

# 中国环境宏观战略研究与 中国环保新道路

Macro Strategic Study on China's Environment and a New Path to  
Environmental Protection

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# 主要内容 Content

- 一、项目概况 Project Overview
- 二、环境形势评价 Assessment of Environmental Situation
- 三、环保新道路 A New Path to Environmental Protection



# 一、项目概况 Project Overview

- 2007.2 国务院批准 Approved by the State Council in Feb. 2007
- 中国工程院和环境保护部牵头 Led by Chinese Academy of Engineering and MEP
- 2007.5 正式启动 Launched in May 2007
- 约50位院士、700余位专家参加了项目研究工 50 academicians and 700 experts participated in the research
- 2009.7 国务院领导听取汇报 State Council leaders listened to the report in July 2009



## 项目领导小组 Leading Group

组 长：徐匡迪，全国政协原副主席、  
中国工程院院 长， 院士

Chair: Xu Kuangdi, former Vice Chair of CPPCC, President and Academician of Chinese Academy of Engineering

副组长：周生贤，环境保护部部长  
潘云鹤，中国工程院常务副院长、院士  
祝光耀，原环保总局副局长  
丁仲礼，中国科学院副院长、院士

Vice Chairs: Zhou Shengxian, Minister of MEP  
Pan Yunhe, Executive Vice President and Academician of Chinese Academy of Engineering  
Zhu Guangyao, Vice Minister of former State Administration of Environmental Protection  
Ding Zhongli, Vice President and Academician of Chinese Academy of Sciences

专家领导小组组长：沈国舫 中国工程院

Chair of Expert Group: Shen Guofang, Chinese Academy of Engineering



# 项目领导小组成员单位

## Member of the Leading Group

共19个部门和单位：

19 ministries and institutions：

中国工程院、环境保护部

Chinese Academy of Engineering, Ministry of Environmental Protection

全国人大环资委、全国政协人资环委

Environmental Protection and Resources Conservation Committee, NPC, the Committee of Population, Resources and Environment, CPPCC

外交部、发展改革委、科技部、财政部、国土资源部、建设部、水利部、农业部、商务部、卫生部、税务总局、海洋局、法制办、中科院、社科院

Ministry of Foreign Affairs, National Development and Reform Committee, Ministry of Science and Technology, Ministry of Finance, Ministry of Land and Resources, Ministry of Housing and Urban-Rural Development, Ministry of Water Resources, Ministry of Agriculture, Ministry of Commerce, Ministry of Health, State Administration of Taxation, State Oceanic Administration, Office of Legislative Affairs, Chinese Academy of Sciences and Chinese Academy of Social Sciences



中國工程院  
Chinese Academy of Engineering



中华人民共和国环境保护部  
Ministry of Environmental Protection of the People's Republic of China



**2007年5月11日，曾培炎副总理出席启动会讲话**  
**Former Vice Premier Zeng Peiyan attended the**  
**launching ceremony on May 11, 2007**

# 境宏观战略研究领导小组第二次会议

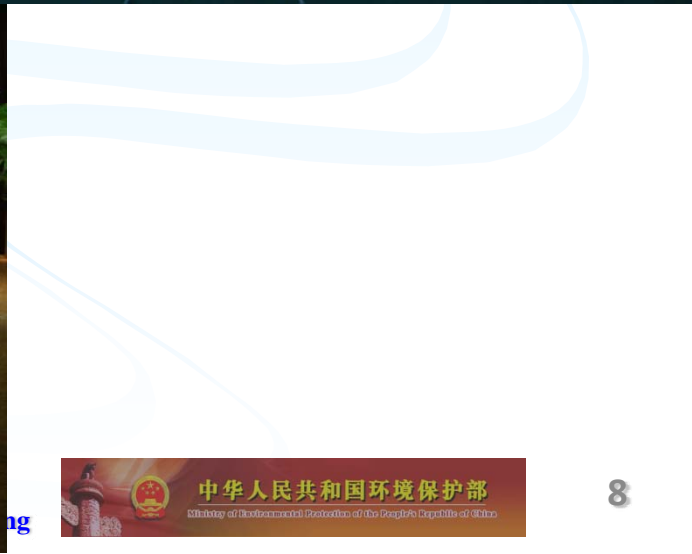


**2009年3月16日，项目召开领导小组第二次会议**  
**The 2nd meeting of the leading group was held on Mar. 16, 2009**



2008.8.28,  
“两委”论  
证

Review by the  
two Boards on  
Aug. 28, 2008





# 2009.7.21 李克强同志听取宏观战略汇报并讲话

Vice Premier Li Keqiang listened to the report on macro strategic study and made remarks on July 21, 2009



# 取得丰硕成果

## Fruitful Results

- 综合报告 Summary report
- 汇报要点 Outlines of report
- 四个课题报告 4 Task Force Reports
- 29个专题报告 29 special reports
- 七个地方报告 7 local reports



# 二、中国环境形势评价

## Assessment of Environmental Situation



# 环保工作取得积极进展

## Positive progress of environmental protection

### 污染防治由被动应对转向主动防控

Pollution control turned from passive response to proactive management

- 2007、2008、2009年，全国化学需氧量与二氧化硫排放量连续“双下降” Both COD discharges and SO<sub>2</sub> emissions reduced in 2007, 2008 and 2009
- 生态保护和建设成效显著 Remarkable achievement in ecological conservation and development
- 核与辐射环境安全基本处于受控状态 Nuclear and radiation environmental safety is basically kept under control
- 环境国际合作取得进展 Progress has been made in environmental international cooperation



# 2009. 3. 政府工作报告：

## Report on the Work of Government in Mar. 2009

### 2008年比2005年：

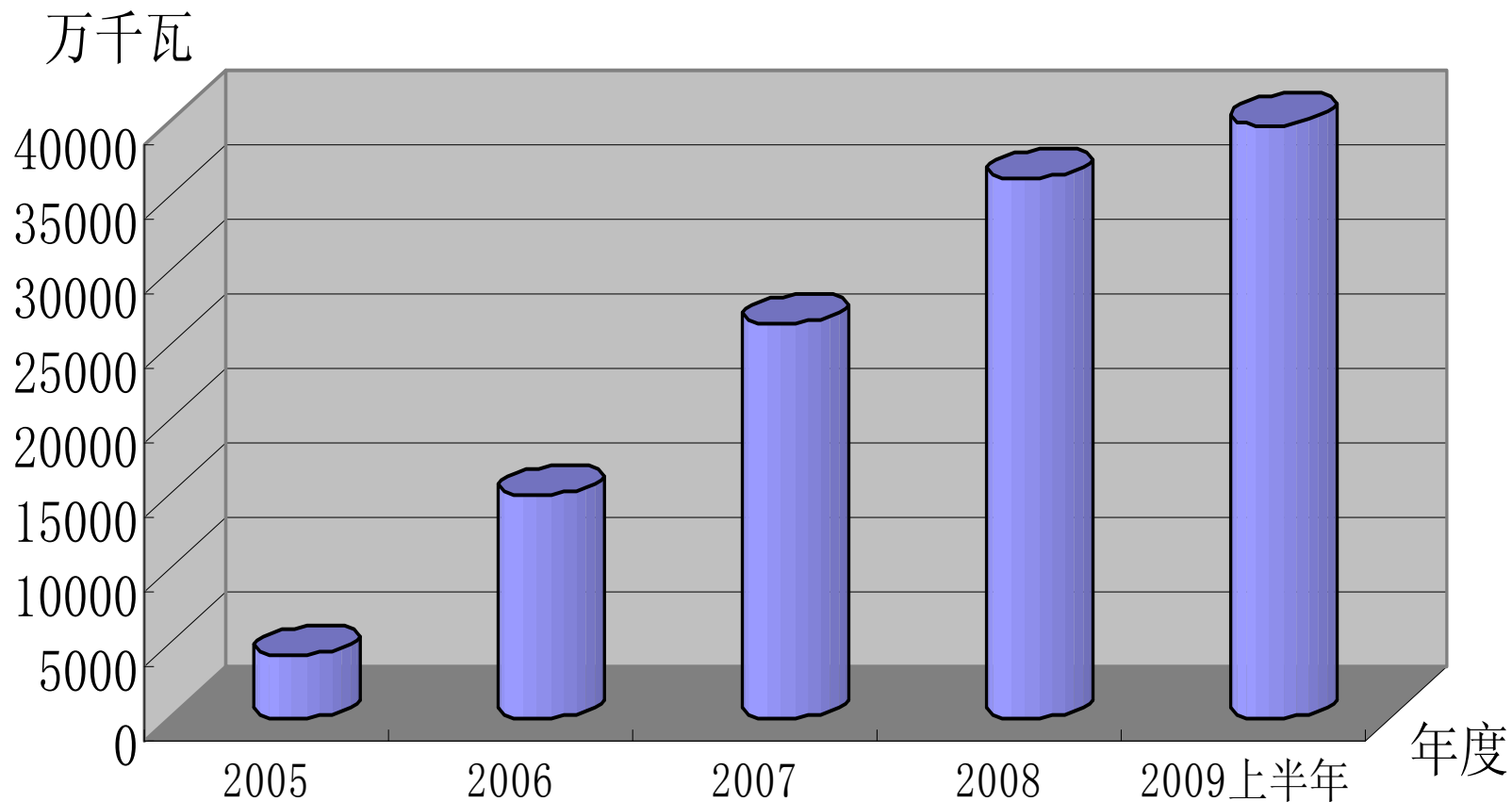
Figures of 2008 as compared with that of 2005:

二氧化硫排放量下降**8.95%** SO<sub>2</sub> emissions down 8.95%  
化学需氧量排放量下降**6.61%** COD discharges down 6.61%  
单位生产总值能耗下降**10.08%** energy consumption per unit of  
GDP down 10.08%



# 燃煤电厂烟气脱硫机组装机容量大幅增加

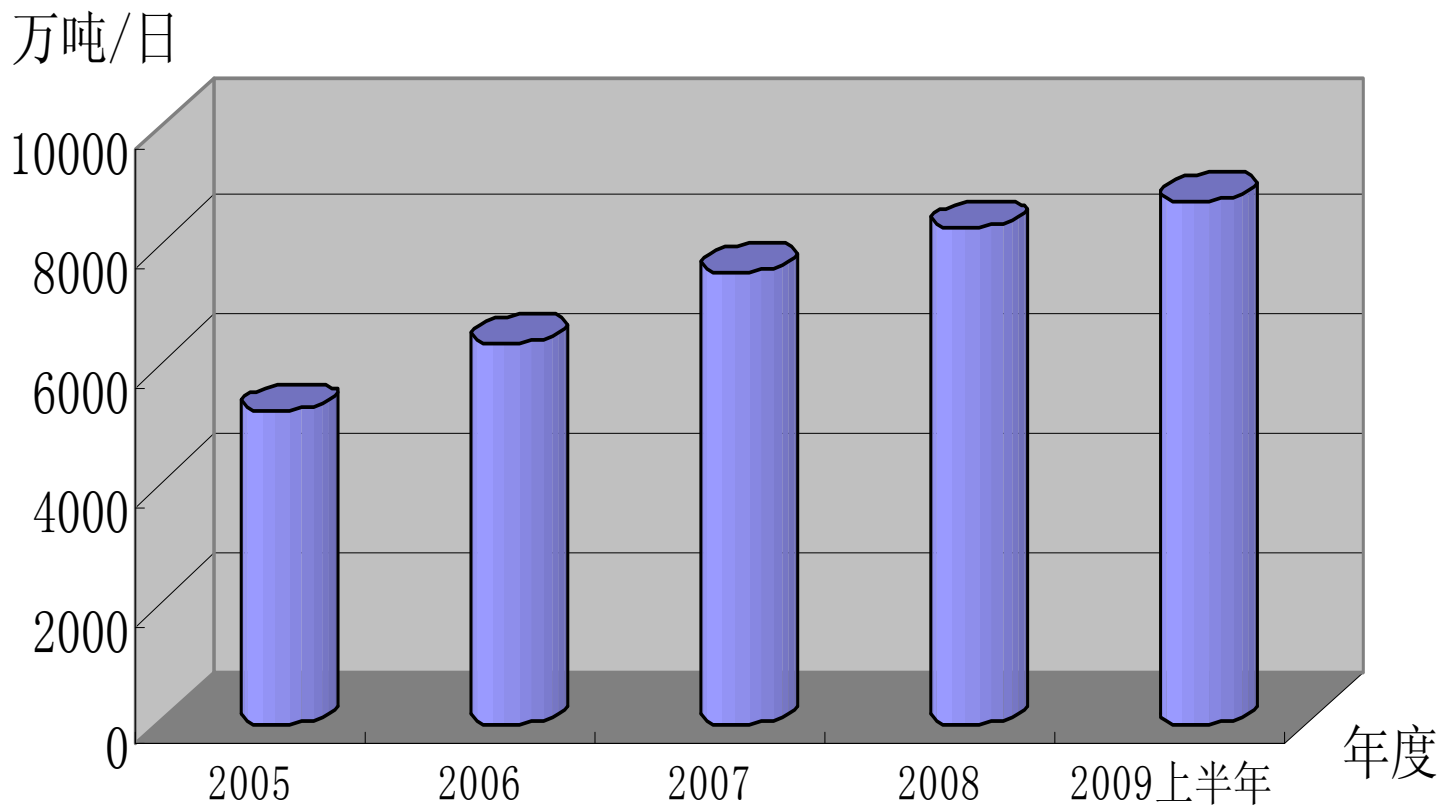
Sharp increase of installed desulphurization units in coal-fired power plants



2005-2009年上半年全国脱硫燃煤发电机组装机总量对比图

# 污水处理能力快速提高

Rapid improvement in sewage treatment capacity



2005-2009上半年全国城市生活污水处理能力对比图

# 生态保护和建设得到加强

## Improvement in ecological conservation and development

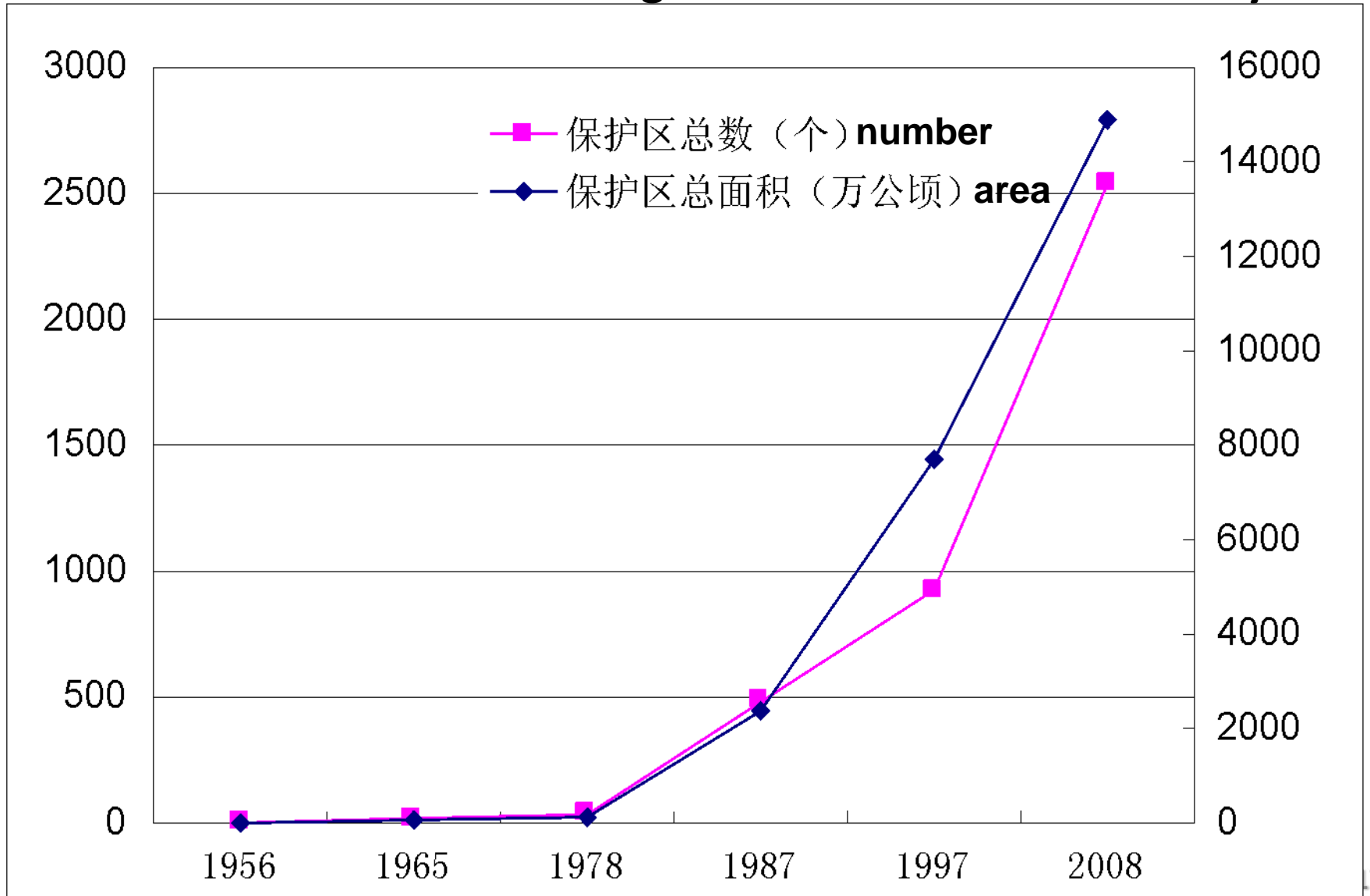
- 森林覆盖率上升到20% forestry coverage rate increased to 20%
- 荒漠化扩展趋势得到初步遏制 trend of expanding desertification preliminarily curbed
- 治理水土流失面积近百万平方公里 about 1 million sq. km. land suffering from soil erosion kept under control
- 建立国家级生态功能保护区14个 14 national eco function protection zones established





# 自然保护区占国土面积15.2%

nature reserves accounting for 15.2% total land territory



# 环境形势可概括为

## Overall environmental situation

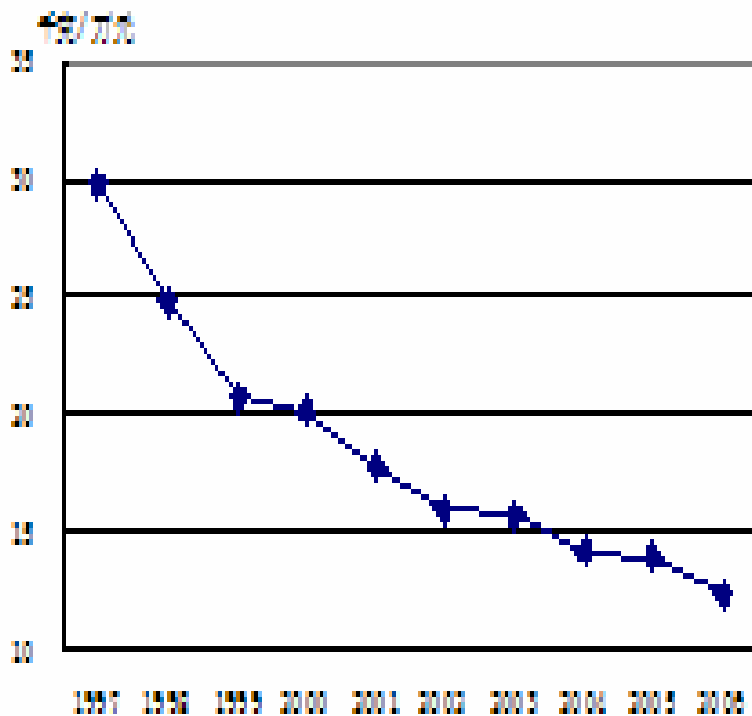
- 局部有所改善 improvement in some areas
- 总体尚未遏制 overall degradation failed to be controlled
- 形势依然严峻 the situation remains grave
- 压力继续加大 pressure continues to increase



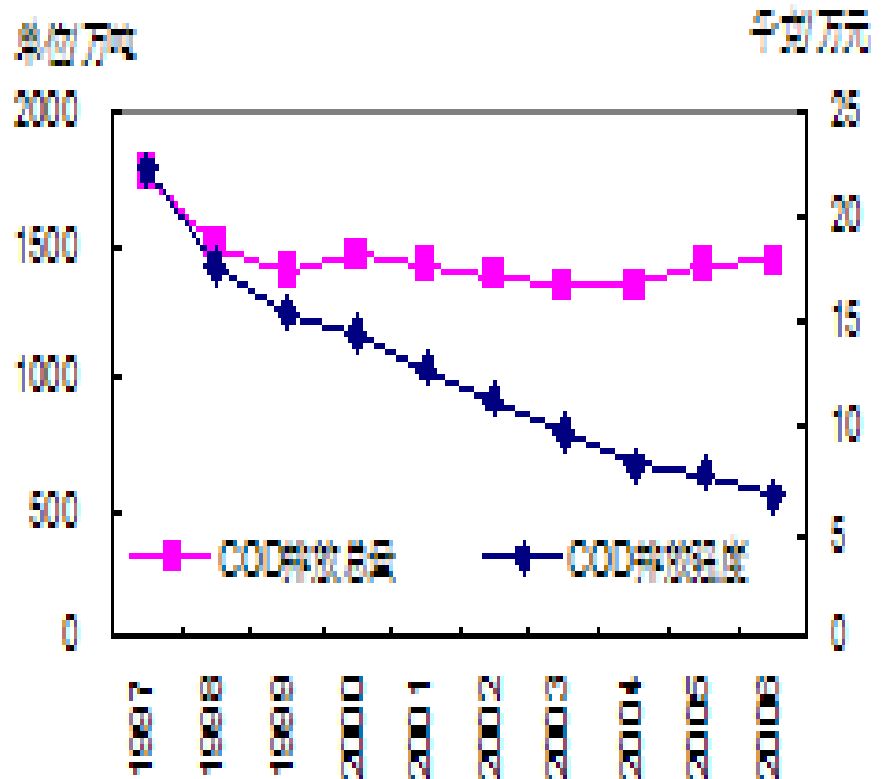
# (一) 局部地区和行业的部分

## 1. Improvement in some areas and industries

环境指标有所改善 improvement in environmental indicators



全国SO2排放强度的年际变化  
Year-to-year changes of national SO2  
emission intensity



全国COD排放量和排放强度的年际变化  
Year-to-year changes of national COD discharges and intensity

# 重点行业排放强度明显下降

dramatic drop of discharge intensity in key industries

十年间 In 10 years

89%

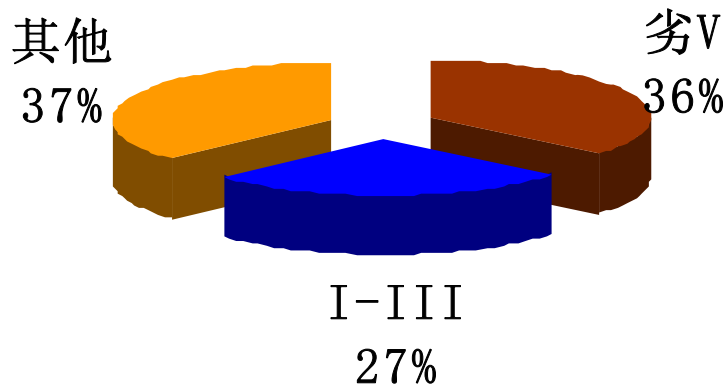
造纸及纸制品业  
Paper making and paper products

70%

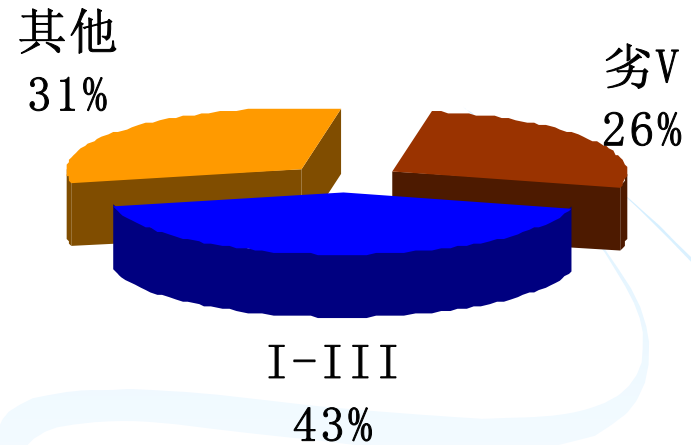
黑色金属冶炼  
及压延加工业  
Ferrous metal smelting of & pressing

# 重点流域主要污染物污染程度有所减轻

pollution caused by major pollutants reduced in key river basins



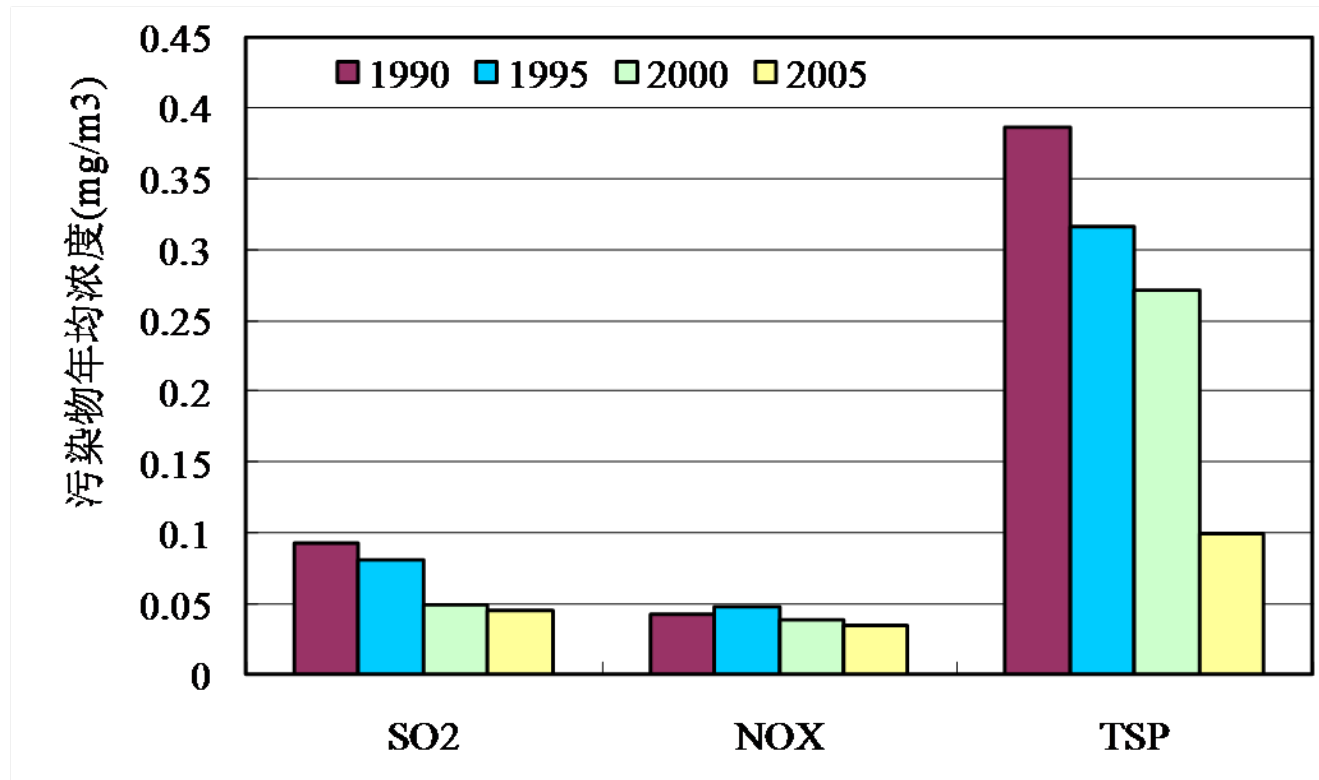
1996年地表水国控断面水质类别比例  
Surface water quality of sections under national monitoring in 1996



2007年地表水国控断面水质类别比例  
Surface water quality of sections under national monitoring in 2007

# 城市常规监测污染指标有所下降

Regular urban monitoring indicators decreased



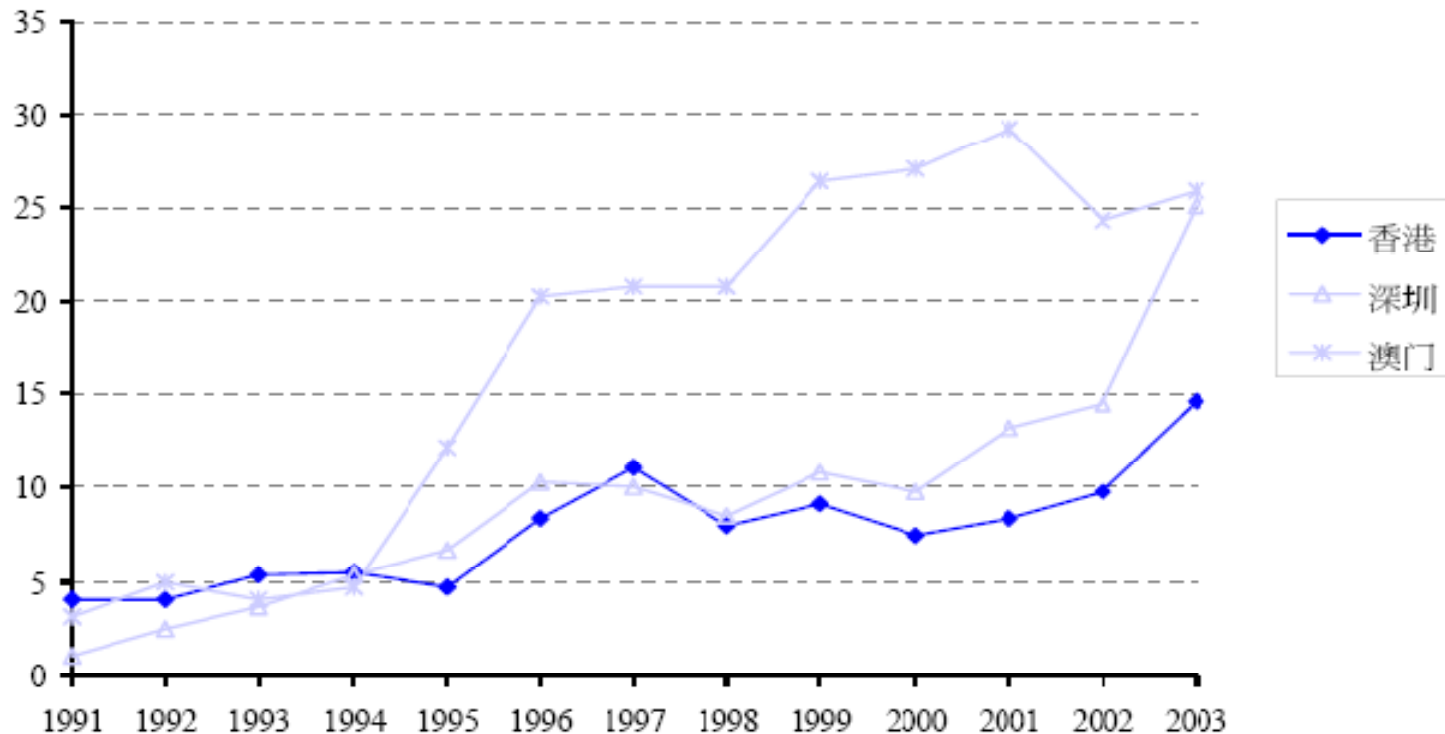
1990年~2005年我国城市大气污染物浓度变化  
Changes of urban air pollutant levels from 1990 to 2005

# (二) 环境恶化状况尚未得到根本遏制

## Environmental worsening not fundamentally contained

### 城市空气质量退化 Urban air quality worsened

能见度低于 8千米的时间百分比



1990~2003年珠江三角洲地区能见度低于8km的时间百分比

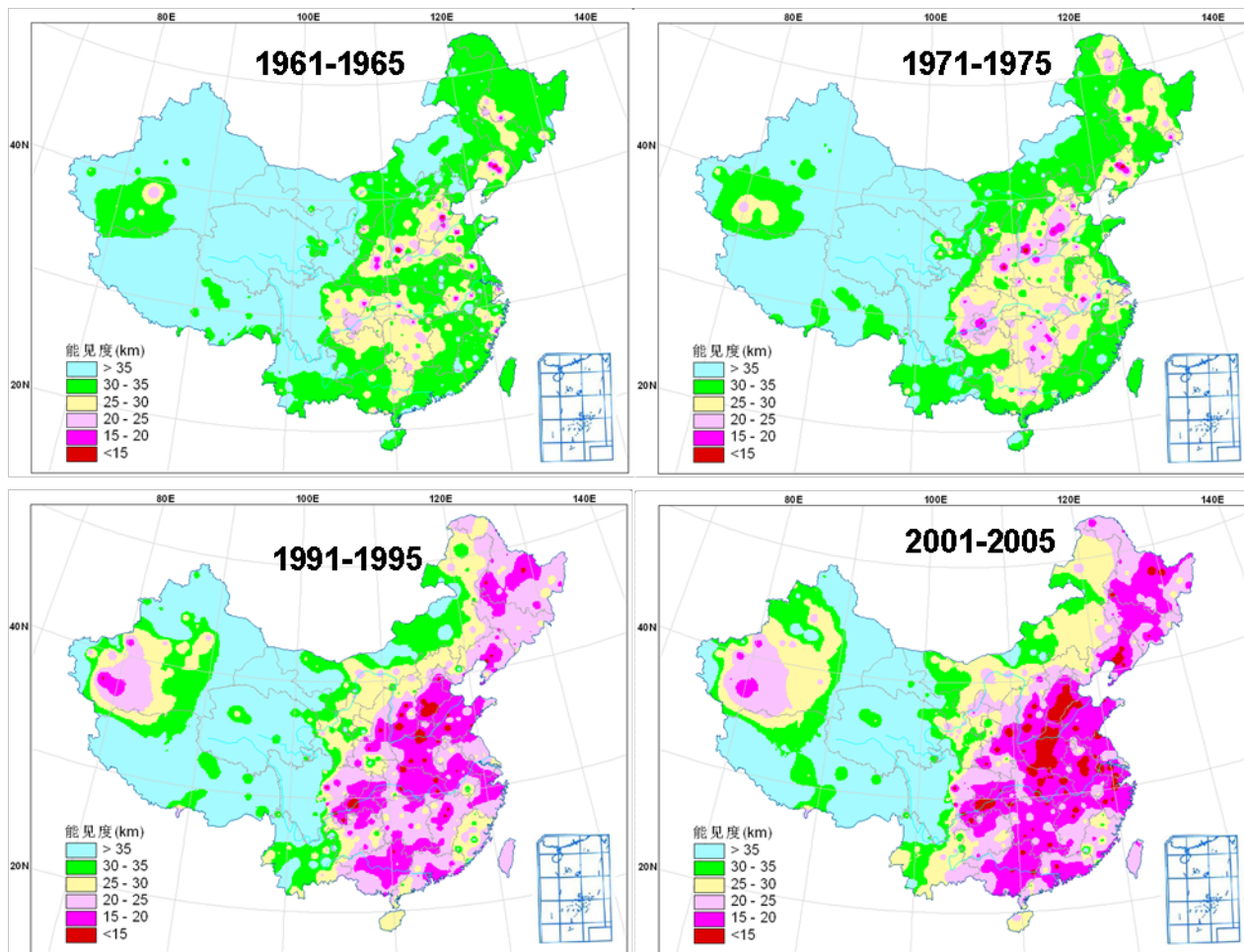
Proportion of foggy days with visibility less than 8 km in the Pearl River Delta from 1990-2003



近50年来区域霾问题日趋严重

Haze in regional scale has become more serious in the past 50 years

区域臭氧浓度和细颗粒超标现象明显 Regional concentrations of ozone and fine particles far exceed standard



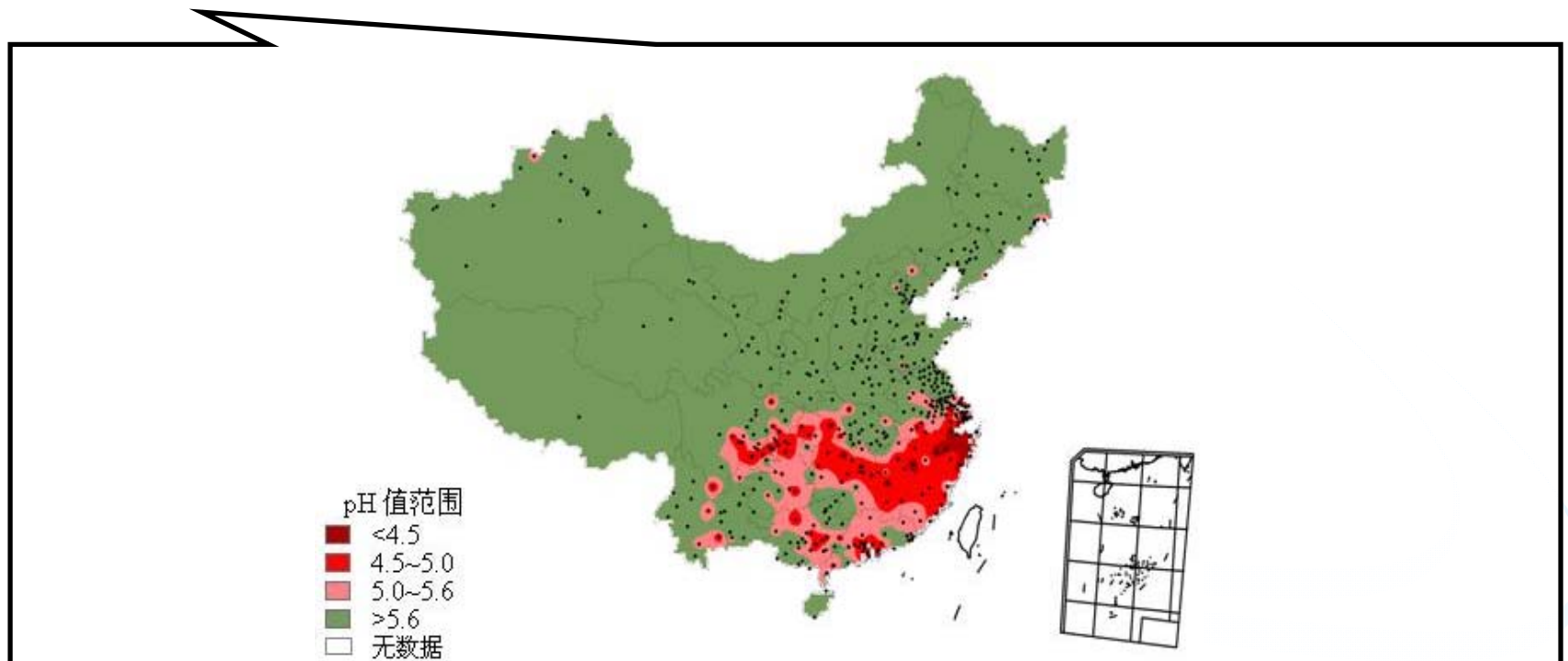


## 酸雨污染问题依然突出

Acid rain pollution still stands out

复合污染呈现恶化和蔓延趋势

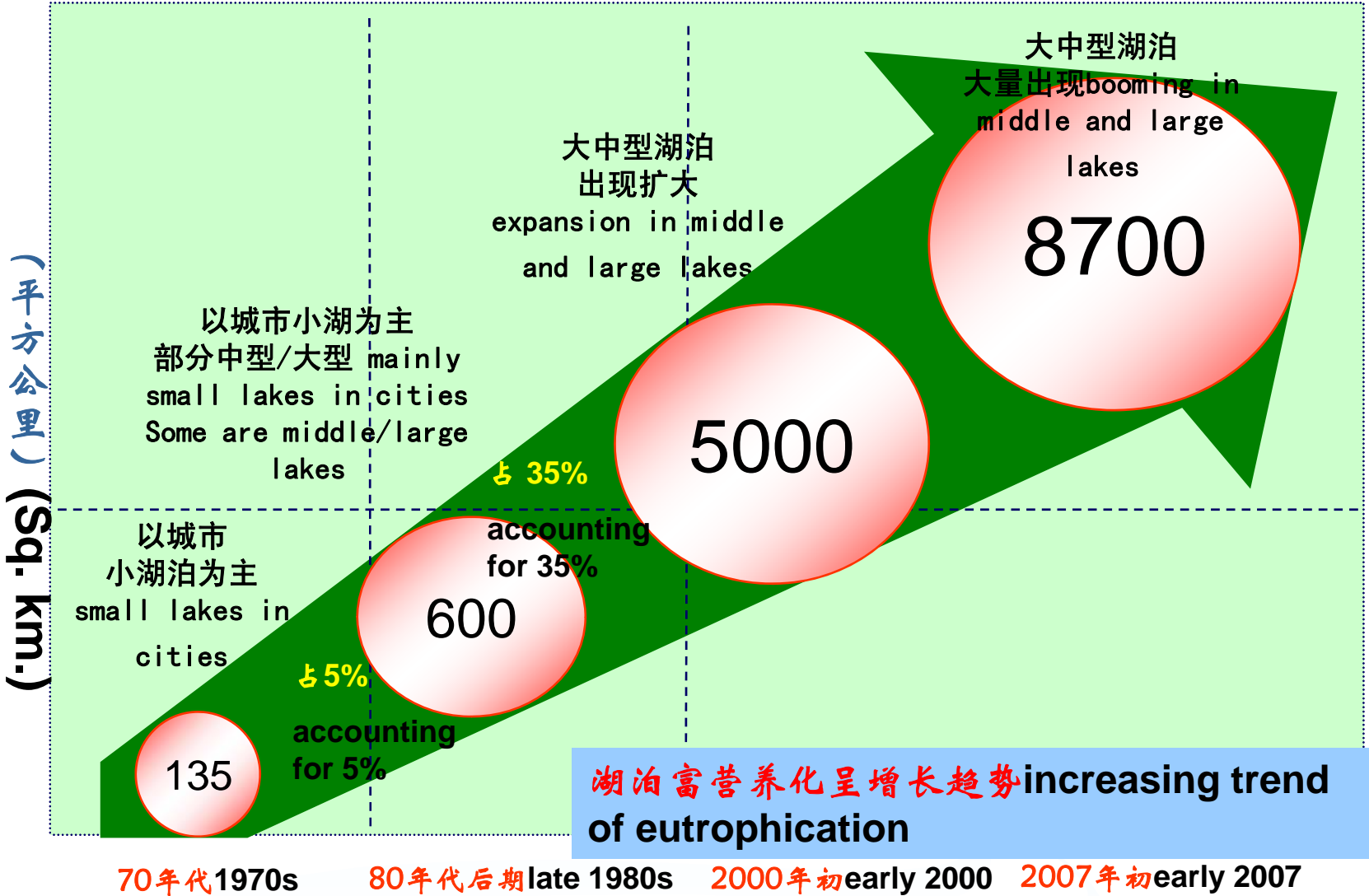
Compound pollution is deteriorating and spreading



- ◆与2005年相比，全国酸雨分布区域基本稳定
- ◆Distribution of acid rain remains stable compared with that of 2005
- ◆重酸雨区面积略有增加
- ◆Area with heavy pollution of acid rain increased

水环境呈现复杂的流域性污染态势 Water environment is exhibiting a complicated trend of pollution in river basin scale

湖泊富营养化面积 Area of lake eutrophication



湖泊富营养化呈增长趋势 increasing trend of eutrophication

70年代 1970s    80年代后期 late 1980s    2000年初 early 2000    2007年初 early 2007

# 土壤环境质量退化

soil environment is degrading

- 土壤污染表现出源多、量大、面广、持久、毒害性强等特征 Soil pollution is characterized by multiple pollution sources, large amount of pollutants, widespread coverage, persistent and strong toxicity
- 因污染退化的耕地数量不断增加，受污染的耕地面积达1.5亿亩 The area of degraded farmland caused by pollution continued to increase and reached 150 million mu

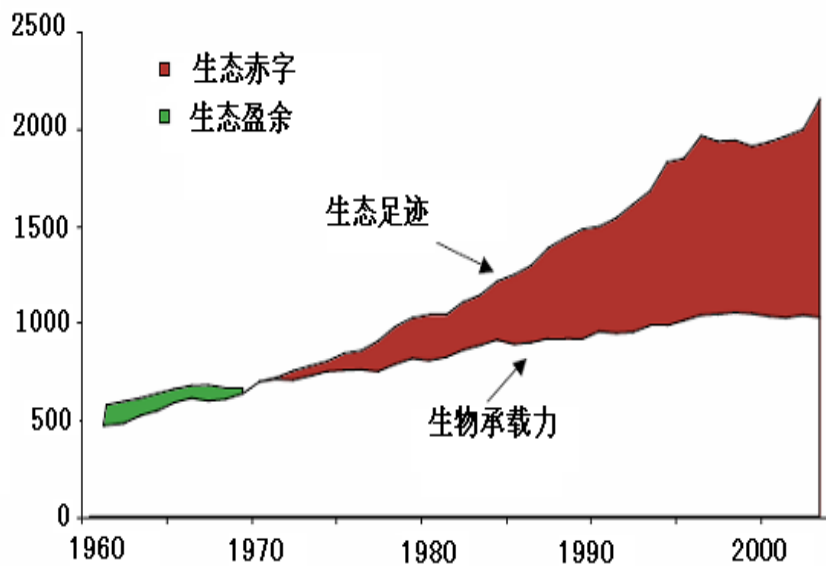


# 生态系统更加脆弱

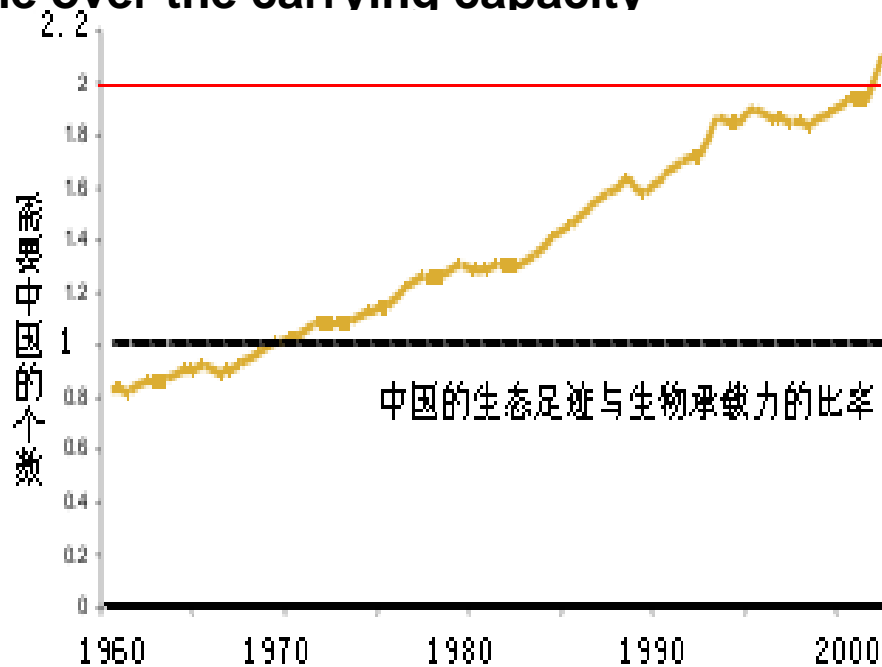
## Increasingly fragile ecosystems

我国生物承载能力人均0.79全球公顷，生态足迹已达1.65全球公顷人均超出可承载能力1倍以上 China's per capita biological carrying capacity is 0.79 global hectare and that of eco footprint is 1.65 global hectare, more than one time over the carrying capacity

中国的生态赤字 (1961-2003)



全球公顷常数 (2003年)



中国的生态足迹与生物承载力的比率



# 环境事故频发

Frequent occurrence of environmental accidents





# 环境群体性事件增多

Mass environmental accidents on the rise



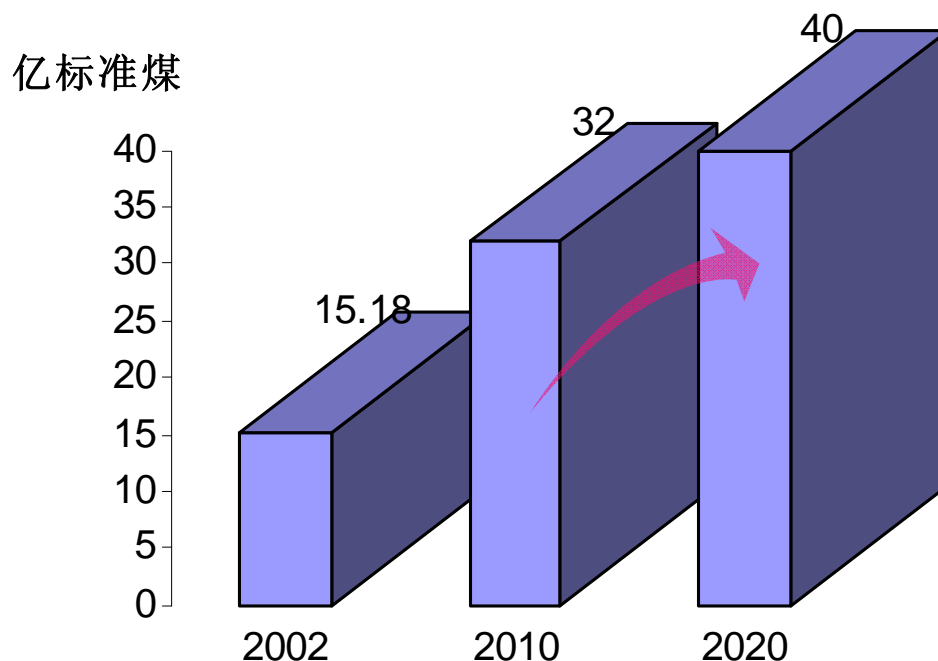






- 环境容量相对不足、经济快速发展、资源能源消耗持续增长，我国环境资源将面临更大的压力 Inadequate environmental capacity, rapid economic development and sustained growth of energy and resource consumption contribute to growing pressure on environment and resources

## 能源需求变化预测



# 三、中国环境保护新道路

## A New Path to Environmental Protection



# 探索环境保护新道路

## Exploration of a new path to environmental protection

当前我国正处在工业化、城市化和农业现代化的快速发展阶段，环境保护任重道远。The tasks of environmental protection are arduous as China is experiencing rapid development of industrialization, urbanization and agricultural modernization.

在新形势下我们必须继续深入探索符合科学发展观要求的中国环境保护新道路Under the new circumstances we must constantly explore a new path to environmental protection in line with Scientific Outlook on Development.

这是中国特色的国情和发展阶段所决定的This is determined by China's national conditions and development stage.



# 环境保护新道路的内涵

## Connotation of the new path to environmental protection

- 环境问题是民生的根本问题 Environmental issues are fundamental to people's well being
- 环境问题也是发展方式问题 Environmental issues also concern the mode of development
- 环保推进历史性转变 Promoting historic transformation of environmental protection
- 环境保护贯穿生产、流通、分配和消费的全过程 Environmental protection is maintained through the whole process of production, circulation, distribution and consumption
- 重要生态系统实行休养生息 Rehabilitation of important ecosystems
- 建设生态文明，实现人与自然和谐 Building ecological civilization and achieving harmony between man and nature

# 环境保护新道路 A new path to environmental protection

## ——框架体系 Framework

- 制定适合国情的环境战略体系 Develop an environmental strategic system fitting into China's conditions
- 建立全防全控的防范体系 Set up a overall defense system for pollution prevention and control
- 健全高效的环境治理体系 Set up a effective environmental governance system
- 完善环境政策法规标准制度体系 Improve environmental policies, regulations and standards
- 构建完备的环境管理体系 Build a full-fledged environmental management system
- 形成全民参与环境保护的社会行动体系 Create a system for public participation in environmental protection



- 全面贯彻落实党的十七大精神，高举中国特色社会主义伟大旗帜，深入贯彻落实科学发展观，以保护生态和改善环境质量为目标，以维护人民群众健康和环境权益为宗旨，以历史性转变为指导，以转变经济发展方式、走可持续发展道路为基本途径，积极探索环保道路，将环境保护的理念渗透到经济社会发展之中，

- 建立全防全控的防范体系；提高环境保护效率与效益，健全高效的环境治理体系；优化和促进经济增长，完善与经济发展相协调的政策法规标准制度体系；调动社会各方面力量参与环保，构建完备的环境管理体系，努力建设人与自然和谐、经济与环境相协调的生态文明社会。
- 概括起来就是：“以人为本，优化发展，环境安全，生态文明”。





# 战略方针 Strategic guidelines

预防为主，防治结合—基本原则

Taking prevention as primary method and combining prevention and control—**basic principle**

系统管理，综合整治—基本方法

Systematic management and integrated improvement —**basic methodology**

民生为先，分级负责—基本要求

Regarding People's well being as the paramount and taking up responsibility at all levels —**basic requirement**

政府主导，公众参与—基本途径

Guided by the government and encouraging public participation —**basic means**



# 阶段目标： Objectives

- 2020年（两个有效）：主要污染物排放得到有效控制，环境安全得到有效保障 By 2020 (two effectiveness): discharges of major pollutants effectively controlled and environmental security effectively guaranteed
- 2030（两个全面）：污染物排放总量得到全面控制，环境质量全面改善 By 2030 (two complete): complete control of total discharges of pollutants and complete improvement of environmental quality
- 2050（两个适应）：环境质量与人民群众日益提高的物质生活水平相适应，与现代化社会主义强国相适应 By 2050 (two compatible): environmental quality compatible to people's increasing living standard and to the status of a strong socialist modern society



# 战略任务 Strategic tasks


- 1、水环境安全 Water environment safety
- 2、能源与大气环境 Energy and atmospheric environment
- 3、控制固体废物污染 Control of solid waste pollution
- 4、工业污染防治与减排 Prevention and control of industrial pollution & pollution reduction
- 5、城市环境保护 Urban environmental protection
- 6、农村环境保护 Rural environmental protection
- 7、生态保护与生态安全 Ecological conservation and eco-security
- 8、核与辐射安全 Nuclear and radiation safety
- 9、应对全球环境挑战 Address global environmental challenges



## 八、对策与措施 Countermeasures

- 1、强化法制建设 Strengthen legal system building
- 2、改革管理体制 Reform management system
- 3、增加环保投入 Increase environmental investment
- 4、创新经济政策 Make innovation in economic policies
- 5、实行分区管理 Separate management of zones
- 6、科技与能力建设 Science & Technology and capacity building
- 7、开展环境教育 Promote environmental education





谢谢!

Thank you!