online and offline—to disseminate environmental information more effectively. Social media are now particularly important in both the gathering and the provision of information in China. The Special Policy Study recommends government agencies should embrace two-way communication with the public on the Internet, and recommends the following measures:

5.5.1. Government should create strategies for more effective communication using new media, including social media, to disseminate information, learn from the public, and facilitate public participation in environmental decision-making. It should build upon both international experiences and the specific characteristics of the Chinese media environment. These strategies must acknowledge today's diverse information culture, in which information is widely shared across networks of users on the Internet and social media, and that the uni-directional model of information used by government agencies is no longer effective or sufficient. These strategies could include the pilot use of webforums for structured online participation around the planning and construction of controversial projects, where the systematic analysis of

public feedback could inform policy recommendations, and thereby enhance public input to environmental decision-making.

5.5.2. Government should make full use of microblogs and other new media technologies for open, detailed, and accurate real-time environmental information disclosure. Government officials at all levels should also recognise new media as an important vehicle to gather public opinion for environmental decisions, improving decision-making in environmental protection overall. Furthermore, government should encourage the public to use new media as a means to play an important role in collecting, monitoring, reporting and supervising environmental information according to law.

5.5.3. The government should give full play to the media (including social media) to advance citizens' legal rights and interests in the process of information disclosure and public participation, thus fostering a media context in which accurate and responsible information flourishes and social conflict is diminished.

5.6. Improve environmental incident response mechanisms.

Poorly handled environmental accidents can do lasting damage to public trust in government. When properly managed, public participation can support effective government action and reduce public alarm and rumour. Honest, transparent and effective handling of information in environmental accidents is essential to the restoration of public trust. The Special Policy Study recommends that government adopt the following suggestions:

5.6.1. Government, when tasked with informing the public of the known facts of an environmental accident or emergency, should create a Common Operating Picture. This must include: information provided for traditional and new media audiences, including regular press briefings and daily incident reports published online; and a standard set of online digital tools for citizens to track and learn about all aspects of the crisis and its response. Government should engage honestly with the public and promote transparency in its procedures. All relevant information on risks to the public should be disclosed. The government should brief thought leaders and trusted intermediaries, including NGOs and other stakeholders, mainstream and new media, as early as possible to enable them to inform the public throughout the crisis.

5.6.2. Government should regard social media channels not only as tools for disseminating the known facts of an environmental crisis, but also as tools for citizens to inform government departments about an emergency. Government should recognise that an involved, alert and adaptive public, networked through social media, can improve the effectiveness of emergency response through bottom-up, positive participation.

5.6.3. Government should create a series of Crisis Communications Handbooks for government officials at every level, for stakeholders, for media, and for communities to help them recognise and respond to a variety of crisis types. This includes specific environmental incidents, such as nuclear radiation leaks, coastal oil spills, heavy metal soil and water pollution incidents, or severe air pollution. Officials should be equipped with appropriate and time-tested communications tools for traditional and new media contexts; the media should be encouraged to adopt best practices for emergency reporting; stakeholders should be offered advice on responsible and effective communications in an environmental emergency; and communities should be educated on how an environmentally aware and informed public can help to protect the environment in an emergency, and help to ensure the public's environmental rights.

5.6.4. Government should introduce robust regulations to encourage and protect whistle-blowers, and to ensure early reporting of environmental problems, accidents and emergencies. Such regulations are necessary to reduce the environmental damage that decreases public trust and to strengthen a responsive and effective environmental monitoring, information and media system. These regulations should not override existing legal protections against fraudulent claims, false information or leaking of state secrets, but should provide robust protection for genuine whistle-blowers against special interests.

5.6.5. This SPS has considered environmental incidents, such as chemical spills, and social incidents, such as protests related to planning and environmental decision-making. Both environmental and social incidents, when poorly handled, can do lasting damage to public trust in government, restricting the progress of China's green transition. All require transparency from government and rapid, responsible and effective communications. Early stage public participation and interactive communication can mitigate the risk of protest and build public trust and greater public acceptance in the planning of controversial projects, such as PX and nuclear projects. In such cases, the government should also ensure the full disclosure of all feasibility studies, risk assessments and other relevant documents. Public opinion should be fully consulted and the public interests fully considered. All means of public participation should be adopted to consult stakeholders, share information and enhance project design.

Corporate Social Responsibility in Green Development in China

Summary of key findings

1. Corporate Social Responsibility (CSR) has become a globally recognized and defined concept (see ISO 26000) and has moved from a perception of CSR depending on the philanthropy or charity of business owners to a core concept in business that reflects respect for the rule of law and going beyond compliance through taking environmental and social considerations into account in business operations. CSR incorporates corporate environmental responsibility (CER) which provides the basis for companies to contribute to and makes it an integral part of Green Development by adequately preventing and reducing environmental impacts of business activities.
2. Chinese companies are divided into three levels based on their compliance to environmental laws and fulfillment of CSR expectations. The government should develop strategies to punish enterprises that do not comply with the law and basic CSR expectations while encouraging others to develop and achieve more advanced CSR policies and strategies beyond compliance
3. In China, CSR and CER are at early stages because there is insufficient awareness about these practices, corporations lack the capacity to ensure CSR/CER, monitoring and governance are weak, and there is no strong pressure from external actors. Most companies behave either under the baseline or as compliers with few taking leadership roles.
4. The central and local governments, corporations and civil society stakeholders will play a major role in shaping the future development of China's CSR. The government can assume the roles of promotion, enforcement, guidance and cooperation in ensuring CSR.
5. The experiences of developed countries demonstrate that businesses require support, commitment, and active participation from the government and other sectors. A national framework and effective public policies designed by the government must integrate the connection between economic development, sustainability, and CSR/CER.
6. Stakeholders, including governments, social organizations, residential community groups and the media, must actively guide, motivate and put pressure on companies to encourage them to act responsibly.

7. In order to promote sustainable development and create an ecological civilization, it is essential to create a national strategy and action plan for CSR/CER. Such a plan should strengthen government coordination and cooperation, provide support and services to enterprises, and develop mechanisms to enhance information disclosure and transparency.

Summary of principal policy recommendations

Five categories of recommendations for government actions have been generated from the key findings of this study.

- Develop a national strategy and action plan
- Establish consensus and coordination mechanisms among relevant government entities, organizations and other stakeholders
- Expand capacity building and education for government, enterprises and other stakeholders
- Increase enforcement of environmental legislation and incentivize companies to go beyond compliance
- Strengthen mechanisms for better information disclosure and transparency

These five categories include the rationale behind the recommendation and detailed proposals for action.

Introduction and reason for this special policy study

Globalization and China's accession to the World Trade Organization (WTO) have significantly changed the opportunities for Chinese enterprises in the domestic and overseas markets. Chinese companies must comply with local laws and regulations, government approval and inspection, and respond to greater public scrutiny on the impact that they have on society and the environment. The financial crisis and global warming have increased the concerns of the public to include energy efficiency, pollution, life cycles of products, green supply chains, contributions that businesses make to community development, workers' health and safety and timely disclosure of information. These issues influence the success of enterprises, the market performance of their products as well as the ratings and financial support provided by banks.

CSR increasingly affects the reputation and public image of businesses. Many international agreements and institutions such as the UN Global Compact, the International Labour Organization (ILO), the World Business Council for Sustainable Development (WBCSD) and international financial institutions advocate that businesses should conform to the principle of sustainable development and develop environmental-friendly technologies. Large multinational companies in developed countries attach great importance to the image that they project to investors and the public and therefore make substantial efforts to push forward Green Development. In China, many companies continue only to consider the financial cost of CSR, and are unaware of the potential business opportunities associated with good CSR practices. Some state owned and private enterprises even disregard CSR when they enter overseas markets, which seriously weaken their long-term competitiveness and damages China's international reputation.

The November 2012 report of the 18th National Congress of the Communist Party of China emphasized including the concepts of ecological civilization, resource consumption, minimization of environmental damage and addition of ecological benefits into the economic and social development evaluation systems. The report also highlighted the need to improve the core competitiveness of large enterprises and accelerate and enhance the international operations of Chinese companies. Based on the requirements of the 18th National Congress, the report presented by this task force will, analyze the status of CSR and Green Development, the factors which influence them, policy requirements to develop CSR capacity and recommendations to push forward the implementation of CSR to ensure the Green Development and ecological progress of China. The objectives of the CCICED report on "Corporate Social Responsibility in Green Development in China" are:

1. To investigate the status of China's CSR and Green Development policies, and analyze problems;
2. To explore international trends on CSR and Green Development;

3. To establish a framework for CSR in Green Development;
4. To provide policy recommendations on promoting CSR in Green Development.

The special policy study collected and analyzed CSR reports of enterprises from a multitude of sectors. A Chinese team and a foreign team collaborated in over 20 workshops, seminars and meetings. The project management group connected with the CCICED Secretariat throughout the process and made regular reports during key stages in order to ensure successful implementation.

1. BACKGROUND: UNDERSTANDING CORPORATE SOCIAL RESPONSIBILITY AND GREEN DEVELOPMENT

China's economic success is dependent on social and environmental stability. Its on-going prosperity requires sustainable growth based on thinking and actions that take a balanced approach to development. China should continue to pursue the concept of a "balanced-growth future", better known as following a "path towards green reform".

This Special Policy Study is focused on CSR in Green Development and their connection to environmental challenges facing China as a result of rapid and unprecedented growth over the past three decades. Increasing environmental and social problems are negatively impacting the welfare and health of Chinese citizens, which in turn threatens to jeopardize the societal achievements that have been realized.

1.1. Overview

The globalization of economies and businesses increasingly emphasize the widespread dimensions of both CSR and Green Development as business and development concepts and as public policy instruments that promote local, regional and global sustainability and stability.

It is important to find a way to balance economic growth and sustainability. The public and private sectors must collaborate to ensure that sustainability is promoted at an individual and group level, but also on a global, regional, national and local scale.

CSR and Green Development are subsets of sustainable development, which is a preoccupation for economists, politicians, policy makers, business leaders, entrepreneurs, activists, environmentalists and individuals.

The concept of CSR now includes environmental issues (CER – Corporate Environmental Responsibility) and is driving the paradigm that it is critical for companies that seek sustainable development to take measures to ensure environmental protection. Companies are increasingly realizing that their integrity is affected by their responsibility and compliance to laws and regulations. As a result, in China attitudes have been changing, with the private sector becoming a more active partner in environmental development and protection. A growing number of governments and businesses are realizing that environmental protection and economic growth are not always in conflict. Companies are beginning to understand that what is fundamentally good for society and the environment is actually good for business.

The evolution of CSR with Chinese characteristics results from the general direction of China's development path and the expectations regarding the impact companies

should have on society. Therefore CSR/CER is not simply the promotion of environmental protection and balanced economic development through legislation. The concept of CSR in China reflects thinking that moves away from a focus on “growth at any cost” toward a sustainable model that balances growth with social harmony, and innovation with environmental stewardship. This has been one of the key themes of the 12th Five Year Plan (2011-2015). Themes that have consistently surfaced in the thinking and policies of China’s top leaders over the past decade include concepts and policy frameworks such as “building a *xiaokang* (well-off) society”, “harmonious society”, a “scientific outlook on development”, “circular economy”, “low-carbon economy”, and the short-lived “Green GDP”. More recently, this direction continues to be proclaimed in President Xi Jinping’s “China Dream” and “the great renaissance of the Chinese nation”

1.2. Corporate Social Responsibility (CSR) and Green Development

The November 2010 ISO 26000 definition reflects the most authoritative international understanding of SR or CSR by the international community so far.

“...the responsibility of an organization for the impact of its decisions and activities on society and the environment, through transparent and ethical behavior that

- contributes to sustainable development, including health and the welfare of society;
- takes into account the expectations of stakeholders;
- is in compliance with applicable law and consistent with international norms of behavior; and is integrated throughout the organization and practised in its relationships.” (ISO26000, 2010)

During its earliest stage, CSR was deemed as the charity of corporate owners. The growth in numbers and scale of corporations means that they must become accountable and responsible for their negative environmental and social impacts. Generally, corporations will not initially pay for remediation costs that occur beyond their boundaries, but will be forced to internalize them through governmental regulations. Compliance with governmental regulations is an important aspect of corporations assuming social responsibilities and constitutes the second phase of CSR development.

The incorporation of CSR into their decision-making process is largely due to companies changing and evolving in the way in which they operate. CSR has become an important tool in corporate strategy and has gradually evolved into becoming a core component of the strategic planning and decision-making process of global businesses.

Green Development decouples growth away from a heavy dependence on resources and carbon while promoting growth through the creation of new green product markets, technologies, investments, and changes in the behavior of consumption and

conservation. It is driven by harsh economic and environmental realities, changing global priorities, and growing technological possibilities.

Traditionally, environmental protection has been an issue of public interest and governments have therefore assumed the main responsibility for assuring its preservation. In this role, governments have directed the private sector to adopt environmentally sound behavior through regulations, sanctions and occasionally, through incentives. When environmental problems have arisen, the public sector has generally borne the responsibility for mitigating the environmental damage.

In recent years, the roles of these sectors have been changing. The private sector has become an active partner in environmental protection mainly in response to increased awareness and expectations of stakeholders. Through CSR engagement, governments and businesses are now beginning to realize that environmental protection and economic growth are not always in conflict.

CSR alerts business to the need to be part of new sustainable growth models and to replace unsustainable ones. Focusing on the environmental pillar of the triple bottom line of people, plants and profits leads to CER. This demonstrates the fundamental role that businesses play in reversing the environmental misuse and degradation of our planet's eco-systems.

1.3. Levels of implementation of corporate environmental social responsibility

Compliers. In order to ensure corporate environmental responsibility, it is of foremost importance that businesses comply with laws and regulations including national laws and environmental standards. Legal obligation is the minimum standard of corporate responsibility but is of principal importance. At present, there are still many corporations that do not comply with environmental laws, regulations and standards in China. These corporations should assume their legal responsibilities.

Active cooperators. These are corporations that take environmental and social responsibilities and contribute to the sustainable development of the economy, environment and society. Modern corporations with a strong sense of social responsibility are very sensitive to their influence on the environment and society. They respond in a prompt and active manner to national requirements and make great efforts to ensure environmental protection and sustainable development.

Future leaders. Given the transition towards a global green economy, businesses will increasingly look into the future, seize opportunities and take leadership roles in this economic transition.

The policies instated by the government should encourage CSR at these three levels and should promote companies to move towards the second and third stages while

ensuring strict compliance within the first class.

2. CSR, CER AND GREEN DEVELOPMENT IN CHINA

2.1. Overview

China's economy has enjoyed a steady and rapid growth for 35 years with an annual average growth rate of 10.7% between 2003 and 2011¹. China's GDP ranks 2nd globally after the USA². This high economic growth has been accompanied by a high use of energy (20.3% of world's total in 2011), high raw material consumption (almost 60% of cement, 49% of iron and steel), extensive environmental degradation, the world's highest carbon emissions rates and extensive pollution (30% of domestic rivers only reach Grade IV water quality levels; air quality in 76% of key monitored cities cannot meet acceptable standards)³.

The negative impacts of pollution on China's economic development are a source of increasing social unrest and turmoil. A key to China's continued economic growth is a sustainable development path for its enterprises and the country as whole. This puts CSR, CER and Green Development at the top of the agenda for ensuring China's future growth and stability.

2.2. State and evaluation of CSR/CER implementation by enterprises in China

China has based its CSR/CER implementation on the International Standards Organization's guideline for Social Responsibility, which is known as ISO 26000. This contains guidelines for environmental responsibility, accountability, compliance with laws and regulations, operational transparency and developing a multi-stakeholder approach.

In recent years, Chinese enterprises have made great strides and enjoyed achievements in reducing pollution. According to official environmental statements and governmental reports, **although pollution persists, the situation is ameliorating.**

1) **Pollution Prevention.** Data over the past 10 years shows that the organic compounds, ammonia nitrogen, petroleum waste and other heavy metals from industrial enterprises have been decreasing in industrial wastewater. Industrial emissions of SO₂ and smog-dust both decreased year by year during the 11th Five-Year Plan period and NO_x emissions increased slightly. While the gross

¹ National Bureau of Statistics,

http://www.stats.gov.cn/tjfx/zfx/sbdcj/t20120815_402827873.htm

² Xinhua Agency, http://news.xinhuanet.com/newmedia/2011-12/29/c_122502425.htm

³ Ministry of Environmental Protection of China (MEP), China Environment Report 2012

industrial output value has increased, emissions per 10,000 Yuan of output have decreased⁴.

However environmental accidents during the past five years indicate that companies still face large problems with pollution prevention and control. These accidents include: the Guangxi Longjiang cadmium spill, pollution from the Harbin Pharmaceutical Factory and Yunnan Luliang Chemical Industry's dumping of chromium slag. In almost all cases, the companies concealed information or used local government protection to keep it dissimulated. There are many other pollution incidents that have not yet raised concerns and in some places pollution is commonplace and considered as normal.

2) **Resource Use:** During 11th FYP period, the 7 % annual increase of energy consumption was lower than the 10% economic growth⁵. Energy-consumption-saving reached 0.63 billion tons coal equivalent (tce) through energy conservation and efficiency improvement. Chinese enterprises actively invest in new energy and renewable energy areas. The capacity of wind, solar and biomass power generation reached 0.4 billion MW, 1000 MW and 50 million MW respectively by the end of 2011. To reduce resource consumption and improve the rate of energy utilization, many companies have started to look for a way to achieve sustainable development through the development of a circular economy.

Chinese enterprises have not yet solved the issues of high energy and raw materials consumption and low efficiency. Total energy consumption has increased significantly, but energy efficiency is not keeping up with this rapid rise. China's of coal, oil, natural gas and electricity continue to increase which reveals that the on-going industrialization and economic growth required for China necessitates that the consumption of energy will continue to rise.

3) **Climate Change:** China's enterprises took steps to tackle climate change through their "energy saving and emission reduction" activities, by which 1.46 billion tonnes of CO₂ emission were reduced during the 11th Five Year Plan period. Significant energy saving and emission reductions were achieved in many energy consuming industrial sectors such as the power and coal sectors. Energy-saving and emission reduction activities for enterprises can be categorized into three levels: adaptive, proactive and strategic. (Figure 2-1)

4) **Information Disclosure.** The main channels of CSR/CER information disclosure are the CSR, sustainability and environmental reports of companies and their websites. The number of sustainability reports released by Chinese enterprises has increased rapidly between 2006 and 2011 (Figure 2-2). Published sustainability reports include

⁴ MEP, Environmental Statistics Year Book 2011

⁵ China Energy Research Society, China's energy development report 2013

environmental information, but key quantitative data such as GHGs emissions, energy consumption, water consumption, gas emissions, waste water generation and generation of solid waste, are not disclosed. The disclosure of environmental information on websites is very simplified and only meets the lowest requirements.

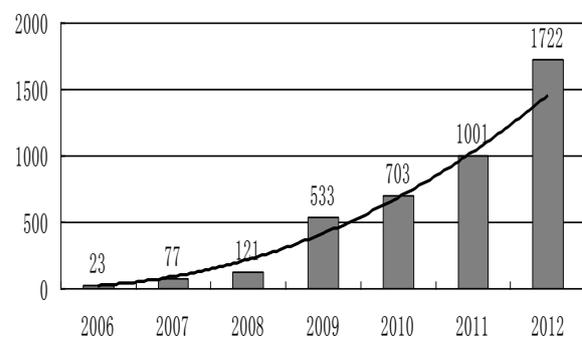


Figure 2-1 Three levels of enterprises' energy-saving and emission reduction activities

Figure 2-2 CSR reports released in China by year

2.3. Analysis of CSR/CER

2.3.1. Awareness of CSR/CER

Chinese enterprises should learn to differentiate between environmental awareness and environmental responsibility. Environmental awareness is understanding the harm caused by environmental pollution. In a study that looked at 574 Sustainability Report from companies, nearly 1/3 indicated their greenhouse gas emissions but very few indicated their CO₂ emissions. Some Chinese companies do not clearly understand or recognize their role in causing environmental problems.

Many enterprises lack an awareness of environmental responsibility, and are driven by economic benefits instead of wanting to address pollution reduction and environmental protection by reducing emissions, using resources sustainably and tackling climate change.

2.3.2. Capacity of Enterprises to Implement CSR/CER

Many enterprises not only lack the awareness, but also the capacity to understand and implement CSR/CER. China's small and medium sized enterprises (SMEs) account for 99% of the total number of enterprises and have usually low technical capabilities and inefficient management. SMEs need to increase capacity building, upgrade their technology and better understand how CSR/CER can change their unsustainable mode of operation and management. State-owned enterprises and large private enterprises that have CSR/CER awareness also need to enhance environmental literacy, the

management of environmental impact and technological innovation.

2.3.3. Institutional Barriers for companies to implement CSR/CER

The institutional barriers for companies to implement CSR/CER are mainly from government and enforcement institutions. Local governments focus mainly on GDP growth and financial results, giving little attention to environmental issues. In many cases collusion of local officials with polluters escalate the problem and make it difficult to find solutions. Zijing Mining contributed to almost 60% of local revenue of Shanghang County, and won a prize for “Corporate Integrity” in the same year that they caused a series of pollution accidents. This is indicative of how the government lacks the ability to monitor and also protects individuals who collude with the polluters.

Another institutional barrier is that many large state-owned enterprises (SOEs) do not face regulations from local governments. In June 2013, Anqing Pec., a company under Sinopec, was fined for the first time by a local environmental protection bureau for air pollution that started when the factory began operations forty years ago. This is known as “strong company, weak government” in China.

2.3.4. External Pressures affecting the implementation of CSR/CER

There are not enough external pressures for implementation of CSR/CER in China. China lacks sufficient stakeholders, such as government bodies, media, environmental protection organizations, powerful NGOs, and activist consumers who can consistently put pressure on, and demand more transparency and accountability from, companies. Currently, the ministry of environmental protection and the media place the most pressure on companies. But economic development goals often mean that the legal enforcement and media monitoring are weakened. The number of environmental protection organizations and NGOs in China is smaller and less powerful than in other countries.

2.3.5. CSR/CER in SMEs and OFDI Companies

SMEs require special attention because they are numerous, make huge economic contributions and are the main source of environmental pollution. Many SMEs must maintain low operational costs and are averse to investing in environmental technologies. SMEs choose to favor economic results instead of ensuring environmental protection. In addition, SMEs are difficult to monitor and supervise because they are numerous, and small in size.

As the number, scale and diversity of Outward Foreign Direct Investment (OFDI) increases, special attention should be paid to their environmental responsibility. Some Chinese-funded enterprises invest in projects that are in sensitive ecological

environments where problems can easily arise. Western media often exaggerates the negative repercussions of Chinese companies abroad with titles such as “Chinese environmental threats” or “ecological dumping”. This adversely affects the international image and impedes further overseas investment by China. To counteract these perceptions, Chinese-funded enterprises should strengthen their environmental and social practices and actively communicate them with local stakeholders.

2.4. CSR/CER perspectives from various stakeholders

- 1) **Government.** The government is an important stakeholder in the promotion of CSR/CER. The government can exercise four functions in the implementation of environmental responsibility by enterprises: a) regulation and legislation through laws and standards, b) supervision and punishment against illegal acts, c) support by promoting CSR/CER in enterprises and providing them with the training to build capacities, and d) cooperation to jointly promote CSR/CER with other stakeholders such as the media and environmental protection organizations.
- 2) **Media.** The media is becoming an important driver for CSR/CER as it plays a major supervisory and monitoring role in the environmental performance and decision-making of enterprises. The exposure by media drives the central and local governments to concentrate on finding solutions for environmental issues. Social media delivers continuous coverage, faster, with a deeper analysis and much sharper criticism.
- 3) **Investors.** Investors are including corporate environmental issues in the evaluation of investment risks. The intervention of investors through Socially Responsible Investment (SRI) is becoming an important factor that drives the implementation of CSR/CER.
- 4) **Industry Associations.** Industry associations play an important role in promoting CSR awareness, reporting, establishing standards and training. For example, the China Enterprise Confederation actively promotes the United Nations Global Compact and the textile association developed CSC 9000T industrial standards for their industry.
- 5) **Environmental Protection and Non-Governmental Organizations.** These organizations provide education, publicity and initiatives, which is instrumental in increasing the awareness of CSR/CER among companies. Some have shifted to taking decisive actions against polluting enterprises, forcing them to become more accountable for their impacts. Other NGOs partner with the government or become mediators between the government and enterprises to actively promote the implementation of CSR/CER.

- 6) **Academic Institutions.** Universities, academies and non-governmental think tanks have been paying more attention to CSR/CER and have published influential reports, including "Climate change and China's enterprise", "Annual Report of China's Green Development Index" and the "Annual Review of Low-Carbon Development in China". Academic institutions also play a major role in promoting CSR in MBA and MPA programs and in executive trainings.
- 7) **Public.** Companies fail to recognize that a more environmentally conscious public pays more attention to the pollution emitted by enterprises which may cause mass protests. Citizen campaigns typically include "NIMBY"(Not in My Backyard) and "Compensation politics" approaches, whereby the creation of an external supervisory force for CSR/CER is neglected until the threat of instability is circumvented and a more orderly participation in social affairs can be assured.

2.5. Shift of CSR/CER from legal compliance to competitive advantage

Society has become very concerned about environmental issues, especially the ones that have a direct impact on quality of life such as air pollution and food safety. Because of this, companies face mounting pressure and are forced to become more proactive.

Activism is becoming more prevalent in society, thereby drastically changing the external environment. For enterprises, an environmental crisis causes high costs of clean-up, heavier restrictions, loss of reputation and stricter controls. Companies must ultimately comply with regulations and shift their thinking to risk avoidance and long term cost savings by adopting new technologies that ensure sustainability and environmental compliance. Enterprises must integrate CSR/CER strategies into their overall business strategies with the goal of creating competitive advantages in the future.

3. POLICIES AND REGULATIONS TO PROMOTE CORPORATE ENVIRONMENTAL AND SOCIAL RESPONSIBILITY IN CHINA

3.1. Overview

Faced with increasingly severe environmental problems and growing public expectations, the government must create an enabling environment for CSR/CER and Green Development. To achieve these goals, the government must be committed to the overall planning and coordination of all parties by providing effective institutional and policy frameworks. This requires a bilateral relationship between the government and enterprises to jointly meet the expectations of the public and other stakeholders.

Over the past 30 years, the government's process for driving environmental responsibility has transitioned from a single to multi-faceted mechanism that

encompasses administrative regulations, economic incentives, social cooperation and legislative reforms. The role of local governments in CSR/CER is more localized and diversified, showing the characteristics of regional differentiation with good practices and the promotion of regional competitiveness. The central and local governments, enterprises and relevant stakeholders should form strategic partnerships to achieve a greater impact on environmental performance and sustainable development.

3.2. Analysis of policies from Central Government to promote enterprises' performance of CSR / CER

At first, the Central Government solved environmental issues via a vertical legal system and through administrative intervention. Since the 1990s, the Central Government has been using economic policy and the encouragement of more public participation to address issues. In recent years, environmental legislation, public interest and litigation have developed rapidly and have been strengthened to promote the concept of environmental responsibility.

3.2.1. Control over large enterprises while relaxing control over small enterprises

The emphasis of the central government has been on increasing regulations for large enterprises such as state-owned enterprises, listed companies, and Chinese enterprises investing abroad, while neglecting attention to small enterprises.

In 2008 the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) released its “Guidance Opinions on the Fulfillment of Social Responsibility of Central Enterprises” which required SOEs to behave in environmentally and socially responsible manners and to publish CSR reports. In 2007, the Shenzhen Stock Exchange issued the “Social Responsibility Guidelines of Listed Companies of the Shenzhen Stock Exchange,” and in May 2008, the Shanghai Stock Exchange issued “Environmental Information Disclosure Guidelines for Listed Companies of the Shanghai Stock Exchange”. These required publicly listed companies to become more transparent in disclosing environmental data and to follow Socially Responsible Investment trends.

In early 2013, the Ministry of Commerce and the Ministry of Environmental Protection jointly issued the “Environmental Protection Guidelines for Foreign Investment Cooperation” which requires foreign companies to pursue CSR/CER by complying with the environmental protection laws, standards and practices adopted by international organizations and multilateral financial institutions.

Unfortunately, these initiatives do not address relevant guidelines and capacity building for SMEs which makes it more difficult for them to fulfill and easier to neglect their responsibilities.

3.2.2. Multiple economic policies to promote CSR/CER

As environmental problems increase, it has become more difficult to control environmental violations through administrative supervisory systems alone. Additionally, the cost of administration and supervision measures is very high. Since the 1990s, the government has adopted a series of economic instruments to encourage enterprises to eliminate their externalities and implement environmental social responsibility through energy-saving and emission reduction policies, the clean production policy, green credit, compulsory insurance of environmental pollution and through the cultivation and development of strategic emerging industries. In February 2012, the China Banking Regulatory Commission issued the “*Green Credit Guidelines*” with the aim to organize and manage green credit, effectively control environmental and social risks, and support the green economy, low-carbon economy and circular economy. Through this initiative, China was the first country in the world to enforce environmental standards in the national banking sector.

3.2.3. Overseeing of CSR/CER by society

Through the “*Provisional Measure of Public Participation in Environmental Impact Assessment*” and the trial of an “*Approach to Environmental Information Disclosure*”, the government is creating social cooperation, encouraging the public, media, NGOs, research institutions, industry associations and other stakeholders to actively participate in the supervision of CSR/CER behavior, promoting corporate social responsibility, and providing multiple views for environmental management and decision making.

3.2.4. Legislative reform

China's environmental legislation has gone through three stages since the 1980s: Initial creation, strengthening, and evolving with Chinese characteristics. The *Law of Water Pollution Prevention* and the *Law of Air Pollution Prevention* are amongst others, part of the Environmental Protection Act and listed in the 2011 legislation plan of the 11th National People’s Congress to promote environmental protection. With the awakening of civil consciousness, and an increase in the number of environmental violations, environmental litigation cases have increased year by year.

3.3. Analysis of the Chinese Central Government’s mechanisms for the promotion of CSR/CER performance

Governments play a significant role in driving the CSR/CER of companies. The “ice hockey player” theory by Nobel Prize winner Tom Shelling explains the importance of government control in environmental responsibility. Though the helmets used in hockey insure player safety, they are initially rejected because using them hinders performance. The National Hockey League must ultimately step in and make it

mandatory for all ice hockey players to wear helmets in order to participate in a competition. Like the National Hockey League, the government must formulate rules and requirements to standardize all enterprises and make them jointly assume environmental protection responsibilities to remain in the economic and commercial game.

According to the World Bank scholar Fox, the government can assume four roles in encouraging corporate environmental responsibility⁶.

Four roles that the government can assume in encouraging CER:

Regulations (Creating and overseeing the implementation of laws, regulations, standards and disciplinary actions)	Incentives (Economic, acknowledgment, and other rewards)
Guidance (Planning, information disclosure, researching funding)	Cooperation (With the media, environmental organizations and NGOs)

POSITIVE ASPECTS OF GOVERNMENT ENGAGEMENT IN CSR AND CER

+	Environmental protection has become a state policy
+	The 12 th Five-Year" Plan focus is on environmental protection and compulsory environmental indicators
+	Advocating supervision from media and public ensures the participation of the whole society
+	Measures on Publishing Environmental Information Publicity (trial stage)
+	The China Certification Committee for Labeling Environmental Products was established in 1994
+	Most state-owned enterprises and overseas funded enterprises have CSR departments
+	Government always proactive in implementing relevant international laws and international conventions

NEGATIVE ASPECTS OF GOVERNMENT ENGAGEMENT IN CSR AND CER

-	Lack of coordination between national and local governments for environmental protection
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⁶ The role model originally from T Fox, H Ward, B Howard, 2002, Public sector roles in strengthening corporate social responsibility: a baseline study.

-	The overall degree of environmental information disclosure by enterprises is lower than expected
-	No introduction of CER practices to Small- and Medium Size Enterprises
-	No relevant coordination and management organizations have yet been developed for CSR/CER
-	No research or training funds for CSR and CER
-	No laws on environmental and social responsibility reporting and no laws to protect informers of environmental problems
-	The number of government inspections of the environmental practices of enterprises have decreased
-	Influence of international organizations related CSR / CER is limited in China, and there is a lack of communications with the government

The roles and impacts of government shown above suggest that it faces substantial challenges in promoting environmental social responsibility among enterprises. The government should tailor the four aspects of encouraging CSR/CER according to the different levels reached by enterprises. Companies which do not yet meet CSR/CER regulations should be motivated and guided to comply with basic requirements, companies meeting the regulations should be encouraged to surpass and create voluntary measures and enterprises that create and meet voluntarily targets to increase their corporate responsibilities should be promoted and upheld as good examples among other businesses and the society.

3.4. The role of local government

The National 12th Five-year Plan on Environmental Protection states that local governments are the main bodies responsible for improving environmental planning. At the end of 2013 and 2015, medium-term and final assessments on local government performance will be reported to the State Council and the public.

In urging enterprises to fulfill their social responsibility for the environment, local governments take integrated approaches that reflect the complex relationships between the local government, enterprises and the public. These include law enforcement, supervision, facilitation and cooperation, including actively issuing policies specifying enterprises' social responsibility for the environment, development of assessment system of enterprises' social responsibility for the environment, conduct training sessions to improve capabilities, passively disclosing information, and environmental law enforcement.

Measures taken by local governments to promote social responsibility reflect that:

- The protection of offending enterprises by local officials is widespread, and is a major cause for the number of illegal and polluting enterprises.

- Many decision makers in local governments still lack a clear understanding of the significance of CSR and Green Development. This affects the effectiveness of local public policy and innovation to promote environmental social responsibility of enterprises.
- Environmental responsibility is sometimes built into the local government performance evaluation system and has occasionally become an important competitive driver for regional sustainable development. The Pudong District in Shanghai and Yantai in Shandong have elevated the concept of CER to a local development strategy which makes it easier for the government to enforce environmental social responsibility among enterprises.

4. CSR AND GREEN DEVELOPMENT IN A GLOBAL CONTEXT

The globalization of economies and businesses increasingly emphasize the value of CSR and Green Development as public policy instruments that ensure local, regional and global sustainability and stability.

4.1. Green Development and CSR in a global perspective

Global CSR governance and measurement systems that have become points of reference include the OECD's Guidelines for Multinational Enterprises, UN Global Compact, International Organization for Standardization's ISO 26000 and the Global Reporting Initiative's Guidelines for Sustainable Development.

4.1.1. Regional perspectives of global corporate social responsibility

CSR presents a proliferation of approaches that differ for developed countries, developing countries and emerging/ transitional economies (Crane, Matten & Spence).⁷

A modern definition of Corporate Social Responsibility was introduced by developed Western countries including Europe and the United States because a vast amount of academic literature and good practices exist in those regions. In the United States, where personal freedom and responsibility is in high regard, social problems including education, medical treatment and charity, become core elements of CSR. European governments have instated these social issues as norms that have increased the concern of European companies on social and environmental issues. In societies across the globe, indigenous approaches to CSR inspire elements of CSR practice.

⁷ Andrew Crane, Dirk Matten, Laura J., Spence, Corporate Social Responsibility: In Global Context (2008).

Developing countries have a huge potential to improve CSR practices as they typically have low standards for working conditions and environmental protection, corruption and poor provision of healthcare and education. CSR in these countries has gradually shifted from being about aid and charity to responsible behavior for development (Crane, Matten & Spence). Current trends show that the governments in developing countries are beginning to view CSR activities as a means to enhance sustainable development strategies and as a component for them to compete for foreign direct investment and better position their exports globally.

4.1.2. CSR in key regions

A global perspective of CSR comes from examining what is happening in the key regions around the globe.

A) North America: CSR is viewed as a tool for companies to present themselves as socially responsible organizations and is driven by a large array of stakeholders. In order to build their image, most companies give resources to the community through philanthropic programs and volunteerism. Companies tend to appear as being socially responsible by emphasizing their involvement in initiatives that go beyond simple promotional activities. They tend to focus on issues linked to the welfare of the community, education, quality of life, culture and environmental issues such as global warming and climate change.

B) Europe: CSR in Europe is shaped by the diversity of economic, political and cultural landscapes across the continent. The idea that companies can contribute to societal well being beyond their legal obligations has a long tradition in many European countries. The development of CSR has been driven by proactive strategies adopted by pioneering businesses, European institutions and national governments, and by external pressures from stakeholders such as civil society and investors.

C) ASIA: There is no single Asian approach to CSR because Asia is so diverse. Asian CSR has a long tradition of philanthropy, through implicit obligations that were embedded in business practices and institutional frameworks. Drivers of CSR range from religious traditions, notions of trusteeship, family philanthropy role models within countries, company responses to regulation, NGO and civil society pressure, and requirements of national and international business partners.

4.1.3. Policies on promoting CSR – EU case

In October 2011, the European Commission published a new policy on corporate social responsibility that defined it as “the responsibility of enterprises for their impacts on society.” To fully meet their social responsibility, enterprises “should have in place a process to integrate social, environmental, ethical human rights and consumer concerns into their business operations and core strategy in close

collaboration with their stakeholders.”

The commission’s earlier definition, adopted in 2001, called for companies to integrate “social and environmental concerns in their business operations and in their interactions with their stakeholders on a voluntary basis.” The 2001 definition explicitly recognized CSR as voluntary. Companies were expected first and foremost to be businesses, but were encouraged to address social and environmental issues arising in their operations and in dealing with employees, customers, and other stakeholders.

The new strategy proclaims a “Modern Understanding of Corporate Social Responsibility” in which CSR becomes the defining purpose of the company. The new strategy describes the aim of CSR as “maximizing the creation of shared value for their owners/shareholders and for their other stakeholders and society at large.” The European Commission issued an action agenda on corporate social responsibility for 2011-2014. This agenda aims to increase the visibility of corporate social responsibility to promote good practices; improve the level of trust in businesses; promote self regulation of enterprises; improve market returns for companies that have good CSR practices; encourage the disclosure of environmental and social information; incorporate CSR into education, training and research; emphasize the important of national and regional CSR policies for which the EU Commission invited EU member States to present their plans for the promotion of CSR by mid 2012; and better align EU and global approaches to CSR.

In 2011, the European Commission also stressed that member governments should “promote legislation in high school and college curriculum” and encouraged European Business School to sign the Commitment on Responsible Management of Education Standards (EC, 2011:12).

The EU CSR policy increases awareness, the dissemination of good practices and creates a framework that fundamentally redefines the EU’s approach to CSR and signals a new era of more social and environmental regulation.

The 2011 communication of the European Commission on its renewed strategy for CSR also emphasizes the role that member states can play in encouraging education establishments to integrate CSR, sustainable development and responsible citizenship into relevant education curricula, including at secondary school and university level. European business schools are encouraged to sign the UN Principles for Responsible Management Education” (EC, 2011: 12).

4.2. Public policies in Green Development: Country Profiles

Green Development with a goal to change the mode of consumption and maximize the use of resources has become an important mode of growth in many developed

countries.

A) Germany's New Energy Plan. In May 2011, Germany announced that it would close all of its nuclear plants by 2022 and become the first industrialized country to completely shift to clean energy by increasing investment and R&D in renewables and energy efficiency. Nuclear power currently provides 22 percent of Germany's electricity. To fill the gap in its energy supply after it abandons nuclear, Germany has proposed the vigorous development of wind, solar, and biomass; new standards for thermal efficiency of buildings; and the creation of a continent-wide super smart grid which would include the import of power from sun-rich North Africa.

(World Bank and DRC of the State Council, China 2030 Building a Modern, Harmonious, and Creative Society 2013)

B) The Republic of Korea: a leader in the implementation of green growth. Korea's move towards green growth stems as a response to the global financial crisis of 2008 and combines three mutually-reinforcing objectives: (i) responding to the latest economic crisis through a green stimulus, (ii) reducing energy dependency, (iii) and rebalancing its economy towards green sectors in the long term. The financial crisis exposed Korea's reliance on imported energy as a major weakness in its growth. Korea imports 96 percent of its energy, which accounts for 2/3 of its total imports. To rebalance this situation by 2030, Korea aims to decrease its energy intensity by 46 percent and increase the share of renewable energy in total energy usage from 2.4 percent in 2007 to 11 percent. Furthermore, the latest Five-Year Plan allocates 2 percent of GDP to 10 green growth strategies, each containing quantitative objectives and well-defined projects. Korea aims to increase its global market share of green technology exports from 2 percent in 2009 to 10 percent by 2020.

(World Bank and DRC of the State Council, China 2030 Building a Modern, Harmonious, and Creative Society 2013)

C) Japan's energy efficiency strategy. Japan's energy intensity decreased 26% between 1980 and 2009 and it is now one of the most energy-efficient countries in the world. Nevertheless, Japan pledged to go further with its 2006 "Energy Conservation Law" by improving energy efficiency by another 30 percent by 2030 relative to 2006. The plan's implementation strategy fosters energy conservation technologies and develops a benchmarking approach to monitor energy conservation. In addition to promoting the most advanced technologies across the energy sector, the plan also introduces integrated energy consumption standards for all buildings and aims to create zero-energy houses by 2020, which will become a nationwide norm by 2030. Japan's Top Runner Program, tests 21 types of appliances—ranging from vending machines and air conditioners to television sets—to determine the most efficient model, and make that model's level of efficiency the new baseline. Manufacturers then have the obligation to meet the new baseline within four to eight years. Japan's

newest innovation is the concept of “smart community”, a model city that maximizes the use of renewable energy and relies on smart grids to mitigate the intermittent nature of renewables. Four large-scale pilot projects were started in 2010.

(World Bank and DRC of the State Council, China 2030 Building a Modern, Harmonious, and Creative Society 2013)

Countries and enterprises throughout the world are facing problems including environmental degradation and resource depletion. An increasing number of countries have abandoned development through economic growth. Under the auspice of Green Development, CSR has become a means for global development. Countries are exploring development paths and modes of their own. China should actively learn from those international experiences, and create a new growth mode with Chinese characteristics.

5. FRAMEWORK OF CSR/CER IMPLEMENTATION IN GREEN DEVELOPMENT

5.1. CSR/CER Framework

A framework for CSR/CER is represented by a pyramid with four levels. (see Figure 5-1.) The bottom layer shows companies that do not comply with minimum regulations. The successive levels demonstrate companies that meet the standards for laws and regulations, those that have taken voluntary measures to exceed minimum regulations and companies with standards as part of their strategic integration are at the top. All enterprises must reach the level of compliance with regulations. Responsibility above “compliance with regulations” is a voluntary action that raises enterprises to a higher level and includes the adoption of stricter pollutant emission standards, more efficient resource use and cleaner production processes. “Strategic integration” requires enterprises to incorporate Green Development responses into business strategies, lower their carbon footprint, recycle and ensure that products comply with cradle-to-cradle design.

Most Chinese enterprises do not observe basic environmental regulations and standards, and therefore fit in the bottom part of the pyramid. These companies recklessly discharge pollutants to avoid extra costs and continue to subsist. A few companies such as IKEA, China Industrial and Commercial Bank of China, China Mobile comply or reach higher stages of the pyramid. This pyramid model demonstrates the complexity and difficulty of promoting CSR/CER in China.

The ideal shape to demonstrate CSR compliance and responsibility of Chinese companies is a spindle where there are few enterprises not complying with the minimum regulations and few pioneering enterprises achieving strategic integration with most companies achieving compliance with regulations and voluntarily taking

environmental protection actions. In reality, in China the form for this chart is a vase, which indicates that there are many enterprises which do not comply with regulations and the number of enterprises at the higher levels reduce even further.

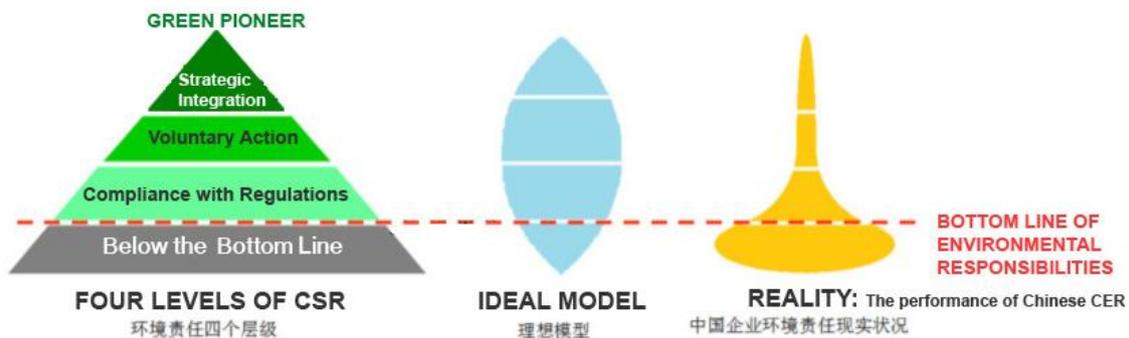


Figure 5-1 CSR/CER Framework

5.2. A framework for CSR/CER in Green Development

Integrating CSR and CER into a company’s strategy is the core of Green Development and requires knowledge of the right concepts, effective management and active engagement of these efforts. Transparency and communication with all stakeholders is critical in the successful implementation of CSR and CER. Ultimately environmental development and sustainability are a responsibility of the business sectors and of all society.

The “**Three Circle Framework of CSR/CER**”⁸ framework is structured to demonstrate the responsibilities of stakeholders and society.

The framework consists of three concentric circles, as shown in Figure 5-2. The core is the strategy integrating CSR/CER/Green Development in which environmental responsibilities are combined with enterprise operations.

The second ring consists of four parts: 1) Awareness for environmental responsibilities of enterprises, including the collection of relevant information; 2) Responsibility management which includes the implementation of environmental responsibilities, systematic management, framework organization of a code of conduct and an assessment system; 3) Environmental responsibility and action on issues such as pollution prevention and control, responding to climate change and ensuring biological diversity; 4) Transparent communication on environmental topics with stakeholders through channels and report. Although corporate environmental responsibilities are divided into four parts, the boundary between them is not very obvious and content may overlap.

⁸ Xie Jian and Jiang Chulin, 2009. Study on Resource-based Corporate social Responsibility (soft science project of Guizhou Science and Technology Department)

The two spheres above describe mechanisms for enterprises to perform their environmental responsibilities internally. The outermost layer is the external environment where enterprises collaborate with, stakeholders including the government, environmental protection organizations, media, civil society, industry associations, research institutes, think tanks, other enterprises in the same industry and consumers. These interactions are essential in guiding enterprises to perform their social responsibilities.

When enterprises are aware of the external support and constraints, they increase their knowledge, implement management, carry out the practice, and use feedback from other stakeholders to constantly improve and eventually form a strategy to respond to external pressures. This framework provides an entry point for policy suggestions to see if it can improve the capability of the enterprise in the aspects of awareness management, practice and external communication.

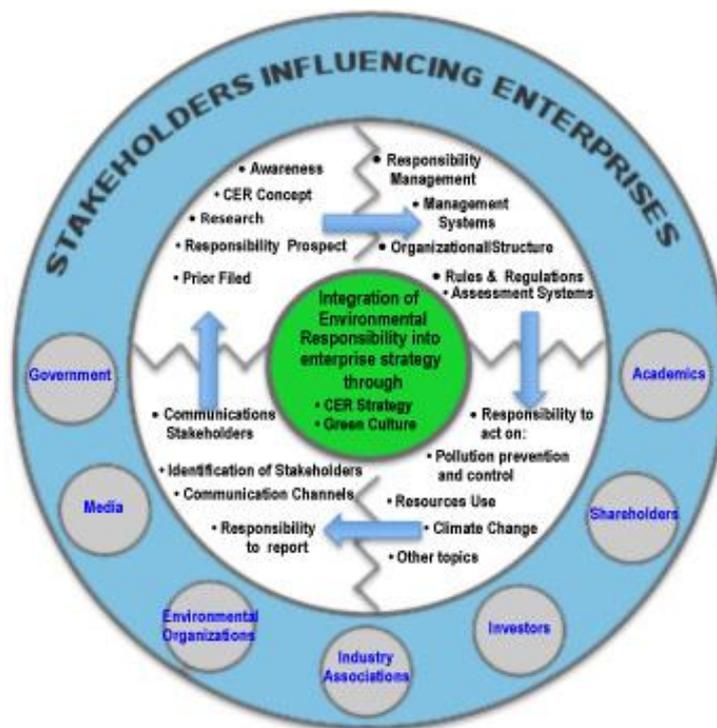


Figure 5-2 Three-Circle Framework of CSR/CER

6. POLICY RECOMMENDATIONS TO THE CHINESE GOVERNMENT

6.1. Recommendation1: Develop a national strategy and action plan

Developing a national CSR strategy and action plan is part of a more comprehensive national policy strategy building and planning process. In order to gain maximum support for the strategy and plan, they should be developed on the basis of a multi-stakeholder consultation process. Generally, a national CSR strategy and action plan consists of the following components:

- Introduction and clear definition of CSR with references to internationally and nationally relevant strategies, plans, regulations and guidelines;
- Rationale why CSR is needed as part of a comprehensive sustainable development strategy;
- Outline major elements of a strategic approach to enhancing CSR;
- A defined action plan and timeline, which explains the measures that will be implemented, how they will be implemented and by whom.

A national CSR strategy and its associated action plan are of high relevance for CSR in Green Development because they are embedded in the general national strategic development and planning framework (e.g. the 5-Year-Plan). Creating a national strategy for CSR will clearly define the focus period of time, and measures to enhance awareness, knowledge and application of CSR.

Recommended Actions (Recommendation1):

1. Develop a National CSR Strategy for a fixed period of time (e.g. three or five years) that clearly outlines the Chinese understanding of CSR in Green Development, its relevance and how it should be promoted.
2. Launch the “action initiative for corporate social responsibility” in relevant government departments, and increase awareness on CSR among the staff. For example, the Belgian government proposed the “civil servants initiative of corporate social responsibility” in 2006 and built a global framework of corporate social responsibility. The departments shall further clarify their roles and use to their respective advantages to promote environmental social responsibility among enterprises. For instance, the National Development and Reform Commission, Ministry of Commerce and State Administration of Work Safety shall identify their position when taking part in the environment social responsibility activities of enterprises.
3. Evaluate the central government requirements for the social responsibility of enterprises. Given the large number of small and medium-sized enterprises in China, the government must provide a favorable environment for small and medium-sized enterprises to enact environmental and social responsibility. The government must also attach importance to the CSR/CER of China’s overseas enterprises in order to enhance their international competitiveness.

6.2. Recommendation 2: Establish coordination mechanisms and consensus among relevant government entities and other stakeholders

Two mechanisms for better coordination and stakeholder involvement and communication regarding CSR-related work are necessary for the promotion of CSR in Green Development:

- A cross-sector coordination mechanism to coordinate the work of government entities;
- A multi stakeholder platform to build consensus among relevant stakeholder groups relevant to and interested in promoting CSR in Green Development through cooperation with the government.

Currently, there is no centrally coordinating body or coordination mechanism in the government that steers CSR-related activities. For example, at the central level, the Ministry of Environmental Protection shares its responsibilities to protect the environment with other government bodies such as the National Development and Reform Commission, the Ministry of Agriculture and the Ministry of Land Resources. In order to coordinate integrated policies that respond to the impacts that companies have on the environment, a central coordinating agency would have to be established so that it can work closely together with a multi stakeholder platform consisting of government, associations, trade unions, and NGOs.

The effective promotion of CSR in Green Development needs a coordinated approach among the central, provincial and local government entities. In addition, a multi-stakeholder platform with advisory and information sharing functions needs to be established.

Recommended Actions (Recommendation 2):

1. Designate an existing or create a newly formed government organization at the central, provincial and local levels to become a coordination mechanism for CSR in Green Development work in China. The European Commission has a coordinating department that is responsible for CSR under the DG Enterprise and established a multi-stakeholder platform on CSR in 2001. In Germany, the German Ministry of Labour and Social Affairs is responsible for CSR coordination on central government level, and a multi-stakeholder platform was founded in 2009 to develop the National CSR Strategy and Action Plan.
2. Establish a multi-stakeholder forum or platform, whose work and regular meetings are organized by the coordinating mechanism or agency. The platform should allow performance evaluation and information disclosure to allow industry associations, social organizations, and media to participate fully and expand social participation and strengthen cooperation through constructive dialogue.
3. Chinese companies should strengthen their cooperation with the international community and the Chinese government should become an active participant in the international governance of CSR so that it can introduce international standards and practices. It is also important to share the environmental protection experience of Chinese enterprises to reveal the global responsibility of large

developing countries and perhaps set up an international model for developing countries.

6.3. Recommendation 3: Expand education and capacity building for government, enterprises and a broad set of stakeholders

The promotion of CSR can take place through a range of government policies that are formulated and implemented by a large number of government bodies. There is a need for information sessions and formal training for government officials that take up CSR related positions. This is important to ensure that government bodies and officials on central, provincial, and local levels are able to provide leadership by example. There also exist organizations with regular contact with businesses that can play a role in promoting CSR in companies. These include:

- Industry associations and chambers of commerce which provide industry handbooks and guidelines to firms about practices and technologies that can lead to improved performance
- The management of industrial parks and hi-tech zones which introduce environment friendly practices, pollution prevention and pollution treatment practices to firms
- Civil society organizations (CSOs) which can play an important role in monitoring and signalling negative environmental impacts created by industries and supporting initiatives for sustainable, green and healthy (safe) products

China needs to promote the capacity building of the government, enterprises, and other stakeholders to solve the “no pressure, no motivation, no capability” problem of the enterprises.

Recommended Actions (Recommendation 3):

1. Form an institutionalized and standardized management system in competent departments that will promulgate and popularize ESR for enterprises.
2. Encourage and support initiations and research activities of professional intermediary organizations that ensure the CSR of enterprises. The British government has realized the importance of intermediary organizations in between government agencies and enterprises and has given them the ability to dialogue, propose and disseminate good practices, propose bills, and implement and evaluate policies.
3. Promote education, training and scientific research on corporate social responsibility, and establish a professional academic research institution based out of the universities to provide intellectual support for CSR practices of the enterprises in the country. The Dutch government has carried out a university

research program on corporate social responsibility, in which the universities organized research institutions to maintain the benign interaction between government policy and business practice. China will? also encourage the establishment of corporate social responsibility institutions in universities to carry out scientific research, personnel and skill training, provide services and support for the government, enterprises and various stakeholders.

6.4. Recommendation 4: Strengthen enforcement of environmental legislation and simultaneously incentivize companies to go beyond compliance

There is a continued need to update and strengthen environmental laws and regulations and develop effective enforcement strategies. Companies should feel obliged to move beyond compliance and be motivated to make a positive contribution to society and deliver products and services in a responsible manner in order to strengthen long-term competitive advantages.

Government agencies must fulfil various roles in the promotion of CSR ranging from legislation and enforcement to providing guidelines for information and discussion of CSR. Other roles include endorsing and incentivizing CSR practices.

Several studies suggest the relevance of incentives. SMEs do not react significantly to environmental legislations and are more likely to respond to simple and effective financial incentives.

Recommended Actions (Recommendation 4):

1. Strengthen legal mechanisms for *Company Law*, *Environmental Protection*, *Consumer Rights and Interests Protection Law* and *Labor Law*. In addition, China should increase penalties for violations, improve the judicial practice of environmental courts for local issues initiated by the public, allow environmental protection groups to have a strong supervisory role, and collect references of legal cases.
2. Actively establish and promote responsible investment into credits and funds that foster environmental and social responsibility. Concurrently offer tax exemptions and subsidies for enterprises with good environmental and social responsibility performance. An amendment to the British Pension Bill requests pension trust institutions to consider social and environmental impact when investing. This move has promoted the development of socially responsible investments in the market and has become a model that many countries now follow.
3. Set up labels to indicate the environmental and social behavior of companies, promote responsible consumption, carry out green public procurement, and encourage consumers and government departments to buy products with these

signs. The government should give preferential support to purchasing from enterprises with good social responsibility performance.

6.5. Recommendation 5: Strengthen mechanisms for better information disclosure and transparency

When environmental impact information from companies is transparent, the public is able to oversee more effectively, government departments can have clear targets in pollution control, and investors can get a comprehensive understanding of the environmental performance of the company.

Currently the information disclosure mechanism and quality of information available for enterprises in China is poor. The government and the public have limited ways to supervise information disclosure. The enterprises tend to emphasize form and neglect the quality of content in an effort to meet the government's mandatory disclosure requirements. This means that companies fail to integrate valuable information of their business operations.

Recommended Actions (Recommendation 5):

1. Further revise the Measures of Environmental Information Disclosure and strengthen their enforcement. Attach great importance to the basic work of reserving, organizing and analyzing environmental information, and establish a tracking system of the social and environmental information of the enterprises. Modify the inapplicable provisions in the measures, and expand the channels of information access. Supervise the environmental information disclosure of the enterprises and strengthen the rewards and punishment measures for the information disclosure of enterprises.
2. Emphasize the standards and certification of the social and environmental responsibility reports of enterprises. Formulate norms for industry reports that allow enterprises to clarify their reporting standards. In this way, the public can obtain accurate business information. At the same time, encourage professional institutions to do audits and certifications for their business.
3. Establish a "national information center for the environmental social responsibility of enterprises". Austria's corporate social responsibility association is an exchange platform that was requested by the enterprises and is funded by the government. Gather information and cases from all stakeholders, to promote information disclosure and dissemination, improve the transparency of information on environmental social responsibility of the enterprises; encourage the establishment of an information center for the environment social responsibility of the enterprises with emphasis on the small and medium-sized enterprises, and guarantee the disclosure of environmental information.

Conclusion

This Special Policy Study concludes that the link between CSR and Green Development offers tremendous opportunities for China to more effectively deal with the environmental challenges it faces today. The main reasoning behind this is the realization that environmental issues are increasingly placing constraints on economic growth and social development; this negatively impacts the welfare and health of Chinese citizens and threatens to jeopardize future growth.

Sustainability is the baseline for this study. CSR, representing the relationship between business and society has become a driver of environmental sustainability through Corporate Environmental Responsibility (CER) and how this both supports and promotes Green Development. This relationship offers a mapping for how China's economy should develop and provides deeper insights into how environmental development in China affects China and the world. CER presents a framework for solving environmental issues and creates a platform that supports national economic growth, transformation, innovation and stability.

The key findings of the study reaffirm the strong belief that through a multi-stakeholder approach, CSR and CER not only have an essential role to play in forming public policy that supports Green Development but also creates value as potential economic growth drivers. This promotes greater commitment and active participation of enterprises in the areas of both compliance as well as voluntary action.

The study recognizes that the Chinese government, in addition to enacting laws and regulations and formulating public policies that explicitly require enterprises to perform the statutory environmental liabilities, must also act through various methods of guidance, motivation, and cooperation, to create a good institutional environment for enterprises to become more socially and environmentally responsible and proactive.

The recommendations in this study emerged from the analysis of the government's role and mandate to ensure a clean and sustainable environment for its citizens. They recognize that this is accomplished through a mix of legislation, regulations, monitoring, incentives, education and actions that create an effective enabling environment for the business sector to wholeheartedly embrace ecological efficiency and Green Development. The successful combination of government control, company compliance but also the willingness of companies to go beyond just compliance and contribute to the bigger picture of sustainable development is what is needed to drive participation and greater investment in Green Development by the business sector.

The bottom line of this report is that China's environmental future rests largely in the hands of its government, business sector, civil society and the Chinese people themselves. China's local governments have the authority necessary to reform local industries, and must take responsibility for achieving ecological transformation at local levels. They have attained powers that make them important players in determining China's environmental future. Given the tremendous pressures put on local governments to deliver GDP growth, the trade-off between environmental sustainability and local economic development must be replaced by growth strategies that have sustainable impacts. Experiences in China and abroad have shown that investments in environmental sustainability are key to securing long-term economic viability and growth, ecological balance, and social stability.

Promoting Urban Green Travel

Introduction

This Executive Report provides an overview of the work carried out by the study team comprising Chinese and international experts, who were asked to develop a set of high level recommendations for the State Council on how to deal with the growing problems of traffic congestion and traffic-related air pollution in Chinese cities. The detailed findings and research evidence that underpins these recommendations can be found in the supporting full technical report.

This study forms part of a wider initiative on exploring the ways in which China might develop more sustainable cities, and focuses on the contribution that 'green travel' can make to achieve this goal. The report argues that tackling the twin problems of congestion and air pollution requires a switch in investment and policy away from car travel to encouraging the use of more sustainable and efficient 'green' modes of transport; in particular, enhanced rail (and bus) services, supported by better walking and cycling networks for local travel, and taxi travel for specific purposes.

While the use of cleaner cars and fuels help to reduce air pollution, they don't reduce traffic congestion, and so are not considered in this report which focuses on what needs to be done to promote 'Urban Green Travel' – passenger transport by public transport, walking and cycling in cities.

Summary of key findings

- **The main causes of the extensive traffic congestion and air pollution in Chinese cities**

Extensive traffic congestion and air pollution from road traffic in Chinese cities pose significant health and safety threats, compromise operational efficiency, and increase fuel consumption. Factors that contribute to this problem include rapid and extensive urbanization, increased usage of private cars, and the deterioration of good walking and cycling environments. The root cause of urban traffic congestion and traffic generated air pollution in China lies in the insufficient management of urban and transport development by public authorities. Insufficient management includes a lack of top-level vision for urban transport; insufficient attention to local government management and leadership, insufficient financial support, weak administrative capacity of local governments, imperfect performance evaluation systems, and the central government's limited influence on local governments.

- **China has an opportunity to change direction and promote urban green travel**

Currently the motor vehicle population in Chinese cities remains very low compared to economically developed countries, and in many small and medium-sized Chinese cities non-motorized transport modes still dominate. These factors provide a unique opportunity for Chinese cities to develop the more efficient, effective and economically sustainable modes of green travel. However, promoting green travel is a complex social project. If the 'green' travel environment is not continually and significantly improved, and if the government cannot provide a sufficiently attractive green travel system for potential car users or fail to adopt effective car ownership and use control policies that influence car ownership and use, it will become very difficult to curb the rising trend of car ownership and use. Ultimately, the prosperity of the large cities and the well-being of its citizens have to be built around walking, cycling and efficient rail and bus based public transport. Green travel has to be delivered by the city governments and the role of central government is to enable, encourage and support city governments to green their transport systems. Promoting urban green transport is vital to promoting equal urban access for all.

- **China should deliver its urban green travel 'vision' and become a role model for developing countries**

China's current situation makes it possible for China to become a role model or trendsetter for developing countries, and even developed countries, on urban green travel. Chinese cities should build a modern urban green travel system that reflects China's needs. Such an urban transport system will attract people from all social levels to make use of suburban rail services, subways, bus rapid transport (BRTs) and other types of buses and enable residents to choose safe, environmentally friendly and health travel modes such as walking and cycling.

- **Central and city governments both need to take comprehensive measures to promote urban green travel**

City governments should be the principal actor to promoting green travel. Urban green transport will depend critically on city governments' organizational competence, long term administrative commitment and the quality of successive political leaderships. However city governments alone cannot establish a green travel system that provides services for all. The central government should therefore work together with the city government to establish a green travel system and to ensure a regional approach to the prevention and control of transport related air pollution. All levels of the Chinese government should make comprehensive use of the three major strategies of promoting public transport and walking and cycling, namely 'guiding city development, increasing green travel supply, improving traffic demand management', and the four strategies of 'avoid, shift, improve, increase' to promote green travel.

Summary of the six priority policy recommendations

China's urban transport systems are presently on the wrong course – the course towards low density and socially divisive car dependency. This is not a viable future for China, economically or socially. The central government should urgently address the promotion of urban green travel as part of the necessary transformation of China's urban development strategies. This requires attention to cross-sector coordination and cooperation; strengthening of the ability of the central government to encourage and pressure local governments to develop urban green travel through financial leverage and other means; providing clear guidance for Chinese cities to promote green travel, and enhancing local governments' capacity to finance, supervise and assess the urban transport system.

Based on China's current situation and a review of international best practice, the Special Policy Study team proposes the following six priority policy recommendations.

Recommendation 1:

The State Council should agree on an 'Outline of China Urban Green Travel Implementation' as part of the national strategy for building an ecological civilization. This should guide cities to build a modern green transport system following four principles. It should: i) be attractive to all social groups, have low emissions and have high operational efficiency; ii) prioritize public transport, walking, and cycling, with seamless transfers and facilities for those with special needs (e.g. people with disabilities, elderly, young children); iii) implement private vehicle ownership and usage management measures and; iv) ensure that city development makes efficient use of land and provides all residents a liveable environment, with safe access to basic services and jobs without undue time and cost burdens.

Recommendation 2:

Central government should: a) enable city governments to raise sufficient and sustainable local sources of revenue to fund local public transport companies and b) provide targeted financial support for specific projects. More specifically, the central government should ensure that local cities can raise adequate funds through new forms of taxes, support green transport in cities through a variety of economic instruments, adjust public transport pricing, and establish a management system for the central funds that encourages green travel.

Recommendation 3:

The State Council should issue 'Policy Guidelines for the Rational Use of Vehicles'

and Road Space' to reduce congestion and air pollution, requiring that i) Public transport, walking and cycling should have clear priority in the allocation of city road space, ii) the definition of official vehicles should be broadened and strict limitations on official vehicle numbers and rules for the use of official vehicles should be issued, iii) free private parking spaces should be reduced or charged/taxed, iv) road user charges should be encouraged in congested areas, and limitations on car ownership should be implemented, v) and each city must have the final say on the best mix of policy instruments to meet agreed objectives.

Recommendation 4:

The state and city administrations should be required to ensure cross ministry/department policy coordination, as well as enhanced performance appraisal and management accountability. Public participation should be encouraged. i) The State Council should set up a coordinating mechanism within the central government to promote urban green travel, which should be led by the Vice Premier, (ii) The Ministry of Transport should set up a 'Bureau of Urban Passenger Transport Management', (iii) Local governments should set up a coordinating mechanism for Promoting Green Travel, (iv) To strengthen performance evaluation and accountability, and encouragement of public involvement, the State Council should order the Ministry of Transport to establish a National Green Travel Index Monitoring Mechanism for cities.

Recommendation 5:

The central government should amend the Urban Public Transport and Air Pollution Management legislation to require local governments to fulfil its duties to promote urban green travel.

Recommendation 6:

Central government should select different types of cities to organize and implement a series of Demonstration Projects to promote urban green travel.

Background and implementation of project

With the rapid development of China's modernization and urbanization, the population of motor vehicles has been growing rapidly, and cities of all sizes are generally plagued by chronic urban diseases such as traffic congestion and traffic generated air pollution which significantly compromise residents' basic travel and quality of life, urban economic activity and national energy security. Together these urban transport problems have become a major national issue.

The 18th CPC National Congress proposed a series of new concepts, ideas and requirements, including "Beautiful China", "Ecological Civilization" and "Adopting a New Model of Urbanization". The 2013 Central Economic Work Conference further put forward the concepts of fully integrating the concept and basic principle of ecological civilization into the whole process of urbanization and adopting "a new intensive, intelligent, green, and low-carbon model of urbanization. As a result, urban transport development in China has also entered a crucial period of strategic transformation. *Guiding Opinions of the State Council on Giving Priority to Development of Urban Public Transport* (GuoFa [2012] No. 64) clearly points out that:

*"in accordance with the resource conservation and environmental protection requirements, focusing on energy conservation and emission reduction, we should vigorously promote the development of **low-carbon, high-efficient, large-capacity urban public transport systems**, speed up the popularization and application of new technologies, new energy, new equipments, and advocate green travel."*

The study team has taken the term 'urban green travel' to refer to the development of attractive alternatives to the private car which meet the twin objectives of reducing urban traffic congestion and traffic-related air pollution. This includes greatly enhanced rail and bus-based public transport services, plus taxis in selected situations, together with supporting enhanced walking and cycling to meet local travel needs and provide access to public transport stops, stations and terminals. By promoting these alternatives it should also be possible to capture valuable co-benefits such as reducing traffic accidents, CO₂ emissions, and to improve public health and enhance social inclusion.

Promoting urban green travel is an important means to implement the new model of urbanization to reduce traffic congestion, improving traffic-related air quality and rebalanced urban and transport development.

To strengthen the government functions of the State Council and the relevant departments in promoting urban green travel and increase the policy influence of the central government on promoting green travel to local governments, China Council for International Co-Operation on Environment and Development (CCICED), in conjunction with the European Commission (DG Mobility and Transport), organized experts from China and abroad to undertake the special policy research project of "Promoting Urban Green Travel." The project was led by the China Academy of Transportation Sciences, CANGO Green Commuting Fund and the Research Institute

of Highway, who took part in the project. Beijing, Shanghai and Shenzhen were also involved as research survey and case study cities.

In a short period of six months from March-September 2013, the project team organized field surveys in Shenzhen, Shanghai and Beijing and held three seminars on promoting urban green travel with various stakeholders. These included government departments (including inter alia; Environmental Protection, Finance, Development and Reform), public transport companies, universities, research institutes, public welfare organizations. The project team listened to policy suggestions from all stakeholders on promoting urban green travel. The project team held several internal meetings, analysed different policy recommendations and finally selected policy recommendations based on an analysis of the opportunities and challenges China is facing in promoting urban green travel and the combined expertise of the experts at home and abroad.

The project team also launched a green travel survey via the online survey platform on 'Sohu' to obtain first hand data on the opinions and preferences of Chinese urban residents regarding public transport, walking and cycling conditions and transport demand management policies. The team prepared the *Special Report on Social Survey and Analysis of Green Travel in China 2013* (hereinafter referred to as the "*Green Travel Survey Report*"). The report provides a valuable support for the analysis of challenges and problems and the policy recommendations for promoting urban green travel.

The project team has also carried out research on how China might develop green travel indexes, by which it will be possible to appraise the implementation results of various measures adopted to promote urban green travel.

The results of the research work have been discussed by the project team in order to agree on the policy recommendations.

1. CAUSES AND CONSEQUENCES OF URBAN CONGESTION AND AIR POLLUTION

Rapid urbanization and motorization has stimulated the economic vitality of Chinese cities, but it has also led to chronic ‘urban diseases’ such as traffic congestion and traffic-related air pollution. Beijing, Shanghai, Shenzhen, Guangzhou and other first-tier cities in China frequently suffer from large-scale traffic congestion during peak hours, as well as severe fog and haze pollution, and increasingly severe air pollution caused by motor traffic. Chongqing, Changsha and other second-tier cities, and even some prefecture-level cities, have also been seriously affected by traffic congestion in their central areas. The urbanization and motorization processes in China are still in the acceleration phase, which indicates that in the absence of strong, long term measures, traffic congestion and air pollution will get much worse and spread to small and medium-sized cities.

1.1. Serious consequences of urban congestion and air pollution

Congestion and air pollution harms citizens’ basic ability to travel and quality of life, and rapid traffic growth threaten public health, urban economies, and national energy security.

Threats to people’s basic travel, health, and safety. Firstly, low-income groups mainly travel by public transport and non-motorized modes, and thus suffer more the inconveniences of travelling on overcrowded public transport and unattractive and unsafe walking and cycling networks. Secondly, motor vehicle exhaust pollution is one of the main sources of air pollution in the cities of China and a key cause of haze pollution. Serious traffic jams further increase air pollution. The environment monitoring agencies in Beijing and Shanghai have stated that 22% and 25% of PM2.5 in those cities came from vehicle pollution in early 2013. The air pollution index in many cities frequently exceeds the World Health Organization Standards by a factor of ten. Nearly half of 74 key monitoring cities across China suffer from serious pollution, with traffic related pollution being a major contributor to the problem in most cities. Haze pollution has seriously affected the health of urban residents, disproportionately affecting the low-income groups who adopt non-motorized travel modes¹ (see Box 1-1).

¹http://www.news365.com.cn/xwzx/qc/201301/t20130116_900096.html

Box 1-1: Air pollution has severely harmed Beijing citizen's health

The unprecedented scale of the haze in Beijing was reported for 8 minutes on China Centre Television (CCTV) news on January 12, 2013. The Beijing meteorological center announced the first haze 'Orange Alert' in history and initiated emergency response actions, on the most seriously polluted days official cars were required to stop driving. This haze has caused increased respiratory and cardiovascular diseases occurred such as tracheitis and bronchiolitis (upper and lower respiratory tract infections).

http://www.news365.com.cn/xwzx/qc/201301/t20130116_900096.html

A decade ago road traffic injuries became the leading cause of death among persons age 45 and younger in China.² According to national statistics, based on police report, there were 220,000 road traffic accidents in China in 2010, which killed over 65,000 people. China already has the highest number of road deaths in the world. These traffic accidents caused 926 million Yuan (111 million €) of direct property loss, of which road traffic accidents in 36 central cities caused 224 million Yuan (27 million €) of direct property losses (about 25.3% of direct economic losses from road traffic accidents in China). Non-motorized green travel by foot and by bicycle accounts for 35% of all police-reported traffic fatalities.³

Recent research published by the World Health Organization compared police-reported traffic fatalities with official Chinese death registration data. The latter data source, which international best practice has found to be more reliable than police reports, suggests that traffic related fatalities in China may be double the police-reported statistics. Underreporting of traffic related fatalities for children and cyclists tend to be even greater.⁴ In addition to the suffering and economic costs this is a question of social equity as this situation puts pedestrians, cyclists, and public transport users in peril and, importantly, **acts as a deterrent to urban green travel in China.**

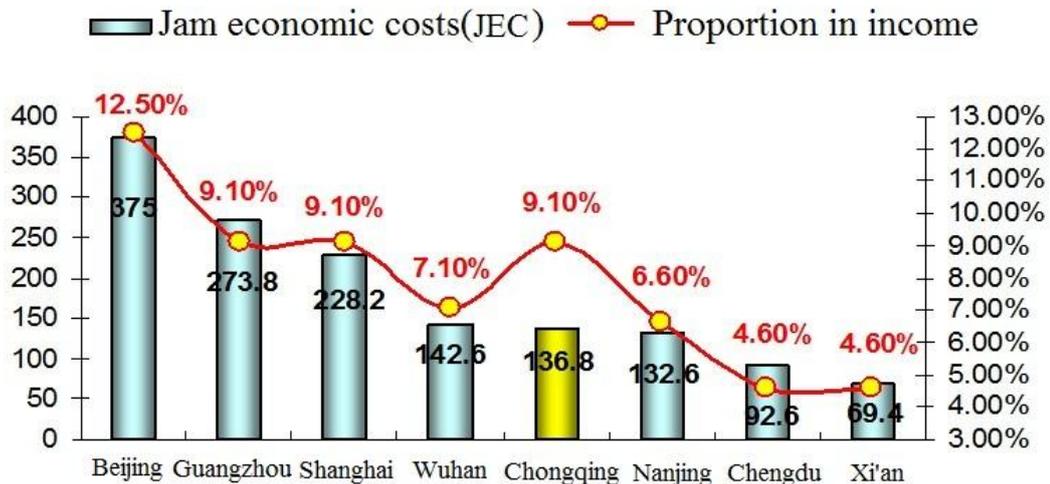
²Wang SY, Chi GB, Jing CX, Dong XM, Wu CP, Li LP. Trends in road traffic crashes and associated injury and fatality in the People's Republic of China, 1951–1999. *Inj Control Saf Promot* 2003; 10: 83-7 doi: [10.1076/icsp.10.1.83.14105](https://doi.org/10.1076/icsp.10.1.83.14105) pmid: [12772490](https://pubmed.ncbi.nlm.nih.gov/12772490/).

³2010 China Road Traffic Accident Annual Statistical Report, Traffic Management Bureau of Ministry of Public Security, 2010.

⁴Hu, Guiqing, Timothy Baker and Susan Baker, Comparing Road Traffic Mortality Rates From Police Reported Data and Death Registration Data in China, *Bulletin of the World Health Organization*, 07 September 2010, <http://www.who.int/bulletin/volumes/89/1/10-080317/en/>.

Reducing the efficiency of the urban economy. The daily hours subject to traffic congestion in Beijing have extended from 3.5 hours in 2008 to 5 hours in 2012, seriously affecting the operational efficiency of the city⁵. Due to congestion, the transport system has become increasingly unreliable. Adverse weather conditions or a single traffic accident can often cause massive traffic jams and even the collapse of the transport systems in the whole city. On September 17, 2010, five days before the Mid-Autumn Festival, due to heavy rain, 143 roads in Beijing suffered from congestion in the evening peak hours, causing traffic congestion lasting nearly nine hours⁶. The latest research of Niu Wenyuan, chief scientist, counsellor of the State Council, shows that due to traffic congestion and management problems, China's 15 largest cities suffer a daily time loss of nearly 1 billion Yuan (12 million €), Figure 3-1 shows the additional fuel cost due to congestion in RMB and as a share of average monthly income. It can be seen that these direct economic costs of congestion in first-tier cities such as Beijing, Shanghai and Guangzhou are significantly higher than those of second-tier cities such as Chongqing and Xi'an.

Figure 1-1: Congestion Costs in Chinese Cities⁷



Increasing energy consumption and intensifying energy shortage. In recent years, energy consumption by transport vehicles has been growing rapidly, and traffic congestion uses fuel inefficiently. Transport, industry and construction are the three sectors that consume the most energy. According to national forecasts, the proportion of total energy consumed by the industry sector will gradually decline from 73% in 2000 to 57% - 59% in 2020, and the proportion of energy consumed by transport will increase from 11% in 2000 to 16% - 17% in 2020. At present, road transport fuel consumption is 40 - 50 million tonnes, accounting for a third of total oil consumption in China. By 2020, the transport sector will become China's largest oil consumer,

⁵China's New-urbanization Report 2010 issued by the Chinese Academy of Sciences

⁶ <http://city.ifeng.com/cshz/bj/20110121/34217.shtml>

⁷2009 Foton Chinese Index for Mobility-Chinese residents motorization index report,

accounting for about 55% - 60% of total oil consumption⁸.

1.2. Factors causing urban congestion and air pollution

There are four main causes of congestion and traffic-related air pollution in mega- and large Chinese cities:

Fast growing and spreading urbanization greatly increases travel needs. Since the 16th CPC National Congress, urbanization in China has grown rapidly. From 2002 to 2011, China's level of urbanization increased on average 1.35% percentage points each year, and the urban population grew by 21 million each year⁹(as shown in Figure 1-2). By the end of 2012, China's urbanization rate reached 52%, starting to exceed the world average. Rapid urbanization has led to rapid growth and spread of urban population and multiplication of urban travel demand. However, the extensive rapid urbanization (as shown in Figure 1-3) has resulted in serious phenomena such as a greater separation of work and residence locations of new residents, thus causing higher motorised travel frequency and longer travel distances.

Figure 1-2: China's Urbanization Process in sprawl¹⁰

1995-2011¹¹

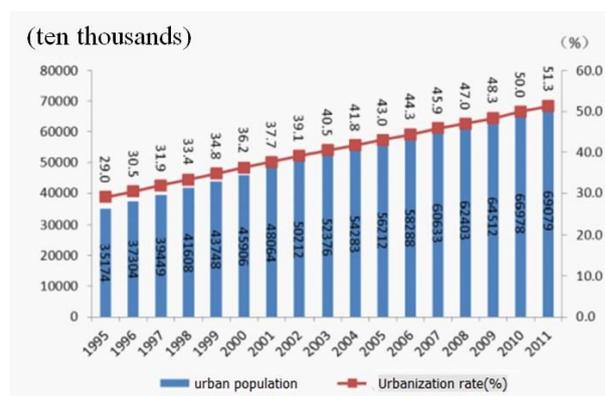
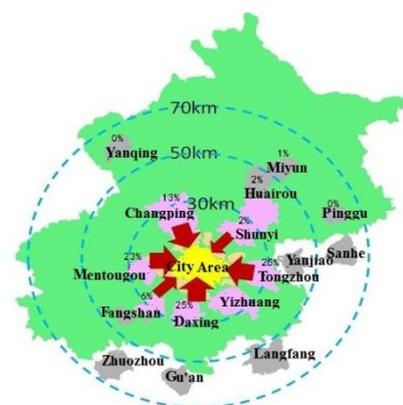


Figure 1-3: Urban sprawl



Limited public transport supply and poor service levels, as well as the absence of effective car restraint policies has stimulated the use of cars leading to fast growing private car ownership, high car use and high urban car density. The growth of motorization in China, averaging between 20% and 30% per annum over the past five years, is unprecedented in the world (see Fig. 1-4). The "three highs" phenomenon of car use (Figure 1-4) has caused traffic congestion in cities, intensified the disparities between transport demand and supply and brought huge pressure on urban road systems. If the car fleet and use continue to grow at the current rate, then expensive **road infrastructure construction will never catch up with the demand for car movement. In the absence of effective management urban mobility will inevitably deteriorate.**

⁸ Data from Development and Research Centre of the State Council

⁹ Data from National Statistics Bureau

¹⁰ Figure from Beijing Municipal Committee of Transportation

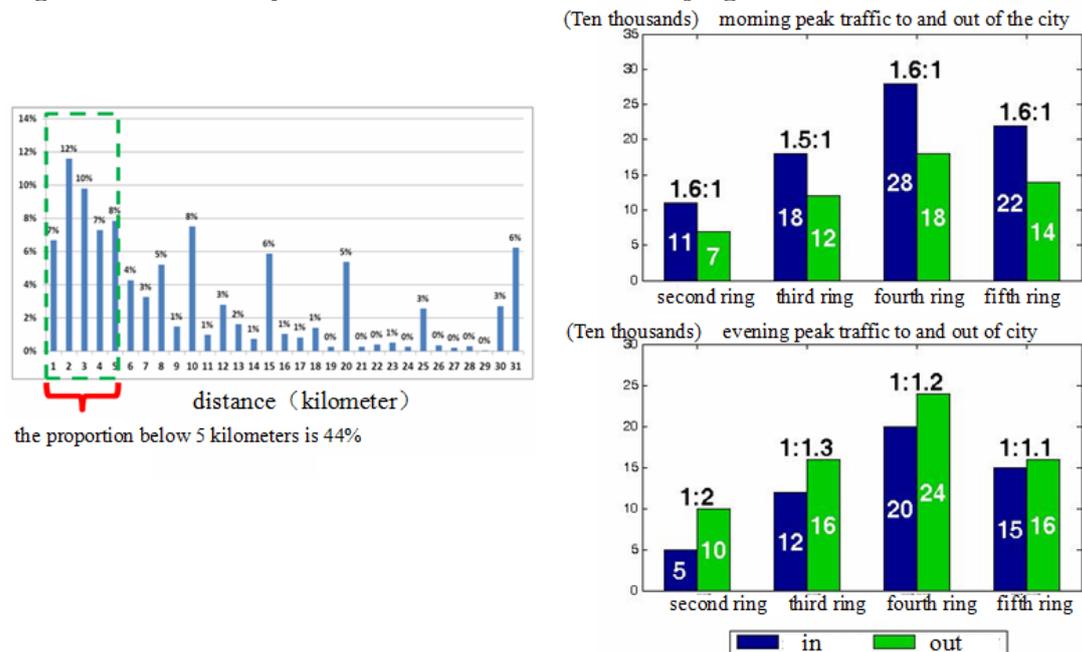
¹¹ Data from China Statistical Yearbook 2012

Figure 1-4: Development Trends in National Private Car Ownership¹²



The non-motorized travel environment is poor and has been deteriorating, as people who previously travelled by non-motorized modes have shifted to cars or road-based public transport. This has increased the pressure on urban road transport network – causing a further deterioration of the walking and cycling environments. This has exacerbated the imbalance of supply and demand. The *Green Travel Survey 2013 Report* shows that 81% of the participants were not satisfied with the urban pedestrian environment. Respondents’ complaints primarily related to vehicles’ and other facilities’ use of walking areas and vehicles’ priority over pedestrians in walking areas as shown in Table 1-1.

Figure 1-5: Intensity of Use of Private Cars in Beijing¹³



12 China Statistical Yearbooks

13 Data from Beijing Municipal Committee of Transportation

The survey showed a high level of dissatisfaction with cycling provisions as well; only 15% are satisfied. The main complains are lack of segregated facilities and vehicles asserting priority over cyclists, as shown in Table 1-2.

Table 1-1: Complaints about walking conditions from participants¹⁴

Causes	Votes	Percentage
Vehicle and other facilities' use of walking areas	2567	33%
Vehicle priority above pedestrians	2120	27%
Poor road condition	1285	16%
Not enough walking space	1157	15%
Satisfied	668	9%

Causes	Percentage
vehicles or other facilities' use of walking area	32.92%
not enough walking space	14.84%
poor road conditions	16.48%
vehicle's priority against pedestrians in walking areas	27.19%
generally satisfied	8.57%

Excessive use of official vehicles. Official cars, with their large engines, high fuel consumption and intensive use, have long been regarded as one of the major symbols of the car orientated development in China. In 2010 there were over 62.000 official vehicles in Beijing, the Beijing Municipal government alone had over 20.000. Official vehicles are used more intensively than private vehicles and are not sensitive to economic instruments. On non-working days official vehicles have 1.94 trips per day on average, many of which must be for personal use.

Table 1-2: Cycling environment complaints¹⁵

Causes	Votes	Percentage
Lack of separation facilities, not safe	2285	33%
Vehicle's priority against cyclers	2250	33%
Not enough cycling space	1806	26%
Satisfied	581	8%

Causes	Percentage
not enough cycling space	26.09%
lack of separation facilities, not safe	33.01%
vehicle's priority against cyclers	32.51%
generally satisfied	8.39%

1.3. Key problems regarding China's urban transport development

The root causes of the extensive traffic congestion and traffic-related air pollution include the following:

¹⁴ Green Travel Survey Report 2013

¹⁵ Green Travel Survey Report 2013

Lack of a top-level strategy and priority for sustainable urban transport development. Although a transition to more green travel is generally considered as necessary in China's cities, there is no modern urban green transport vision. The contribution and role of urban transport in promoting sustainable urban development is not clear, and urban transport development goals are not coordinated with policies on environmental protection and efficient use of land. This means that the efficient provision of sustainable urban transport is not prioritized in urban development planning, resulting in the prevalence of car-oriented development. In urban transport systems priority is given to motor vehicles, resulting in a continuous rise in congestion despite the increase in the number of roads built.

Insufficient attention to transport demand management in smaller cities at the local level. In response to the huge pressure from the rapid growth in the number of motor vehicles, Beijing, Shanghai, Guangzhou, Shenzhen and other first-tier cities in China have generally implemented a range of demand management measures, including differentiated parking fees, restricted purchase regulations, vehicle quota license auction, motor vehicle plate restrictions, staggered rush hours, to good effect.

However, the governments of many second-tier cities are still not fully aware of the potential or long term benefit of transport demand management and believe that there is no need to implement transport demand management measures as long as no traffic congestion occurs. Some cities dare not take necessary transport demand management measures due to social pressures. In addition, there are no national-level transport demand management laws and regulations, and the central government has no policy guidance for promoting green travel, controlling car ownership and introducing parking and congestion charging, which together has limited the implementation of transport demand management policies.

Insufficient fiscal incentives to promote green travel. First, the levels of fiscal support for green travel are weak, and the total central financial investment in public transport is insufficient to enable growth in travel demand to be carried by sustainable transport modes rather than by private cars. Compared with the investments in road infrastructure construction, investment in urban public transport is inadequate. Secondly, the present structure of financial investments in public transport is irrational. The existing annual fuel subsidies from the central government for urban public transport are several dozen billion Yuan (several billion €), but the use of those subsidies does not encourage the development of green transport systems. Third, there is no stable fiscal investment mechanism to fund urban public transport investment and operation. Cities rely considerably on one-off land sales for infrastructure finance, an unreliable long-term mechanism. The funds for public transport development at all levels are limited, and so cannot meet the needs for rapid development of urban public transport. Fourth, there is no standard fare setting and subsidy mechanism for urban public transport. In many cities, a mechanism to link transport cost, fare, subsidy, service quality and operational efficiency has not been established, fares income is too low, while the financial capacity of municipal governments to subsidise operations is limited.

Weak administrative capacity of local governments and poor performance appraisal systems. The relevant departments of the central government have long proposed the guiding principles of giving priority to the development of urban public

transport, but in the rapid urbanization and motorization processes that have taken place in Chinese cities, urban transport development in many cities has been based around the private car. The main causes of this mismatch between aspiration and achievement are poor decision-making skills at the management level of municipal governments, imperfect cross-sector policy coordination, lack of rigorous performance assessment of policy implementation and lack of public participation.

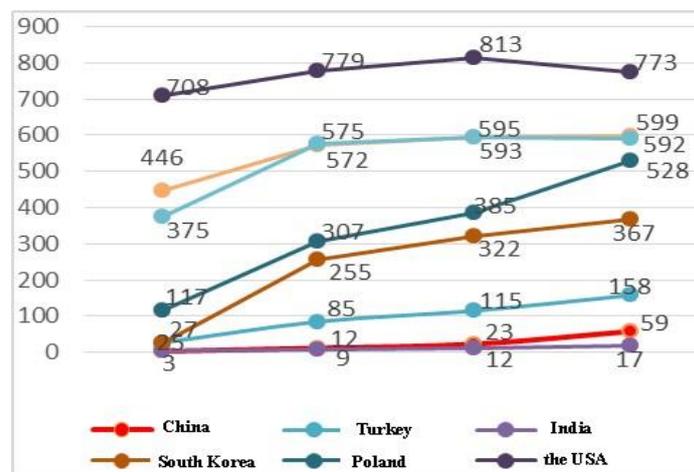
In terms of performance appraisal of system construction, *Guiding Opinions of the State Council on Giving Priority to Development of Urban Public Transport* (GuoFa [2012] No.64) has specifically put forward the proposal for the “implementation of an urban public transport development level performance assessment system”, but as public transport development involves several departments, the current lack of an effective coordination mechanism makes it difficult to implement such a performance assessment system.

2. PROMOTING URBAN GREEN TRAVEL – OPPORTUNITIES AND CHALLENGES

2.1. China still has favourable conditions for promoting urban green travel

The level of motorization is low in China. Figure 2-1 shows that in 2010, the number of motor vehicles was 773 per 1000 persons in U.S.A., which ranked first in the world, followed by France (599) and then Japan (592). In 2010 there were only 59 motor vehicles per 1000 persons in China. However, the level of motor vehicle ownership in cities like Beijing already exceeds that of Tokyo, despite a far lower level of per capita income in Beijing. Other cities across China could copy Beijing’s motorization pattern in the coming decade or the nation could build on its existing green transport foundations to avoid serious problems.

Figure 2-1: Comparison of the Motorization Process of China and Foreign Countries -2010 numbers¹⁶

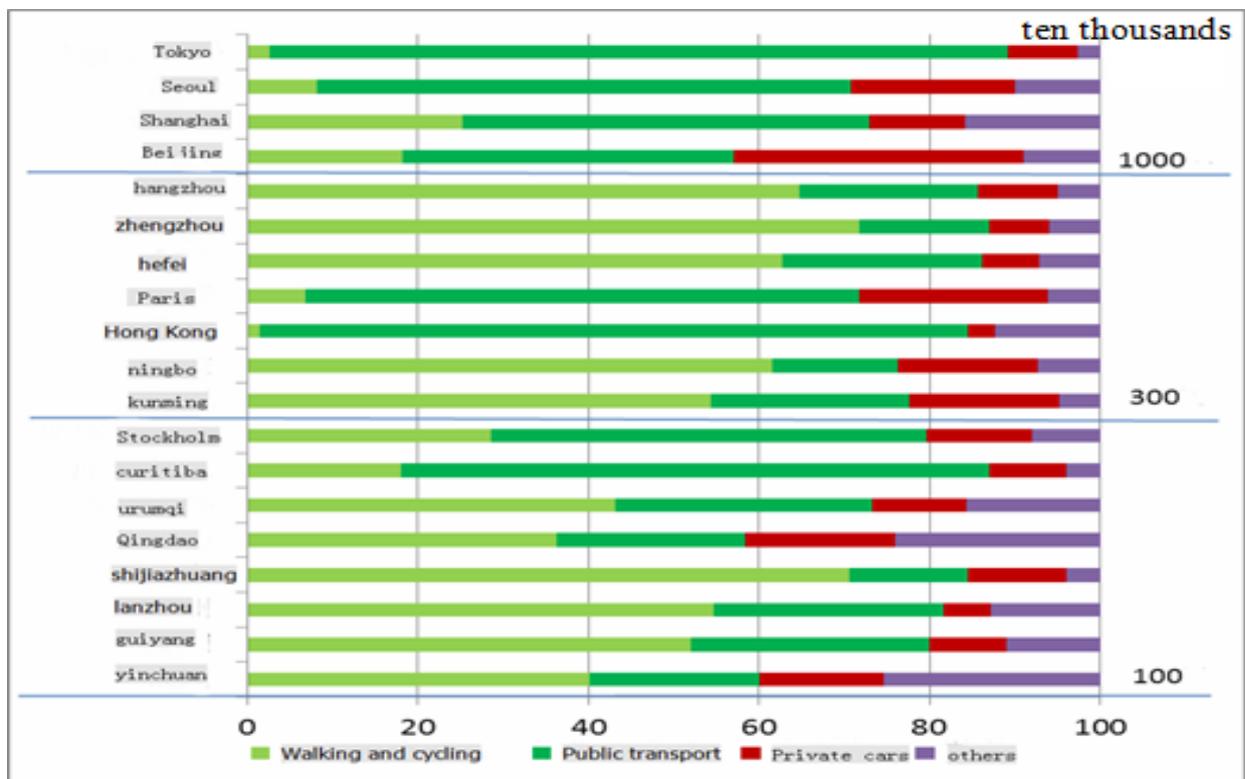


The ratio of urban green transport in China is still high compared with

¹⁶ Data from various web-pages of the included governments

developed countries. Non-motorized travel modes in Chinese cities, especially in small- and medium-sized cities, still take a dominant position. In cities with a population of 3-10 million, such as Zhengzhou and Hefei, the proportion of non-motorized travel is more than 60% and in cities with a population of more than 10 million such as Shanghai, non-motorized urban travel accounts for over 25%. Small- and medium-sized cities have an even higher proportion of non-motorized travel. As the proportion of non-motorized travel is much higher than that in developed countries, China has a good foundation and tradition in urban green travel, which is illustrated in Figure 2-2. However, in most cities, current road conditions are discouraging rather than encouraging use of these modes.

Figure 2-2: Comparison of Green Travel Mode ratios in cities of different population size¹⁷



2.2. Promoting urban green travel supports China's national policy objectives

Promoting urban green travel is in line with the policy objectives that China is advocating; namely ecological civilization; a new type of urbanization; safeguarding social fairness and justice; The Chinese Government focuses on developing an ecological civilization and strives to promote green and low-carbon

¹⁷ Data for the Chinese cities in this figure are from the report of the Chinese Ministry of Transport. The data for international cities are from various webpages and materials received from officials during the Chinese study tour to Europe Summer 2013.

development. Furthermore emphasis is on land use patterns, industrial structures, production modes and lifestyles favourable to energy saving and environmental conservation. The Government has introduced a series of major initiatives that will play a strong supporting role in establishing the laws, regulations and systems and providing the financial security for promoting green travel and improving air quality.

China is focusing on comprehensive and integrated transportation management in order to carry out the adjustment and improvement of transport in China, and should actively support the promotion of green travel. China is moving towards building a safe, convenient and cost-effective green integrated transport system and to promote the smooth interoperability of infrastructures; the use of advanced, applicable, energy-saving and environmentally friendly transport equipment; intensive, efficient, economical and convenient transport organization; and quick, convenient, fair and high-quality transportation services. The Government is paying attention to improving the transport service levels to improve people's livelihood and try to provide a variety of high quality public transport services.

Information technology and intelligent transport systems could provide the necessary support for China's promotion of green travel. Information technology should be widely utilized in transport planning, design, construction, operation and management. The promotion and application of advanced transport technologies and products helps promote the transformation of traditional technologies and ensure that new infrastructure can be used intelligently. The above could raise the overall technological level and thereby support the promotion of green travel.

The strengthening of the society and people's engagement in green travel will assist in stimulating the promotion of green travel. The society, people, and media should be the advocator, propagator, and practitioner on promoting green travel and related activities to achieve a low carbon life style. This could create a positive social environment for green travel at the local level.

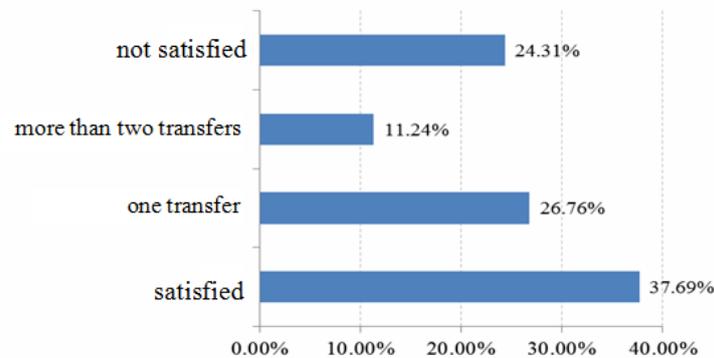
2.3. Promotion of urban green travel is a test of the governing capacity at all levels of government in China

China's institutions must be capable of solving the problems caused by the increase of traffic demand due to fast urbanization, low public transport capacity and poor environments for walking and cycling. Urban travel demands are increasing dramatically with urbanization, which can be analysed from the growth of travels, both in terms of frequency and distance. China's traditional urban transport systems are used to adapting passively to the demands of urban development and are not prepared to actively influence the transport demand and deliver the service to support rapid urbanization. This has resulted in growth in travel demand brought about by the rapid urbanization, a shortage of aggregate public transport supply, lack of coverage of public transport areas and a lack of attractiveness of public transport services for those with access to car travel.

Public dissatisfaction with public transport, walking, and cycling will drive more people to drive and erode the market share of green travel modes. A recent survey of 4,000 participants from 31 provinces on 'public transport coverage of commuting

needs' found 24% of the participants unsatisfied with the commuting service provided by public transport, as shown in Figure 2-3.

Figure 2-3: Level of Satisfaction: Commuting by Public Transport¹⁸



The long lasting conflict between the rapid increase in motorization and the idea of promoting green travel. At present, there are three phenomenon; "fast growing private car ownership, high car use and high urban car density" that challenge the promotion of urban green travel. China's movement to green travel is in essence a competition between the supply of green travel services and the growth in private car ownership. China must seize the opportunity to properly manage and adjust urban transport, before motorized travel becomes the dominant travel mode. If the green travel environment cannot be improved continuously and significantly, and if the government fails to bring into place a sufficiently attractive green travel service system for potential car consumers, it will be difficult to curb the rising trend of car use. Chinese cities will miss the best timing to cultivate green travel modes.

In a recent survey, 62% of respondents said that travelling by private car is always faster than by public transport, as shown in Figure 2-4, and 47% said that public transport's inability to cover special family travel needs is the main reason for buying cars. More than 35% believed that the added time of taking public transport is the main reason for buying cars, as shown in Figure 2-5.

The challenges of promoting non-motorized travel (NMT) and halting the fast decline of NMT. Non-motorized travel modes still have a dominant position in cities of China, but are adversely affected by fast growth in car use. Indeed the **mode share of non-motorized travel is declining rapidly** in Chinese cities. In a decade, the non-motorized travel rate in Beijing, Hefei, Changsha and other cities has decreased by more than 10%. Figure 2-6 shows the changing trend of bicycle sharing rate in Beijing, which dropped from 62.7% in 1996 to 16.7% in 2010. The decline in the share of non-motorized travel modes reduces the critical mass of pedestrians and cyclists on the streets. This reduces the social and political legitimacy and safety of these modes of transport, leads to a deteriorating non-motorized travel environment and increases average commuting distances in cities.

¹⁸Green Travel Survey Report 2013

Figure 2-4: Survey on Travel Efficiency of Cars¹⁹
Cars²⁰

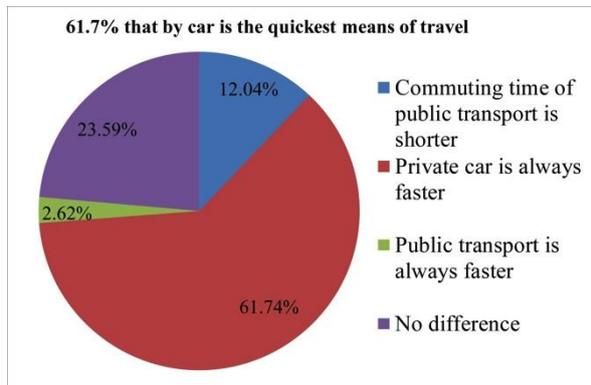


Figure 2-5: Reasons for using Public Transport and Private

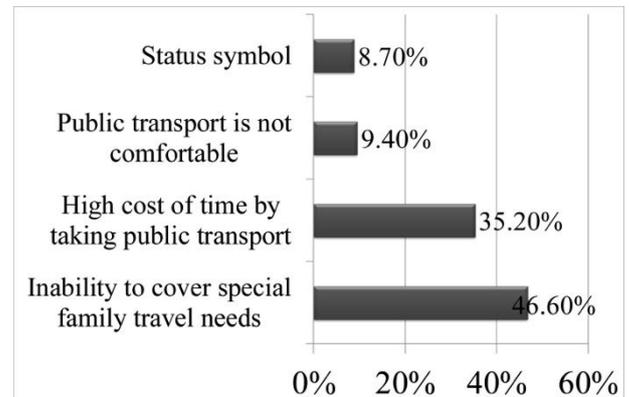
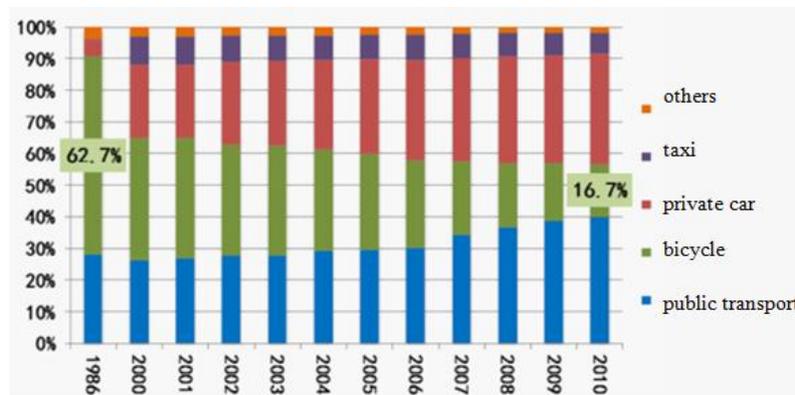


Figure 2-6: The Decline of Bicycle Mode Share in Beijing²¹



Different levels of governments face great pressure to ensure financial support to the infrastructure construction and operation of public transport. To promote green travel the governments need to provide strong support to green transport infrastructure construction and public transport operations. The current funding for public transport and non-motorised is insufficient. In cities in mid-western China especially, the normal financial budget at the local level is insufficient. City governments in China need to provide a wide range of basic public service (public education, social service, social security, health system, population control, housing, public culture, infrastructure, and environmental protection), which results in difficulties ensuring funding for green travel infrastructure construction and operation.

The current government institutions, urban policies, and implementation capacity are not capable to manage the urgent need for improving China's urban green travel. Promoting green travel and prioritizing urban public transport is a complex social project. The related departments in the central government have long discussed the guidelines for prioritizing urban public transport, but many cities have made mistakes during the urbanization and motorization process. For example, the spatial layout and industrial structure planning are often disconnected from transport

¹⁹Green Travel Survey Report

²⁰Green Travel Survey Report

²¹Data source: Beijing Municipal Committee of Transportation

planning, urban transport management is car-oriented, and public transport development is not prioritized. These mistakes are related to the non-optimal distribution of department responsibilities, poor cross department coordination, low decision making and management capacity of the local governments, as well as lack of strict performance evaluation for policy implementation and public participant. At present China is in the middle of wide-ranging institutional reforms, and each reform will encounter many difficulties. The improvement of government capacity, performance evaluation and public participation need time to be completed. These unfavourable factors negatively influence the development and implementation of green public transport.

3. INTERNATIONAL EXPERIENCES

The main lessons from international experience that have influenced this report are:

3.1. ‘Public transport oriented urban development’ in EU and US

Due to the pressure caused by raising prices on energy, urban air pollution and environmental damage, urban planning that makes efficient use of land and is ecologically friendly has become an internationally accepted sustainable urban development approach. Such approaches reduce transport demand and support the business case for the continued supply of quality public transport and local walking and cycling. It has also become an international trend to strengthen the integration of transport planning with urban spatial planning, environmental protection, and efficient land use, in order to achieve public transport-oriented urban development. The EU and the U.S. governments encourage and stimulate city governments to take actions through regulations and guidance in the fields of planning, land use and pollution management, etc. The EU supports the implementation of Sustainable Urban Mobility Plans. These are strategic plans, developed at the local level, with the goal of ensuring urban accessibility for all; improve safety; reduce air pollution, carbon emission and improve energy consumption; improve efficiency of passenger and freight transport, and enhance the quality of the urban environment. The purpose of these plans is to develop, based on consensus and consultation, a long term, sustainable urban comprehensive transport vision necessary for the development of cities.

3.2. ‘Public transport + cycling + walking’ an internationally recognized concept

The urban green transport system of ‘public transport + cycling + walking’ plays an increasingly important role in improving air quality and congestion management and in building sustainable cities. High quality and well managed taxis are an important part of the ‘urban green transport’ solution providing complementary services to public transport, walking and cycling. EU law on air quality drives the establishment of the urban green transport system of ‘public transport + cycling + walking’; France has issued a law on air quality protection and energy conservation (e.g. the LAURE Act of 1996) which states six requirements for metropolis and urban transport planning. Some of the cities e.g. in France, Sweden, the UK, among others, have world class urban public transport systems. Under the guidance of EU policies and national transport development strategies, many EU cities are committed to prioritizing public transport, and improve public transport service quality. Cities like Paris and London

are increasing walking areas and introducing more cycling lanes in the old town areas that have limited street space, as well as providing excellent public transport. Moreover, European and American cities focus on linking various modes and improve public transport transfers by taking a 'multi modal' approach to planning, system design, and transport management.

3.3.Sustainable financial for urban green travel

The fare income of public transport cannot, and should not, cover the full costs of public transport infrastructure and facility investment, maintenance and operation. Therefore, in order to develop a stable public transport infrastructure and services, many countries in the world have assigned additional funding sources for urban transport development through national laws, and national funding mechanisms. The common sources of funds include local income tax, sales tax, taxes relating to land value appreciation, parking pricing, vehicle plate auction income, congestion charge, low emission zone charge and city maintenance charges.

Paris's employers pay a 'public transport' tax, which the city uses to reduce the operational deficit of the public transport companies. London and Stockholm collect congestion charges, apply differentiated parking charge, and use part of the income to improve public transport facilities. Many countries have developed reasonable fare adjusting mechanisms; in Singapore, Berlin, and New York the fare levels are linked with economic development and the increase of average income. In the 21st century, the European and American countries tend to shift the function of urban transport financing to cities and the central governments provide part of the funding to guide and support investments at the local level. The projects that qualify for the use of the central funds include; large public transport infrastructure construction and investments in environmentally friendly transportation equipment. There are controls to ensure that the funds are used according to the rules. The US Clean Air Act states that transport development must be in line with air quality goals, the Federal Transit Administration and Federal Highway Administration can only approve and support transport projects and programs that conform to adopted mobile source air pollution emission budgets designed to protect public health and to meet national air quality standards.

The city governments generally perform 'contract + performance appraisal' tasks in relation to public transport companies, i.e. they sign service contracts or franchise contracts with the public transport company, and determine the amount of subsidy, award, and fines according to the performance appraisal. These processes ensure that the public transport companies will provide public transport services that are stable, in line with the quality requirements set in the contract and ensure value for money.

3.4.Travel Demand Management (TDM) recognised as instrument for urban green travel

It is generally agreed internationally that the citizens have the right to access different urban transport modes that include car ownership and use. However, when there are congestion and pollution problems, the priority should be given to green travel modes that are efficient and environmentally friendly. Under these circumstances, car

ownership and use should be restricted. In the EU alleviating urban congestion and reducing transport emissions through controlling car ownership and use through the use of economic instruments and urban access regulations have the same importance as the policies of prioritizing public transport and non-motorised transport. Some EU member states require that TDM measures are included in regional and city transport planning, and countries such as Sweden have laws to guide the implementation of congestion charging and the use of the income it generates. Measures such as differentiated parking policies (including pricing), low emission zones and congestion charging have been adopted in many EU countries, and have generated promising results. It is fully expected that in the future TDM measures will become even more widely adopted around the world.

3.5.The rise of comprehensive and integrated transport management

Many countries are shifting the transport management system from single transport mode management to a more comprehensive, integrated management model. Transport for London has set up the Surface Transport and Traffic Operations Centre (STTOC) that creatively integrates different departments' functions and even includes the police service. Moreover, the cooperation between organizations that have different responsibilities and roles plays an important role in comprehensive transport planning, operation organization, and regional transport development coordination. In France, senators from cities and towns form an urban transport management commission (AOTU), which is independent from city and town governments, and monitor urban public transport network construction and management. In Germany, the Regional Transport Alliances (RTA) plays an important role in developing sustainable transport planning, coordinating regional capacity building, and improving service quality.

3.6.Increased public participation in urban transport planning.

There is a consensus in Europe that urban transport development goals can only be achieved with the support of the citizens. Therefore, many EU cities put a strong focus on public involvement. In 2006, a year after Stockholm started collecting congestion charges in the downtown area, the city let the citizens decide through a referendum, whether to continue the charging or not, 52% of the voters favoured the policy. Paris developed an urban transport plan—the PDU²²—by following nine criterions, one being to strengthen the sense of responsibility of the Paris citizens for participating in public transport planning decision making. By inviting the public into the public transport planning process policy making and implementation has been improved. Furthermore these processes mean urban green travel measures are more broadly accepted by citizens. Both the central and city governments in many countries are encouraging public involvement in developing or revising plans and policies in open and transparent processes.

3.7.Using information technology to deliver urban green travel

Developed countries have been able to have good management of urban transport, and

²²Plan de déplacements urbains (PDU) in French

information is playing an increasingly important role in the management process. In the EU and US, the continuous improvement of urban transport and environment models, as well as support from new information products and software underpins nearly every aspect of transport: urban transport planning, transport policy making, public transport operation and management, parking management, congestion charging, low emission zone charging, and transport information services. Governments at different levels are becoming increasingly aware of the importance of information to urban transport and are providing support to data collection, monitoring, and information sharing. Success at this requires institutional capacity development. With wider use of new information technologies like smart phones, the urban transport sector is on the brink of a fundamental transformation in how it relates to real time data to manage, monitor, and operate systems that better serve customer needs. China needs to embrace these opportunities.

4. PROMOTING URBAN GREEN TRAVEL - OBJECTIVES AND GOALS

The objectives of urban green travel in China

To achieve the goal of building a prosperous society, it is necessary that urban transport development benefit all people. To strengthen and improve public services, the first priority is to reflect social equity, guarantee the basic travel needs of all groups, and make utmost efforts to meet people's needs for high-quality travel services. With China's rapid urbanization and motorization, issues such as traffic congestion, environmental pollution, accidents and energy shortage are becoming more conspicuous. The rapidly developing new-type urbanization must have the objective of making people's lives more convenient and comfortable. It should ensure urban mobility for all and protect the vulnerable, and so improve social equity. Urban green travel is a key element in building green habitable cities that are socially, economically sustainable, and where human beings and nature can co-exist in harmony.

China's vision of promoting urban green travel

Chinese Government has clearly put forward the “**Road of Intensive, Smart, Green and Low-Carbon New-type Urbanization**,” which serves as the basis for building an ecological civilization and achieving social equity objectives. An efficient urban transport system is conducive to urban economic development and social justice, reducing impacts on environment and people's health.

Widespread promotion of urban green travel in China

To promote urban green travel, China has to follow three cardinal principles - guiding urban development with public transport friendly layouts, increasing supply of green travel and strengthening transport demand management, and carry out the tactics of “avoid, transfer, improve and enhance”. Due to the size of Chinese cities and their varying characteristics different guidance will be required to allow for the differences between cities.

Avoid, shift, improve and enhance

The strategy for promoting China’s urban green travel – to reduce congestion and improve air quality can be summarized as “avoid, shift, improve and enhance”.

“Avoid” means:

Managing travel demand by reducing unnecessary and low value travel through smarter urban spatial planning, communications, pricing, and logistics;

“Shift” means:

Establishing an urban public transport system featuring wider coverage, smoother linkages, enhanced safety and better services to meet people’s diverse travel needs, and encouraging them to *shift* to green travel modes such as public transport, cycling, walking, and other high occupancy modes;

Pursuing the principle that every vehicle user has to pay a corresponding fee for the environmental and economic impacts he or she causes, and thereby making travel by car bear the cost for high resource occupancy, high energy consumption and high emission, pushing the transfer from travel by car to green travel.

Using administrative and technical means to influence traffic participants’ choice of the mode, time, place and route of transportation, so as to minimize peak traffic flow, to *shift* the time and location of travel needs to make better use of the transport infrastructure.

“Improve” means:

Improving the public transport service capacity, equipment, smart management level and service quality to relieve such problems as “slow traffic, long waiting time, crowded vehicles and poor information services,” as well as making public transport considerably more attractive, thereby encouraging residents to travel by green modes rather than driving;

Improving the travel environment for non-motorized transport such as cycling and walking and ensuring the basic right of way for cycling/walking as well as promoting the development of non-motorized transport systems;

Improving the taxi information, reducing the practice of cruising empty searching for passengers, and decreasing taxi mileage to facilitate energy conservation and emission reduction;

Improving public travel information services in cities and gradually integrating the information resources of public transport, civil aviation, railway, highway and other transport modes so that comprehensive, trans-regional and one-stop information inquiry services can be provided through various media.

Improving motor vehicles and fuels to improve fuel economy and exhaust emission

standards of vehicles, and adopting clean-energy vehicles to reduce exhaust emissions of motor vehicles.

“Enhance” means:

Enhancing public knowledge of green travel, strengthening public participation in promoting green travel and foster a cultural atmosphere conducive to green travel;

Enhancing the professional proficiency, sense of responsibility and politeness of transportation staff to support the growth of urban green travel.

Implement differentiated guidance according to city characteristics

Guidance must take into account different types of cities and their situations (size, mode share, ambient air quality, geography, climate etc.), and recognize that city officials need to determine the most locally appropriate means to implement sound green urban transport practices and to achieve broad national goals.

5. POLICY RECOMMENDATIONS TO PROMOTE URBAN GREEN TRAVEL

The Chinese Government has clearly put forward the “**Road of Intensive, Smart, Green and Low-Carbon New-type Urbanization**” strategy. Promoting urban green travel will become key for Chinese cities when adopting a new model of urbanization. **China has a high share of green travel, but a modern urban green transport system needs to be established.** The reason is not that the Chinese government is not determined to develop urban green transport, **but that neither the development nor the organization of cities and transport are reinforcing each other.** Funding and regulatory incentives from the central government for local transport are insufficient, **contributing to local disregard for national guidance** that promotes green urban development.

The Chinese government should make comprehensive use of the three major strategies for improving public transport, namely i) guiding city development, ii) increasing green travel supply and iii) improving traffic demand management, and the four strategies of ‘avoid, shift, improve and enhance’. The central government needs to link the promoting of urban green travel to the broader green transformation of China’s development strategies, relevant policies and key tasks.

Following international best practice, the central government should spur more effective local government actions promoting urban green travel with appropriate design of transport financing programs linked to regulatory guidance and local and central government capacity to supervise, assess, and monitor urban transport system development and operations.

The policy recommendations are:

5.1. The State Council should issue the *Outline of China Urban Green Travel Implementation* as part of the national strategy framework for building an

ecological civilization and reform urbanization, help cities coordinate urban planning with transport, environment, and land use as well as establish a modern urban green transport system.

A key reason for why China’s larger cities suffer from serious congestion and air pollution, even though the level of motorization is comparatively low, is the comprehensive disconnect between transport, environment, and land use planning and management.

The State Council should develop the *Outline of China Urban Green Travel Implementation*, to guide cities in building a modern green transport system. The system should: 1) be attractive to all social groups, have low emission and high operation efficiency; 2) be walking and cycling friendly and have convenient public transport linkages; 3) implement management measures for private vehicle ownership and use and 4) ensure that city development makes efficient use of land and provides all residents with a liveable environment and safe access to basic services and jobs without undue time and cost burdens

The purpose is to lead the shift from the conventional urban transport system to a modern green transport system (see Table 5-1). The Outline will guide the overall urban planning, comprehensive transport planning, environmental protection planning, land use planning, and state the requirements for such elements as the fiscal mechanism, regulations and required performance appraisals.

Table 5-1: Comparison between Conventional Urban Comprehensive Transport Planning and Urban Green Travel Planning

Conventional urban comprehensive transport planning	↔	Urban green travel planning
Idea: focus on transportation supply	↔	Idea: focus on people’s needs
Goal: transport flow, capacity, and speed	↔	Goal: accessibility and life quality
Method: government appoint experts to draft planning	↔	Method: important stakeholders participate in planning draft
Technology application: mainly on transportation	↔	Technology application: cross-departments and cross-field
Content: infrastructure	↔	Content: comprehensive planning of infrastructure, market frameworks, service, mechanics, information systems and coordination of software and hardware
Focus on large scale and high cost projects	↔	Focus on cost/benefit issues, gradually improve efficiency, service quality and system performance.
Limited impact evaluation	↔	Strengthen impact evaluation and revise as necessary to minimise adverse environmental, social, economic harms and maximise benefits.

5.2. The Central Government should a) enable city governments to raise sufficient and sustainable local sources of revenue to fund local public transport companies and b) provide targeted financial support for specific projects.

China's local public transport infrastructure construction and public transport companies are severely underfinanced. Public transport fares in most Chinese cities are lower than the cost price, and the government subsidies are insufficient. Consequentially the public transport companies do not receive enough funding, making it impossible to provide the high quality and stable public transport services that could attract new passengers.

Cities should be able to raise adequate funds locally through new forms of taxes, e.g. local income taxes, sales taxes and the planned land value property tax, as well as parking charges, vehicle plate auction income, and possible congestion charges and other fees on road users, city maintenance and construction fees.

Box 5-1: International case—public involvement and transport congestion policy implementation

In the 1950s, Sweden proposed to collect congestion charges in the heavily congested areas in downtown of Stockholm, and actually implemented the measure in 2006. The congestion in the downtown area was greatly alleviated. A year later the city let the citizens decide, through referendum, whether to continue the charging. The result was that 52% of the voters favored the policy. Since 2007 Sweden approved laws to authorize the city government to collect congestion taxes as necessary. At present 60%-70% of the Stockholm citizens favor the measure. Other cities in Sweden that have serious congestion problem are also considering implementing congestion charges. Sweden's second city Gothenburg started congestion charging on the 1st January 2013.

Support green transport investments in cities by: 1) enhancing existing transfer payments from central to local governments, i.e. adding urban public transport related indicators to the Transportation Standard Financial Expenditure of the Ministry of Finance's annual Central to Local Government Equalization Transfer Payment Methods; 2) establishing a specific central government fund for Urban Public Transport, which should also be available to fund complementary non-motorized transport investments, and fund this with revenues from the motor fuel tax system, the annual increase of the vehicle purchase tax, and/or the increment of pollution management charges, 3) enabling cities to improve public transport systems with funds drawn from the increment of the urban public transport fuel subsidy implemented in 2009; 4) shifting the fuel tax collection from a fixed amount of tax to an ad valorem basis, so that fuel tax income increases as fuel prices rise, and optimize the fund allocation formula for 'growth subsidy transfer payment'.

The central fund should mainly support high capacity public transport, non-motorized transport modes, comprehensive passenger transport hubs, low energy consuming transportation equipment purchase and updating, and intelligent public transport.

Strengthen central government guidance on the public transport pricing mechanism in different types of cities in China to eliminate the deficit of the urban public transport companies caused by low fares. Public transport should be incorporated into *the Fare Catalogue of NDRC* and related departments of the State Council. The Government should develop public transport fare adjustment methods and guide the city governments to ensure stable funds for public transport companies. The Central Government should furthermore encourage local governments to ‘contract out’ or franchise transport services with performance requirements, incentives, and penalties to ensure the provision of stable and high quality public transport services according to the contract. The Central Government should formulate guidance linking costs to fares and subsidies which should be sensitive to service quality and income inequality.

The Ministry of Finance (MoF) should establish a management system for the central fiscal fund that promotes green travel as well as monitor and appraise the usage of the fund. The MoF should ensure that the fund is used to increase the share of urban green travel, and is linked with green travel related planning. Funding for large urban transport infrastructure construction projects should be subject to a rigorous cost-benefit analysis comparing alternative plans for meeting their green travel objectives. Central funds shall be mostly used to support the following fields: mass transit, noon-motorised transport, integrated passenger transport hubs, environmental friendly transport vehicle updates, and intelligent public transport construction. Infrastructure projects must be accompanied by complementary green travel supporting measures.

Box 5-2: International case—sources of the U.S. Federal Government public transport fund

The Federal Government of the United States established the Highway Trust Fund in 1956, and the Mass Transit Fund in 1982, and increased the gas tax with dedication of a portion of the revenue stream to a new Mass Transit Account that supports 50% to 80% of urban public transport construction costs, bus procurement, and other programs. The rest of the costs are covered by the state and city governments. This federal transportation funding covers less than 20% of the total spending by all levels of government on transportation. However, it provides a foundation for federal planning regulations that ensure state and metropolitan level coordination of transportation with land use plans and the conformity of transportation plans and programs with air quality plans designed to protect public health.

5.3. The State Council should establish policy guidelines for the ‘Rational Use of Vehicles and Road Space’ to reduce congestion and air pollution, and provide access to a range of transport modes.

It is recommended that the State Council policy guidelines should require inter alia:

i) Public transport, walking and cycling should have clear priority in the allocation of city road space,

ii) The definition of official vehicles should be broadened to include vehicles of state owned institutes, state owned or state-holding companies; and strict limitations on official vehicle numbers and rules for the use of official vehicles should be issued,

iii) Free private parking spaces should be reduced or charged/taxed and parking charges, with differential charges to reflect local conditions, should be introduced,

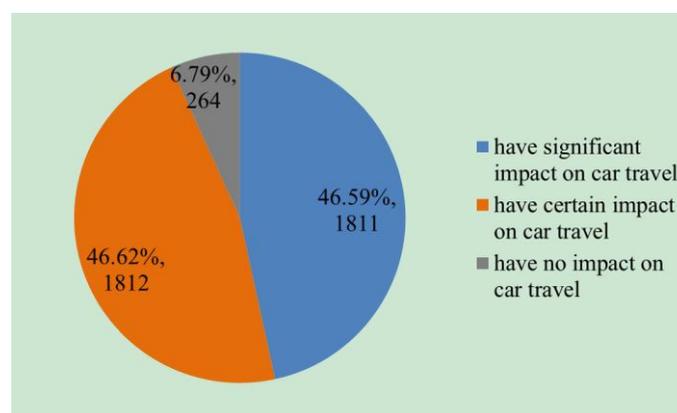
iv) Road user charges should be encouraged in congested areas during congestion hours in major cities, and rational limitations on car ownership be implemented according to city circumstances,

v) Each city must have the final say on the best mix of policy instruments to meet agreed objectives.

It is normal in many Chinese cities that private cars are given more road resources, which together with low variable costs, leads to very high usage, causes congestion and air pollution. As a consequence, green travel modes are less attractive.

Evaluation of expected policy impacts: The Analysis of Green Travel in China included an online survey on the *expected* impact of the car restraint policy. Consistent with international experience, the survey shows that more than 93% of the interviewees agree that implementing parking charges in congested areas will have an impact on car travel (see Figure 5-1). Furthermore, a survey on policies of plate number restriction and purchase restriction shows that around 80% of the interviewees think that the policies have impacts on car travel. Among the interviewees, around 25% think that plate number restriction will restrain car travel. However; around 32% think that plate number restriction will lead people to buy a second car (confirmed by international experience). It is therefore suggested that the government should be cautious about implementing number plate restriction (see Table 5-2).

Figure 5-1: Raising Parking Charges²³



²³Green Travel Survey Report 2013

Table 5-2: Plate Number Restriction and Purchase Restriction²⁴

impact evaluation	Number	Proportion
plate number restriction will lead people to buy a second car	1245	32.3%
plate number restriction will restrain car increase	963	24.77%
purchase restriction has impact on car purchase	899	23.13%
plate number restriction has no impact on car purchase	539	13.87%
purchase restriction has no impact on car purchase	241	6.20%

5.4. The state and city administrations should be required to ensure cross ministry/department coordination, enhance performance appraisal and management accountability, public participation should be encouraged.

There is no coordination mechanism for promoting urban green travel between agencies at neither national or city level. Furthermore, there is a lack of capacity with regards to performance monitoring and management accountability which results in different and often inconsistent policies for urban planning, transport, environmental protection and land use.

(a) The State Council should set up a coordinating mechanism within the Central Government to promote urban green travel, led by the Vice Premier. This unit should be responsible for urban green travel strategy, including funding, planning and design of regulations; organisation and coordination of key practices such as congestion management, air quality improvement, accidents management, enforcement etc.; and ensure conformity between the urban transport development, land use and environmental protection goals. **Strengthen the integrated transport planning and Transport Demand Management (TDM) policy coordination of the economic zones (Yangtze River Delta, the Pearl River Delta, and the Beijing-Tianjin-Heibei area etc.) and city clusters.**

(b) The Ministry of Transport should set up a Bureau of Urban Passenger Transport Management. The objective of the Bureau should be to strengthen regional and municipal comprehensive transport planning, public transport planning, construction and operation, and transport safety management. The proposed Bureau will also play an important role in coordinating the management of urban congestion, transport air pollution, and the popularization and application of intelligent public transport and information systems. The proposed Bureau will compile, monitor, and evaluate data to better understand how the benefits and burdens of transportation are distributed among the population and across the economic zones to support the development of more effective and equitable long-term policies and programs.

²⁴Green Travel Survey Report 2013

Box 5-3: International case—public transport management system and reform

The U.S. Federal Transit Administration (FTA) is one of the thirteen functional agencies of the U.S. Department of Transportation and comprises 500 employees. The FTA aims to establish high quality transit in the U.S, and ensure motorization for everyone and livability of communities through proper guidance of works, technical support, and financial resources. Its responsibilities cover not only transit construction and operation, but traffic demand management. Also, the FTA works to ensure the conformity between transit development and air quality management.

The European Commission has set up the Directorate-General for Mobility and Transport (DG MOVE). The main objective of the DG MOVE is to ensure that the European transport system supports the broader EU social, environmental protection, economic development policies. It drafts necessary laws and funds investments in priority transport projects.

(c) Local governments should set up a coordinating mechanism for promoting green travel. With guidance from central government, following the principles of compact, integrated, and efficient systems, and learning from the experiences of Shenzhen and Zhuhai²⁵, this mechanism should stimulate the development of a comprehensive urban transport management system. The system should promote green travel; strengthen coordination capacities across such areas as road space prioritization, congestion and transport pollution management, secure transport information integration, coordinate traffic accident and transport emergency management, secure transport financing, and carry out education and promotion campaigns. Other obligations should be public transport company management; ensure facilities for people with special needs; evaluate and report publically on progress and provide opportunities for public participation in planning and decision-making.

Box 5-4: China's local transport management system reform. The case of Zhuhai.

In March, 2013, the city of Zhuhai decided to conduct a major reform and established the Municipal Transportation Commission as the coordinating organization. The initiator of the project is the municipal authority leader that is responsible for transport management, and the commission members are 23 representatives from the Zhuhai Transport Bureau, Zhuhai Port Authority, Zhuhai Highway Bureau, Zhuhai Development and Reform Bureau, Zhuhai Finance Bureau, Zhuhai Human Resources and Social Security Bureau, the Land and Resources Bureau of Zhuhai, Zhuhai Bureau of Housing, Urban and Rural Planning and Construction, Zhuhai Bureau of Ocean, Agriculture, Fishery, and Water.

(d) To strengthen performance evaluation and accountability, and encourage public involvement, the State Council should instruct the MoT to establish a National Green Travel Index Monitoring Mechanism for Central Cities.,

²⁵ http://epaper.oeeee.com/N/html/2013-06/19/content_1877774.htm

Provincial governments should guide city governments to establish a ‘Green Travel Index Monitoring and Reporting Mechanism’ and the data should be publicly available. Clear, accurate and comparable data should be published and be available to citizens, on a city by city basis, covering air pollution, road injuries and deaths and public transport performance. This will improve transparency and accountability of city managers as well as encourage public interest and participation in green urban travel.

Relevant departments should be coordinated to conduct a ‘Central City public transport development performance evaluation’, and a ‘national green travel city appraisal’. **The level and quality of green travel provision should be a criterion in the performance evaluation and promotion of city officials and mayors.** Furthermore, it should guide the local government to establish urban transport planning, Transport Demand Management, TDM, policy development (including vehicle restriction, car purchase restriction, congestion charging, low emission zone, etc.), and public involvement mechanisms.

5.5. The central government should amend legislation on *Urban Public Transport Regulation and Law of Air Pollution Management* to require local governments to fulfil their duties to promote green travel.

There are no public transport related laws in China. This results in a disconnect between urban transport development and environmental protection. The transport and environmental protection agencies at the state and city levels have been operating separately instead of working together. The fact that *Urban Public Transport Regulation* and the *Law of Air Pollution Management* have been included in the work plan of the State Council provides an opportunity to rectify this problem.

The Urban Public Transport Regulation should clearly emphasize the conformity of city comprehensive planning with coordinated land use and urban transport planning. It should also include a legal requirement for transport impact evaluation, and include Transport Demand Management and traffic safety in urban public transport planning.

Box 5-5: International cases—laws and regulations related to promoting green travel

The US Federal-Aid Highway Act of 1973 specified the procedures and arrangements of transportation planning. It also specified the members of the Metropolitan Planning Organization (MPO), and required that the MPO develop long-term Metropolitan Transportation Plan (MTP), mid-term Metropolitan Transportation Improvement Program (MTIP), and the Unified Planning Work Program (UPWP) that are comprehensive, cooperative & continuing (the ‘3C’), and use these programs as the preliminary conditions for applying for the federal funds. These requirements have been refined and strengthened over time through the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and subsequent legislation. The latest US federal transportation law, MAP-21, passed in 2012, retains these important reforms from decades ago, along with new requirements for transportation system performance monitoring.

The *Law of Air Pollution Management* should contain provisions for the control of

urban transport pollution and emissions, which should a) be included in urban transport planning; b) require the establishment of an urban transport pollution monitoring system; c) require that monitoring data are available to the public and d) require that the use of central fiscal funds is connected with the control of urban transport pollution and traffic safety, and is in line with goals for transport development and environment and air quality management and, e) allow city government to implement congestion charges, low emission zones, etc. The net income raised shall be used to develop walking, cycling, and public transport.

5.6. The Central Government should select different types of cities to organize and implement a series of Demonstration Projects Promoting Urban Green Travel.

While the urbanization and motorization are rapidly developing, Chinese cities have little experience of how to implement green transport in an integrated and coordinated way.

The Central Government should take the lead in implementing a demonstration program showing new and improved ways of providing green urban transport by combining international experience with practices of Chinese cities promoting green travel. The State Council should appoint the Ministry of Transport as the leading department to organize related departments to select appropriate cities in which to conduct the following projects: 1) street-space reallocation to prioritize public transport, walking and bicycling, and to improve the street environment; 2) implement the Smooth Public Transport Project to attract more people to take buses; 3) select megacities like Beijing and Shanghai to set up congestion and Low Emission Zones, conducting research on implementation of such zones and drafting national principles for establishing urban congestion and Low Emission Zones; 4) establish and pilot a Transport Pollution Monitoring, Evaluation and Publishing System, in areas like Beijing, Tianjin, Hebei, and the Yangtze River Delta.

Box 5-6: International case— EU CIVITAS urban mobility demonstration program

The European Union funds the CIVITAS initiative to demonstrate and improve transport measures and policies in order to create cleaner and better transport in cities. CIVITAS has helped introduce numerous innovations and 650 measures that have already made transport more eco-friendly in over 60 European 'demonstration cities'. The EU has invested well over EUR 200 millions. The UK, Germany, Stockholm and Milan have adopted policies to re-allocate road space (i.e. provide non-motorized transport and public transport with more space), and have set up congestion charging areas and low emission zones. These actions have greatly promoted green travel, and alleviated congestion and air pollution. Germany started the Black Carbon Free initiative, and reduced vehicle pollution through setting up low emission zones. At present there are 54 low emission zones (850 km²) in Germany alone and hundreds more throughout Europe.

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Participant List of the CCICED 2013 AGM

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