



中国环境与发展国际合作委员会

CHINA COUNCIL FOR INTERNATIONAL COOPERATION
ON ENVIRONMENT AND DEVELOPMENT

Environmental Strategy and Measure for Transformation of Development Mode in Eastern China

中国东部发展转型中的环境战略与对策

CCICED Special Policy Study

国合会专题政策研究

CCICED 2012 Annual General Meeting

国合会2012年年会

(2012.12.12-14)



Study Objectives

研究目标

Development of a conceptual framework that identifies the crucial factors associated with green development

通过构建概念和分析框架，识别影响绿色发展的关键因素

Review of the economic development trajectory in Eastern China and the associated environmental challenges (e.g. air, water, waste, energy and nature conservation)

分析中国东部地区的经济发展情况及环境挑战（例如：水、空气、废物和自然保育）

Identifying lessons learned from the quantitative and qualitative analysis, and setting out policy recommendations for green development in China

基于定性和定量研究结果，提出促进东部发展转型特别是绿色发展的政策建议

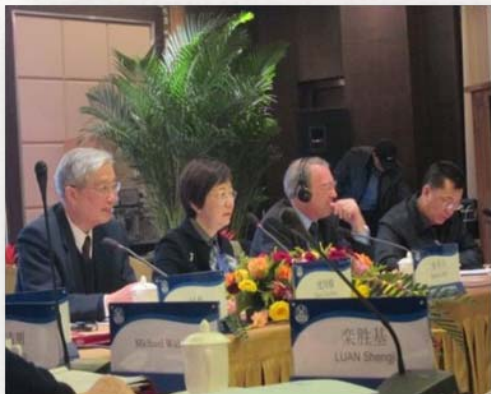
This study focused on the more developed areas in Eastern China, including Beijing, Shanghai and the Pearl River Delta region (as well as Hong Kong) for an in-depth review of their experience in economic restructuring and green development

本研究选定北京、上海和珠江三角洲地区（包括香港特别行政区）进行深入剖析，试图提炼其经济转型及绿色发展的相关经验与教训





Project Meetings 项目会议



Inception Workshop – Beijing (北京)
研究启动会
(9/3/2012)



2nd CHAD-SERI Meeting of CCICED – Beijing (北京)
第二次国合会首席顾问与秘书处联合工作会议
(7/05/2012)



Project Progress Meeting – Shenzhen (深圳)
项目进展研讨会
(11-13/6/2012)



Meeting with experts – Beijing (北京)
與專家访谈与交流
(5/9/2012)



Project Progress Meeting – Beijing (北京)
项目进展研讨会
(7-8/9/2012)



4th CHAD-SERI Meeting of CCICED – Beijing (北京)
第四次国合会首席顾问与秘书处联合工作会议
(10/09/2012)



Study Methodology

研究方法

Desktop research 文献调研

- Builds upon existing CCICED initiatives, e.g. reports on “Development Mechanism and Policy Innovation of China Green Economy” and “Green Transformation of China Economic Development Mode”
- 以国合会近期完成的《中国经济发展方式的绿色转型》和《中国绿色经济发展机制与政策创新》研究为本研究的重要起点
- Literature review on green development and green growth, e.g. reports by OECD, UNEP and World Bank
- 同时调研和分析了经济合作与发展组织、联合国环境规划署和和世界银行等组织近期发布的报告

Quantitative data analysis 定量分析

- Published data of Beijing, Shanghai and the PRD region (including the Hong Kong SAR) on the economic structure and transformation parameters (e.g. GDP, Industrial Output Value, Energy Production and Consumption) and environmental conditions (e.g. Emission Inventories, Waste Water Discharge, Water Quality and Biodiversity)
- 整理了北京、上海和珠江三角洲地区（包括香港特别行政区）的各类经济转型和结构调整的参数（例如：国内生产总值、工业产值、能量产出与消耗等）以及环境质量等方面的数据（例如：废气排放量、废水排放量、水质量和生物多样性等）进行定量分析
- The analysis in our study is constrained by inconsistent data sets in the three areas (different time span, measurement units, etc.)
- 三个地区的部分数据存在时间跨度和统计口径的差异，定量分析在一定程度上受到制约





Study Methodology (cont'd)

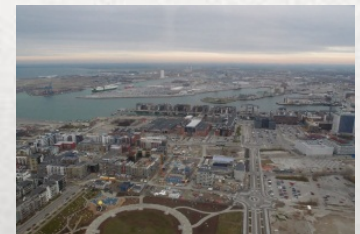
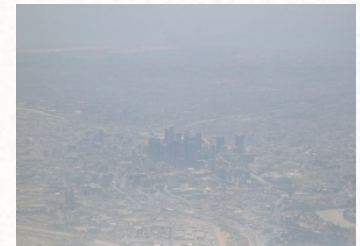
研究方法 (续)

Qualitative and Case study analysis 定性分析和案例研究

- Qualitative analysis on three mega events (namely Beijing Olympics, Shanghai World Expo and Guangzhou Asian Games) to understand their impacts in terms of providing a stimulus for short to long term environmental improvement
- 针对北京奥运会、上海世博会和广州亚运会进行了深入的案例剖析，识别借重大型活动推动环境改善的短期和长期的影响，以及其中可资借鉴的经验与教训
- Local case studies (review of the Suzhou Creek Revitalization in Shanghai and the introduction of Ultra Low Sulphur Diesel in Hong Kong)
- 国内地区的案例研究(包括上海的苏州河改造和香港的超低硫柴油的引进)
- Two international case examples studying the de-industrialization process of Malmo in Sweden and the role and functions of air-related policies and regulations in Los Angeles
- 针对瑞典马尔默市的去工业化进程以及洛杉矶市空气质量规制的作用，进行了国外案例研究

Brainstorming sessions 研讨与讨论

- Intensive discussion sessions based on the statistical analysis and case study observations
- 在数据分析和案例研究的基础上，组织了集体研讨会，进行深入讨论
- The study team has drawn upon the views and feedback from academics and senior government officials from the three study areas, CCICED advisors and the higher level policy makers to help finalize the analysis and recommendations
- 研究小组从3个研究区域的学者和高层官员那里获取了一些意见和反馈，同时还得到了国合会的首席顾问以及高级决策者们的协助，使得我们得出了最终研究结论



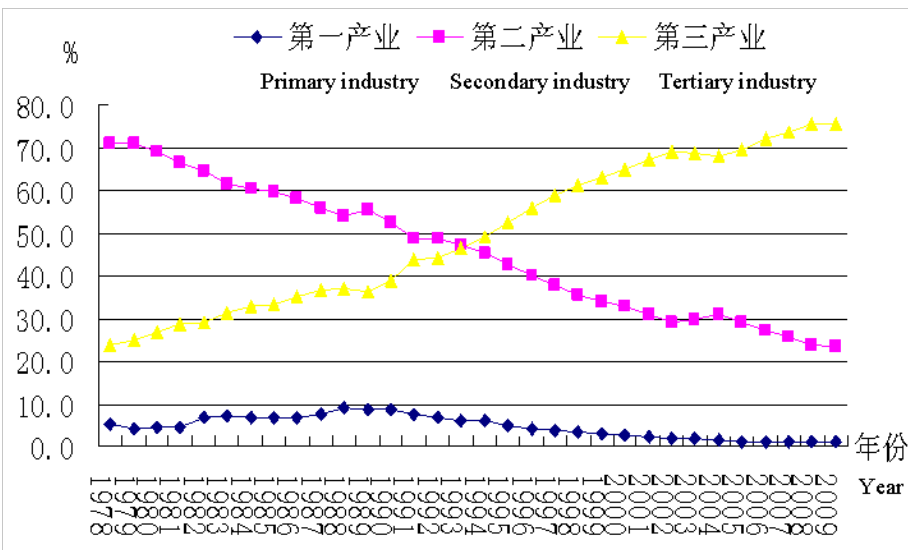


Key observations on Eastern China 中国东部地区的主要观察

- Different parts of Eastern China had different development patterns and trajectories as each area has its unique historical context and strategic function
- 由于历史背景、区位、资源禀赋和发展战略方面的差异，东部不同地区的发展模式和轨迹各不相同
- High economic growth (i.e. double digit growth) through rapid industrialization (alongside rapid urbanization) during the 1980s and 1990s, which however came with a price in terms of environmental degradation
- 80至90年代工业化下的高经济增长(双位数字增幅), 以及城镇化和城市化进程加快, 带来了环境污染和造成环境质量下降的代价
- Eastern China region is undergoing the process of economic restructuring, with the tertiary sector (service-related industries) growing rapidly at the expense of manufacturing industry (especially after 2000), resulting in the establishment of a “3-2-1” economic structure
- 东部地区经济转型正在进行, 区内第三产业(服务相关行业)取代了制造业成为了增长最快的产业(尤其在2000年后)。经济结构出现了第三产业最大、第二产业其次、第一产业最小的“3-2-1”格局

Changes in composition of primary, secondary and tertiary industries in Beijing, 1978-2009

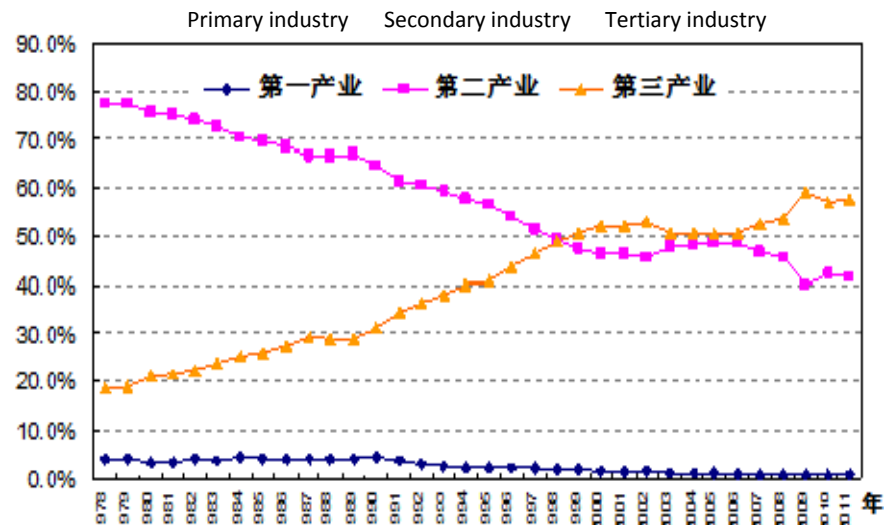
北京三次产业分布及变化



Source: Beijing Statistical Yearbook (1979-2010), Beijing Municipal Bureau of Statistics

Changes in composition of primary, secondary and tertiary industries in Shanghai, 1978-2010

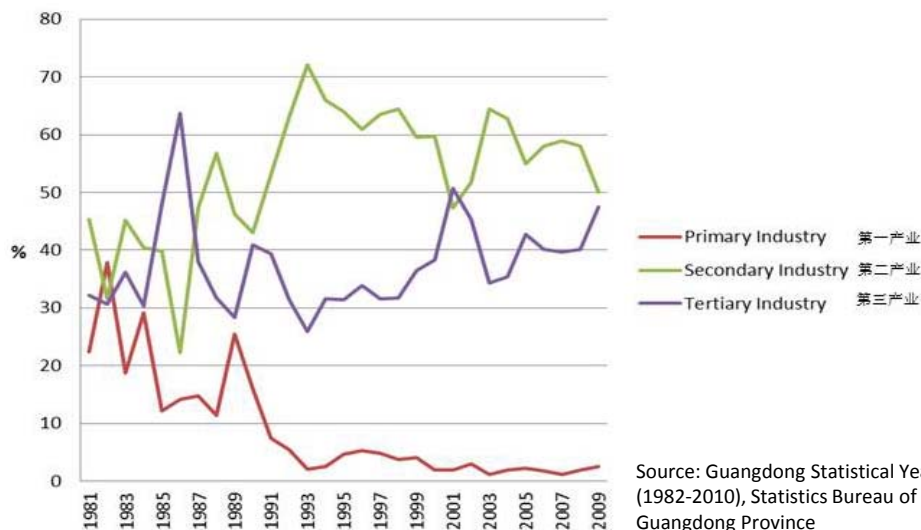
上海三次产业分布及变化



Source: Shanghai Statistical Yearbook (1979-2011), Shanghai Municipal Statistics Bureau

Changes in composition of primary, secondary and tertiary industries in Guangdong, 1981-2009

广东三次产业分布及变化



Source: Guangdong Statistical Yearbook (1982-2010), Statistics Bureau of Guangdong Province



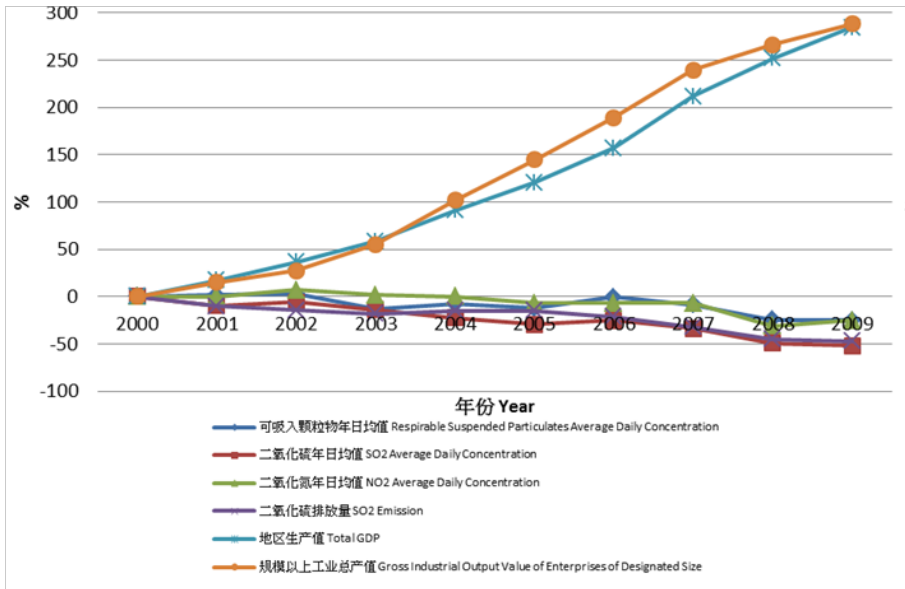
Key Observations on Eastern China (cont'd)

中国东部地区的主要观察 (续)

- The economic restructuring shows some success in localized environmental improvements in terms of reduction in the rate of environmental deterioration:
- 产业转型和结构调整在减少环境污染和减缓环境质量恶化趋势方面发挥了促进作用：
 - manufacturing plants that use diesel-powered generators have been closed;
 - 关闭使用柴油发电机组的工厂;
 - cleaner power plants have been progressively introduced into the market;
 - 工业用能源的清洁化以及清洁能源发电;
 - the development of centralized heating systems for urban households and encouraging urban residents to use more natural gas instead of coal, etc.
 - 集中供热供暖取代一家一户的分散供热供暖方式、以天然气替代居民燃煤等
- Trends of economic and environmental variables of the three study areas demonstrate the relative decoupling of economic growth and environmental quality (i.e. the economy grew faster than the rate of emissions)
- 经济增长与环境质量存在相对脱钩状态，即三个地区的经济增长率均远高于其污染物排放量和环境浓度恶化速率

Changes in economic development and pollutant emissions and concentration in Beijing (2000-2009)

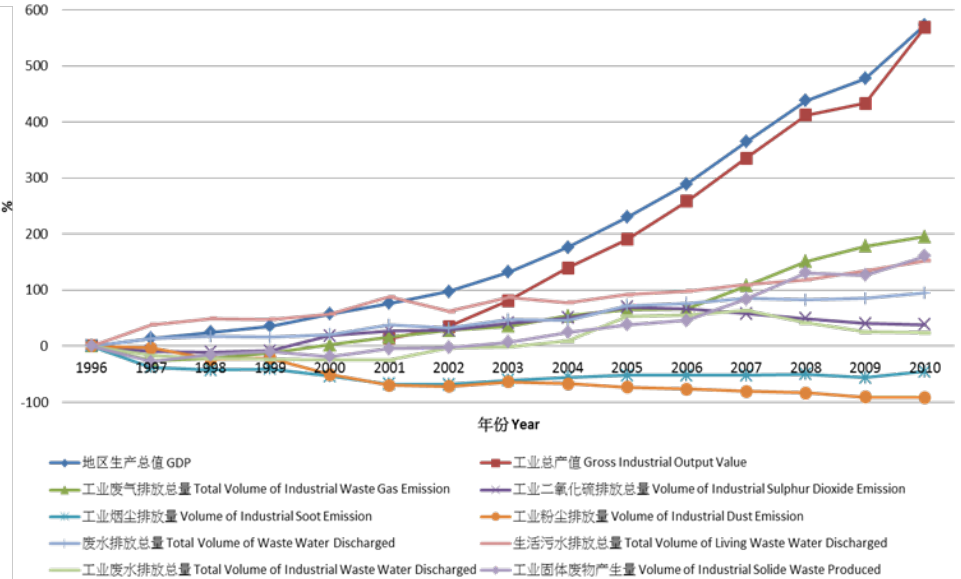
北京市经济发展与污染物排放及浓度变化情况 (2000-2009)



Source: Beijing Statistical Yearbook (2001-2010), Beijing Municipal Bureau of Statistics

Changes in economic development and pollutant emissions in Guangdong (1996-2010)

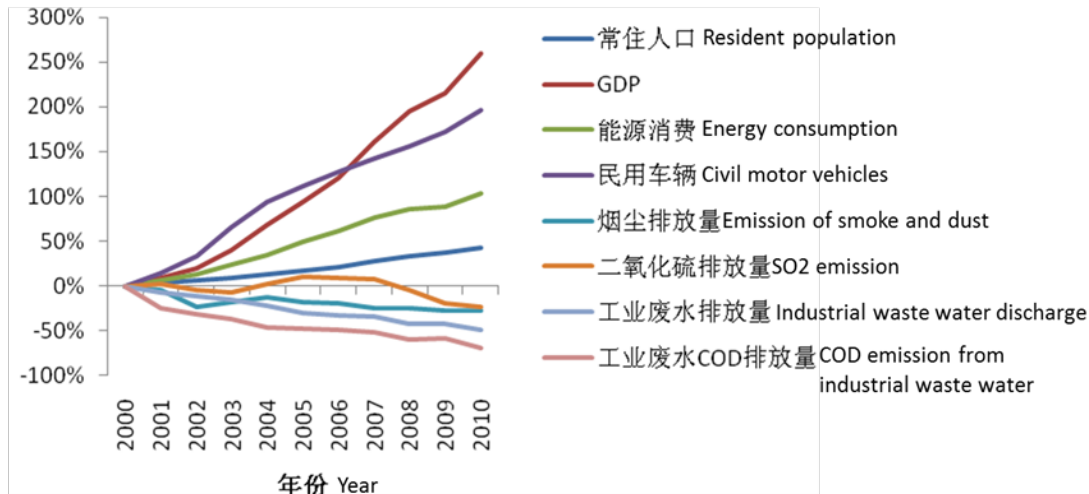
广东省经济发展与污染物排放的变化情况 (1996-2010)



Source: Guangdong Statistical Yearbook (1997-2011), Statistics Bureau of Guangdong Province

Changes in economic development and pollutant emissions in Shanghai (2000-2010)

上海市经济发展与污染物排放变化情况 (2000-2010)



Source: Shanghai Statistical Yearbook (2001-2011), Shanghai Municipal Statistics Bureau

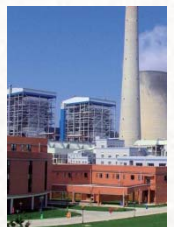


Key Observations on Eastern China (cont'd)

中国东部地区的主要观察 (续)

- Characterized by a long period of preparatory work (6-10 years), the “Mega events” have played a special role in accelerating the development trajectory (economic growth, social development, infrastructure construction, etc.) and enhancing environmental conditions through a leapfrogging process
- 借助于举办大型活动(活动筹备时间为6至10年不等), 拉动经济并加强基础设施建设、推动社会各方面的发展

Temporary (临时措施)	Sustainable (长期措施)
Reduction in industrial production (工业减产)	Infrastructure – railway construction etc. (基础设施 – 例如铁路轻轨)
Closure of polluting industries during the event period (活动期间关闭高污染企业)	Industrial relocation (工业迁移)
Drastic traffic control (严格的交通管制)	Wastewater treatment (污水处理)
Intensive regional cooperation (区域合作的加强)	Solid waste treatment (固体废弃物处理)
International tendering (国际投标)	Fuel ratio adjustment (调整燃料比例)
	Traffic management and vehicle ownership policy (交通管理及車輛擁有政策)





Key Observations on Eastern China (cont'd)

中国东部地区的主要观察 (续)

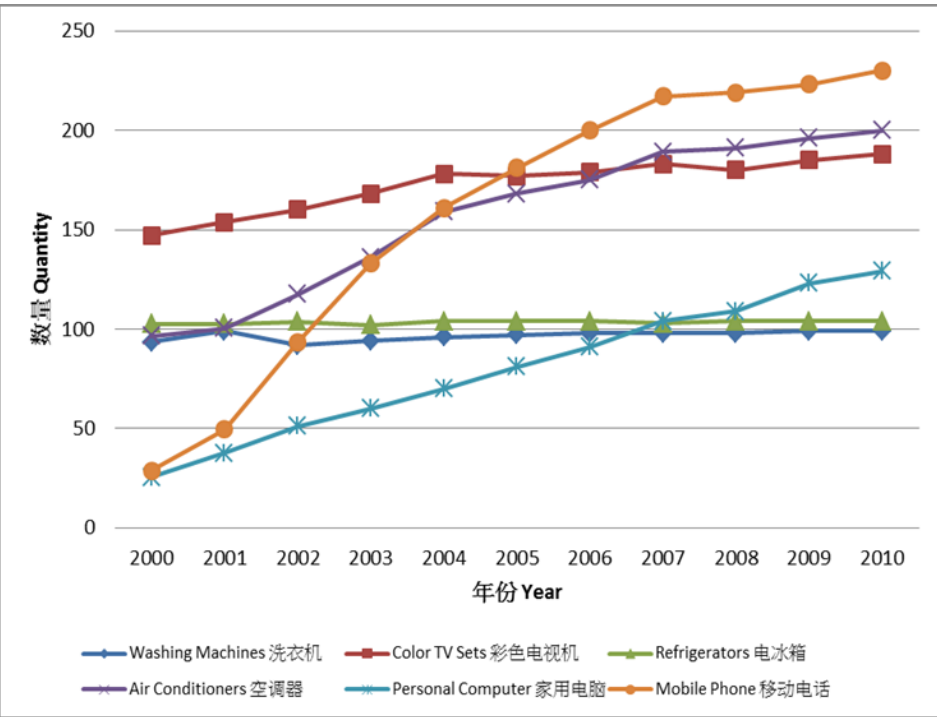
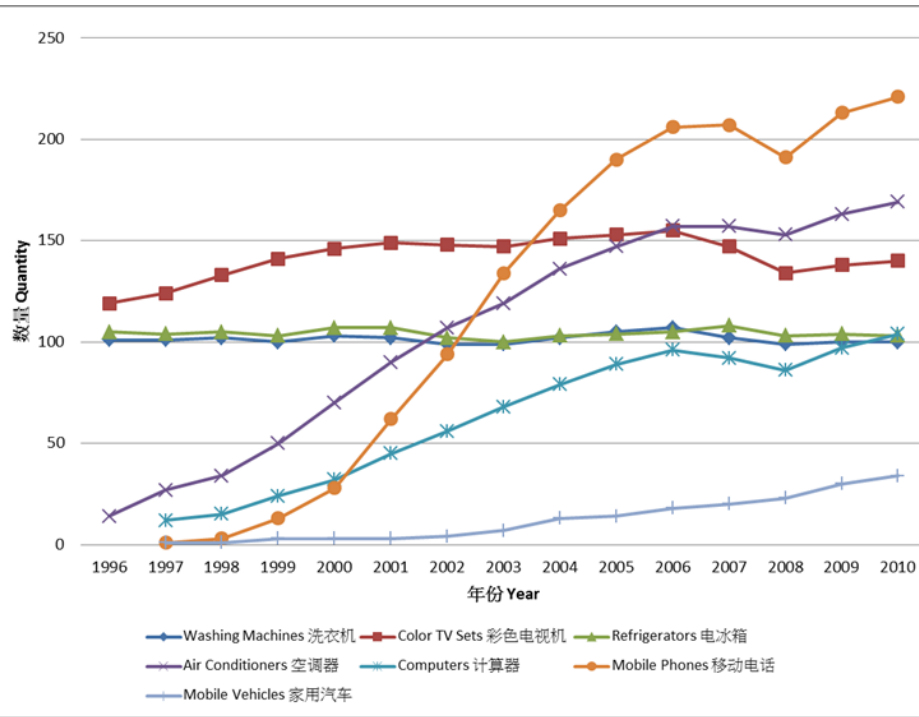
- Other important observations:
- 其他主要观察：
 - The tertiary sector has become increasingly important and is now the most important energy consuming sector in some areas. The usage of clean energy remains low while total energy consumption is rising in the three study areas
 - 第三产业发展对能源消耗日益增加，带来了能源消费结构的变化。就总体发展趋势而言，三个研究地区的能源消费总量依然持续增加，而清洁能源的比例依然较低
 - Industrial enterprises have long been the significant contributor to pollution emissions. With rising living standards and emerging consumerism, the domestic sector becomes an increasingly important source of pollution. Possible over-consumption is leading to greater stress on the environment, and that consumption behavior is becoming more significant in affecting the progress of green development
 - 工业企业一直是最大的污染源，但随着生活水平不断提高，城市居民家庭消费对污染的贡献率亦不断上升。消费行为转变与未来环境质量改善关系重大，并直接影响着绿色发展进程的转型与实现

Per 100 Urban Households Annual Possession of Durable Consumer Goods in Beijing (1996-2010)

北京市每百户城市家庭年耐用消费品持有量 (1996-2010)

Per 100 Urban Households Annual Possession of Durable Consumer Goods in Shanghai (2000-2010)

上海市每百户城市家庭年耐用消费品持有量 (2000-2010)



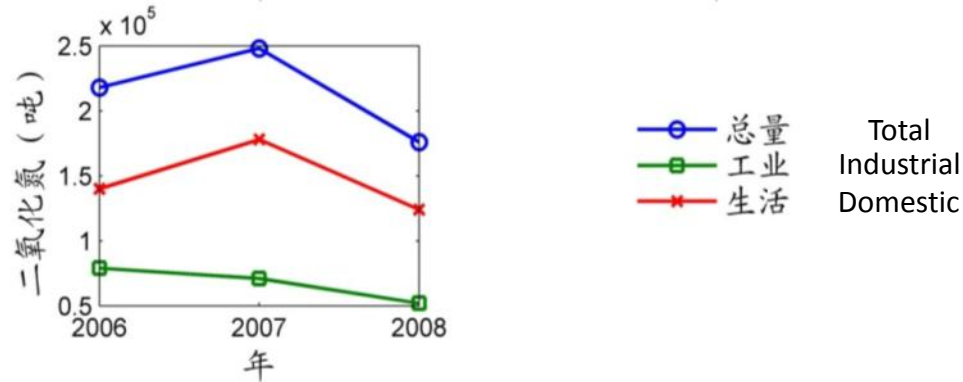
Source: Beijing Statistical Yearbook (1997-2011), Beijing Municipal Bureau of Statistics

Source: Shanghai Statistical Yearbook (2001-2011), Shanghai Municipal Statistics Bureau

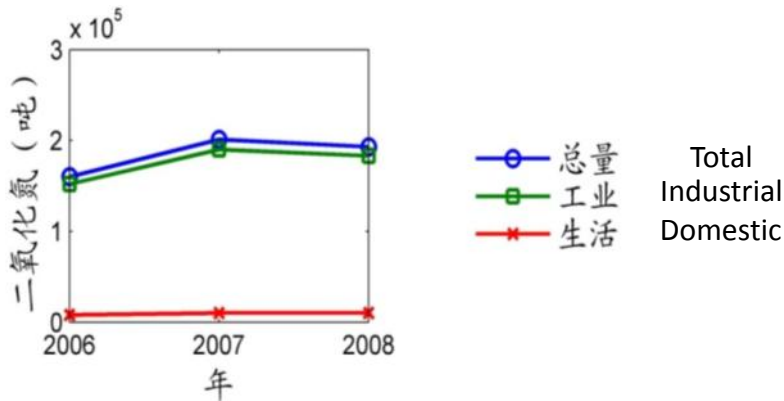
NO₂ emission: Industrial vs. Domestic

二氧化氮: 工业与生活排放

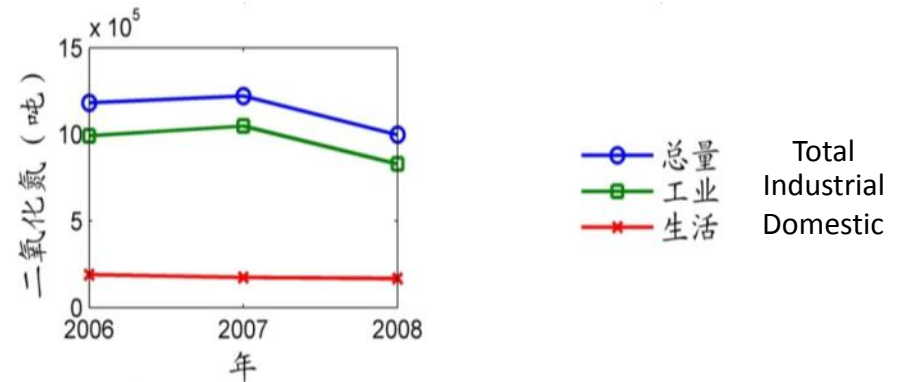
Beijing, 北京市 2006-2008



Tianjin, 天津市 2006-2008



Hebei, 河北省 2006-2008



Source: China Statistical Yearbook on Environment (1999-2009), National Bureau of Statistics and Department of Environmental Protection

Air quality grading in PRD region (6 June 2006)

珠江三角洲地区空气质量评级 (6/6/2006)



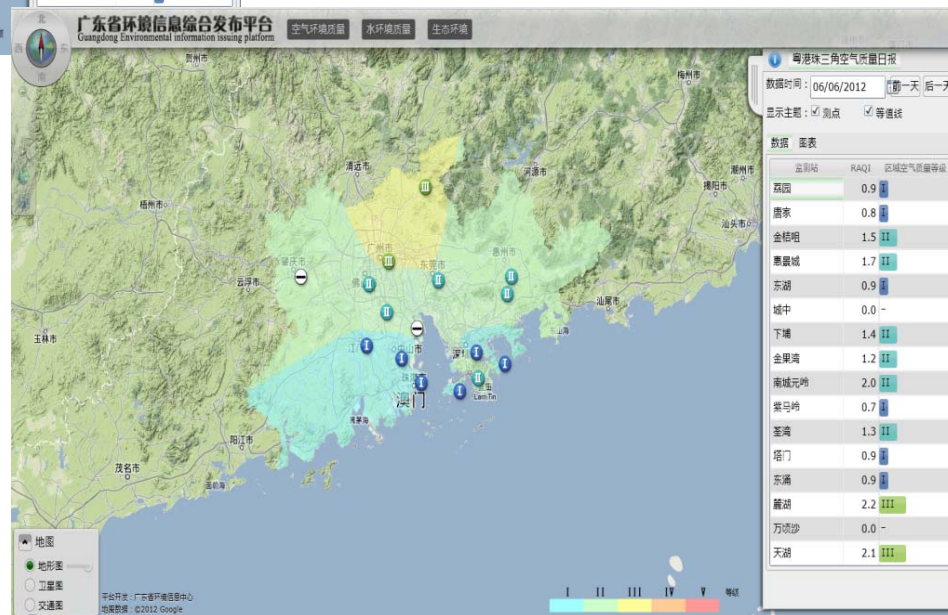
Regional Air Quality Monitoring Network since 2005

区域空气监控网络 (2005开始运作)

- The EPD of HK and Guangdong Provincial Environmental Monitoring Centre
- 香港特别行政区环境保护署与广东省环境监测中心
- 16 automatic air quality monitoring stations in the Delta, 3 located in HK
- 十六个空气质量自动监测子站，其中三个则位于香港

Air quality grading in PRD region (6 June 2012)

珠江三角洲地区空气质量评级 (6/6/2012)





Four Propositions 四个研究论断

- Proposition 1: Government policies and regulations facilitate green development
论断一:政府制定的政策与法规有助于加速绿色发展进程
- Proposition 2: Natural resource constraints and increased public awareness give impetus to green development
论断二:自然资源的制约与增强的公众意识对绿色发展有促进作用
- Proposition 3: Market forces as a factor influencing green development
论断三:市场作为有效配置各类资源的平台,其有效运作影响绿色发展进程
- Proposition 4: Regional economic and environmental cooperation is a key enabling condition for achieving green development
论断四:区域间进行有效的经济和环境合作是区域内实现绿色发展的重要条件



Guiding principles to facilitate green development in China

促进中国绿色发展的指导方针

1. This is a long-term transition process that in China's case will need to be continued in subsequent FYPs and major national strategies, and which will extend over many decades;

绿色转型是一个长期而艰巨的过程，应体现在今后相当长一段时期的每一个五年计划和重大国家战略中；

2. Green development is not just about economic growth but also about promoting social progress; green development is a process and not a single end-state;

绿色发展不仅是经济发展模式更是社会发展模式；绿色发展不仅是一个目标，更是一个过程；

3. Policy continuity is essential at both the central and local government levels;

中央和各级地方政府都要保持政策的连续性；

4. An integrative, holistic view of the development process is adopted, one that extends across all policy domains;

应该树立一个综合、全面、并适用于所有政策领域的发展观；

5. The potential as well as the limits of both technology and market dynamics are recognized;

应该认识到技术和市场的潜力与局限性；

6. Sensitivity to the social dimension of the development process and its goals and objectives is required;

应该认识到发展过程中存在的社会问题以及发展的目标和方向；

7. Both the positive and negative impacts of development are managed in a balanced way;

应该妥善处理发展所带来的积极和消极影响；

8. The importance of stewardship and the need for responsible management of natural systems and national heritage resources are recognized; 应该意识到对自然资源和文化遗产资源进行负责任管理的重要性；

9. The enhanced commitment to adhere to international conventions on sustainable and green development.

应该坚定不移地遵守可持续发展和绿色发展的国际公约。



Recommendations

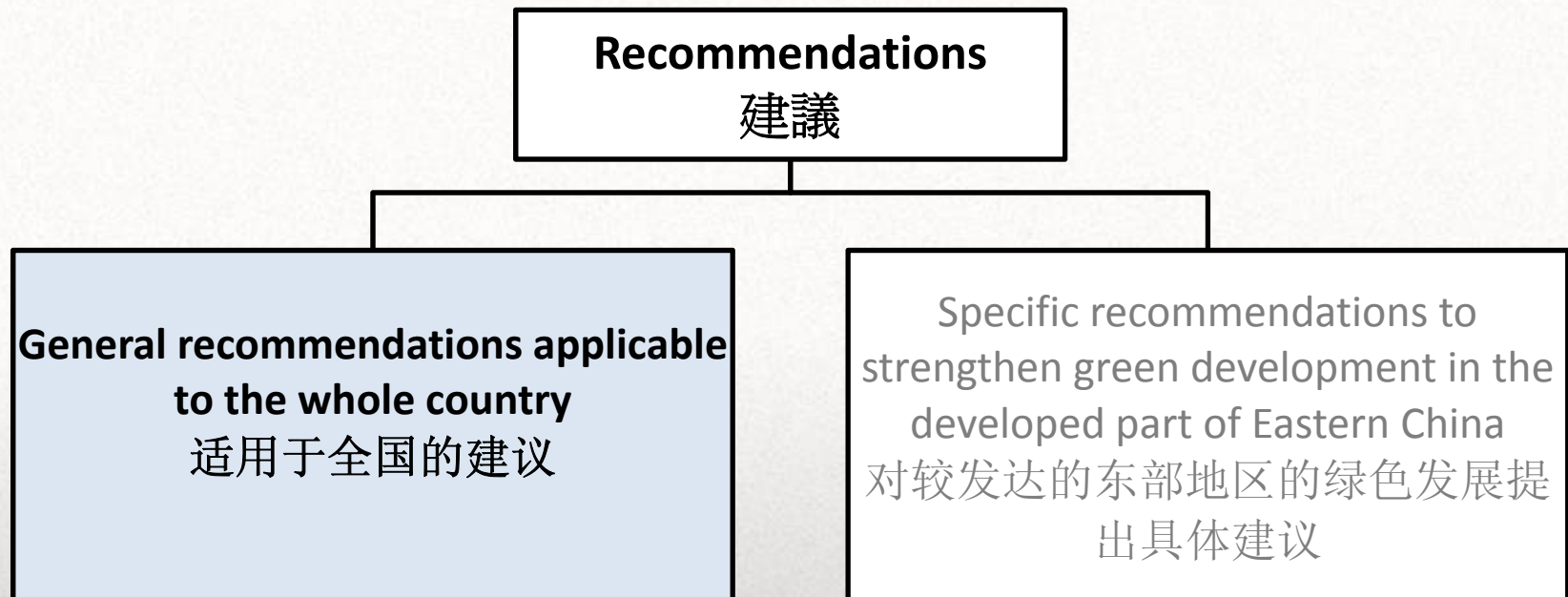
建議

Overarching Prerequisite

先决原则

Policy mechanisms and institutional adjustments are introduced and reinforced at all levels of government to ensure that the pursuit of green development is confirmed as a core and continuing task of government for all of China

各级政府应引入政策机制并做出相应机构调整，以确保绿色发展始终作为中国各级政府的核心理念





Recommendation 1: Improve policy integration and coordination 建议一：政策统筹与政策协调

- To integrate and coordinate different policy sectors, especially energy, transport and infrastructure, education and economic development, under the framework for green development in China:
- 统筹不同领域的政策，尤其是能源、交通、基础设施、教育和经济发展领域的政策，并在中国绿色发展政策体系框架下，整合各类相关政策：
 - Future FYPs should explicitly indicate in their objectives and quantitative indicators that environmental quality must not be traded off for economic advancement; and
 - 作为关键性的战略规划，未来的“五年计划”中应该持续明确地强调，并通过具体的管理目标和定量指标表明：追求经济发展不应以牺牲环境质量为代价；
 - The FYPs should be subject to an improved auditing, reporting and disclosure process that highlights potential problem areas and which alerts provincial and local decision makers to potential conflicts between key policy objectives.
 - 在国家层面建立“五年规划”实施评估机制，对五年规划的实施情况进行切实的评估，识别存在的问题和潜在的可能问题，并通过具体方式，进行公布和告知，同时，提醒各级官员注意关键政策目标之间的潜在冲突。



Recommendation 2: Strengthen regional monitoring capacity and measures

建议二：强化监督能力和监督手段

- To enhance the supervisory and regulatory role of the Regional Environmental Protection Inspection Centre:
- 建设和加强区域环境保护与监测中心的监督和监管作用：
 - The Centre should be equipped with appropriate and additional manpower and resources, including state-of-the-art equipment (hardware) and database management (software) for performing its expanded duties;
 - 中心应该适当增加人力和物力资源，包括先进的设备（硬件）和数据库管理（软件）来履行新的职责；
 - The Centre should be endowed with specific regulatory powers to facilitate inspection and enforcement, e.g. to audit the emission inventory of industrial operations and setting up a database with annual updates of the results; and
 - 中心应被赋予专门的监管权力，以加强检查和执行力度，例如审查工厂的排放清单，并创立逐年更新的管理数据库；
 - The Centre should have authority to oversee environmental monitoring on operations where an EIA has stated the expected environmental quality outcome through the implementation of mitigation measures.
 - 中心应该成为主要职能部门，加强运营过程中的环境检测，在环境影响评价中明确通过实施减排措施后所要达到的环境质量。



Recommendation 2: Strengthen regional monitoring capacity and measures

建议二：强化监督能力和监督手段（cont'd）

- To establish a coordinating body under the State Council (proposed name, Green Development Commission or Environment and Green Development Commission):
- 设立一个隶属于国务院的协调机构（提议命名为绿色发展委员会/环境与绿色发展委员会）：
 - The main tasks are to provide a platform for discussion of policies relating to energy, industry, transport, infrastructure, economy, agriculture, environmental protection and nature conservation; and to recommend the considered policies to the State Council for implementation by the relevant Bureau(x) in a coordinated and timely manner; and
 - 主要任务是为能源、工业、交通、基础设施、经济、农业、环境保护和自然资源保护等领域的政策讨论提供平台；并将这些政策提交国务院，使之能够得到及时有效的实施；
 - All relevant Ministry heads should be core members of the Commission and obligated to meet on a regular basis to discuss policy priorities, review implementation strategies and formulate future plans; this co-operation should go beyond the individual project level.
 - 各相关部门负责人应该成为委员会的核心成员，定期会晤，讨论政策重点，回顾各项战略的实施情况并制定未来计划，合作不应局限在单个项目层面。



Recommendation 3: Strengthen policy implementation

建议三：强化政策执行和实施

- To enforce more effective and stringent controls on minimizing the impact of development on the environment:
- 执行更加有效和严格的管制，减轻经济发展对环境的影响：
 - Strictly implement the Environmental Admittance System (e.g. more stringent emission standards and requirements of pollution abatement technologies) in order to prevent new sources of environmental pollution and displacement of polluting industries emerging in less developed regions;
 - 严格贯彻环境准入机制（例如：执行更加严格的排放标准和污染治理技术要求）以防止新型污染源和污染工业向欠发达地区转移；



Recommendation 3: Strengthen policy implementation

建议三：强化政策执行和实施（cont'd）

- Strengthen the EIA system and increase the rigour of its implementation to match international best practice:
- 加强环境影响评价机制，加大执行力度，并与国际惯例接轨：
 - ❖ Soil and groundwater pollution of industrial brownfield sites have become a barrier in the process of land redevelopment. There should be more comprehensive regulations and laws on brownfield site planning and more specific requirements for land decontamination / remediation under the EIA system;
 - ❖ 工业废气地（棕地）的土壤和地下水污染阻碍了土地重新开发利用的进程。应该出台更加完善的法律法规对棕地进行适当规划，环境评估系统应该对土地污染补救修复制度制定更详细的标准和要求；
 - ❖ Environmental performance committed to in the EIA reports should be strictly monitored. Enterprises and local government departments that fail to comply with the regulatory requirements of the EIA should be disclosed and reported on a regular basis; and
 - ❖ 严格环境影响评价制度，并对企业和地方政府执行情况进行监控和评估；对不符合环评有关要求的企业和管理部门，应该予以定期披露并通报；
 - ❖ A corporate environmental profiles database should be established to facilitate the development of a corporate environmental performance and behavior assessment system. The environmental performance of enterprises should be assessed by the government with the results made available for public inspection.
 - ❖ 建立企业环境行为数据库，建立企业环境行为评估制度，促进其向社会公布，并接受公众监督，同时政府组织人员对其进行定期评估。



Recommendation 4: Develop a performance-based accountability system on green development at local government level

建议四：建立地方政府的绿色发展业绩问责制

- To closely monitor the performance of local officials based on consistent assessment and reporting criteria.
- 研究和建立评估和报告标准，对地方官员的业绩进行监管。
 - Green development targets, specific indicators and incentives should be developed to motivate local officials to take proper account of their economic, environmental and social performance (e.g. index of economic growth, social progress, people's livelihood, protection of the ecological environment, etc.).
 - 建立绿色发展目标、具体指针和激励机制以激励地方官员，使其综合妥善处理其经济、环境和社会业绩（例如经济增长、社会进步、人民生活水平、生态环境保护等指数）。



Recommendation 5: Increase public awareness on environmental protection, green development, and promote public participation

建议五：提高公众的环境保护和绿色发展意识、促进公众参与

- Greater transparency in environmental management and information disclosure, e.g. pollution emissions (amount and sources), pollution status and trends and details such as the nature, duration and location of pollution incidents;
- 加大环境管理的透明度和信息公开度，包括污染排放（排放源与排放量）、污染状况、污染趋势分析、污染事件的性质；
- More openness of the public feedback system for receiving comments and interacting with the community;
- 建立政府与公众意见的有效反馈机制，并提高公众意见反馈的透明度和实效性；
- Public awareness building and education programmes at all levels and more effective use of media channels; and
- 各级政府应加强环境宣传教育，提高公众环保意识，建立有效的媒体监督管道；
- Widespread promotional campaigns of low carbon lifestyle, energy-efficient behavior, and green development decisions at community level and in households.
- 加大对低碳生活方式和节能行动的宣传，并于家居和社区层面推动绿色发展。



Recommendation 6: Accelerate the green development process by means of pilot and demonstration projects

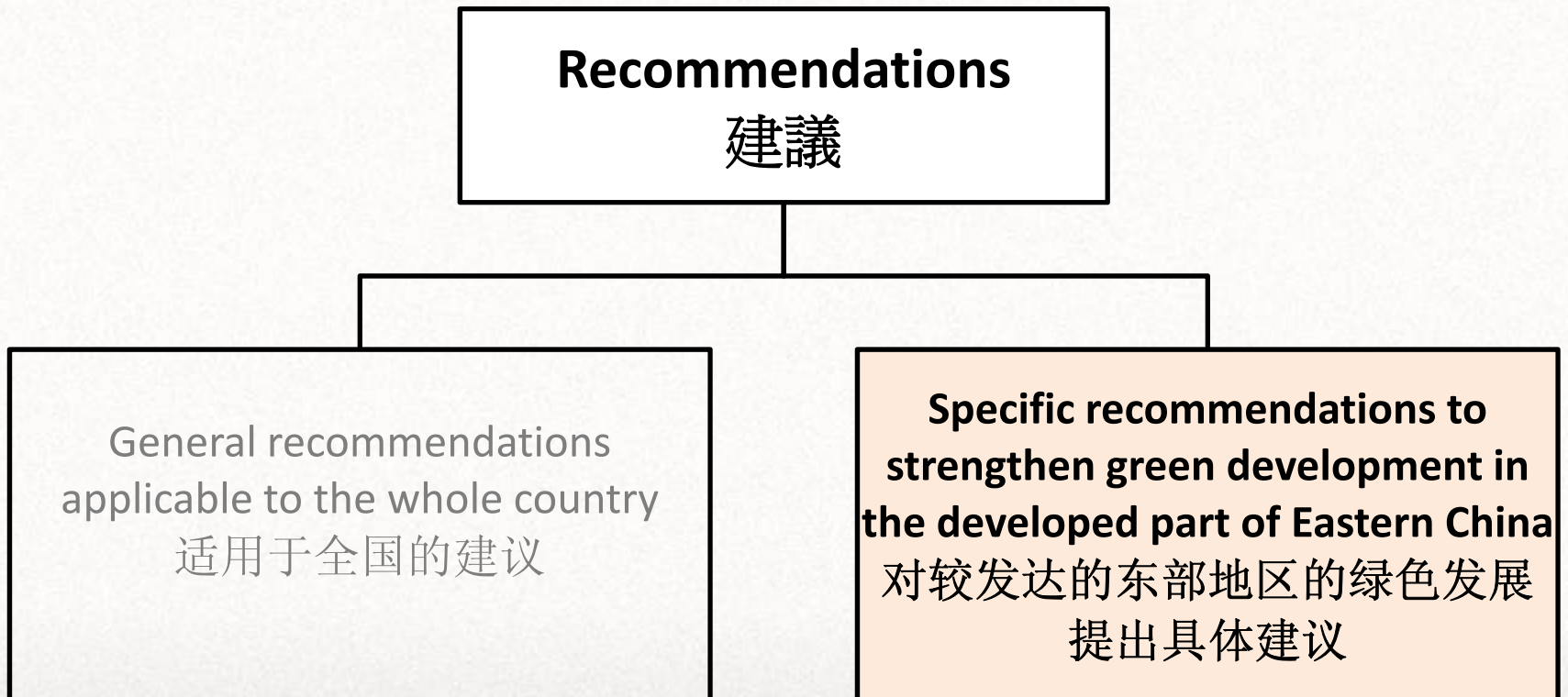
建议六：通过示范项目扩展绿色发展态势

- Set up pilot green development zones as demonstration areas for modern service sectors, hi-tech industries, sustainable energy and transportation systems, etc.;
- 在现代服务业、高技术产业、可持续能源和交通系统等领域建立绿色发展试点示范区；
- Stimulate integrated economic, industrial and environmental policies and measures through the construction of industrial parks for achieving centralized emission control; and
- 建立工业园区，推行经济、工业和环保相融合的政策和措施，对污染排放进行集中管理；
- The State Electricity Regulatory Commission (SERC) should initiate the installation of a “Smart Grid” in selected urban centres as pilot projects so that the efficiency of renewable energy could be explored and the benefits of demand-side-management (DSM) maximized.
- 国家电力监管委员会(SERC)应该在选定的城市中心区安装「智能电网」系统作为试点项目，有效开发和利用可再生能源，使电力需求侧管理的效益达到最大化。



Recommendations (cont'd)

建議 (续)





Recommendation 1: Implement more stringent standards and targets 建议一：制定更加严格的标准和目标

- Adopt more stringent environmental standards and targets in Eastern China than national standards, e.g. impose more rigorous emission standards for key pollutants in industries that are energy-intensive and highly polluting.
- 于中国东部地区执行比国家标准更加严格的环境保护标准，例如对能源集中型和高污染型产业实行更加严格的污染物排放标准。
- Implement a performance management system at the local government level for evaluating achievements in carbon emission reduction and energy-saving.
- 在地方政府实行政绩评价机制，以评估其在节能减排方面所取得的成绩。



Recommendation 2: Establish greater information transparency 建议二：加大信息透明度

- Disclose information more widely and regularly to facilitate public monitoring, in particular:
- 定期并广泛地公布信息以促进公共监督，尤其是：
 - information that concerns most citizens, e.g. data on particulate matter emissions ($PM_{2.5}$ etc.), ground-level ozone, and heavy metal emissions that would have a marked effect on human health; greater transparency in environmental management and information disclosure, including the amount and sources of pollution emissions, pollution data and trends and details such as the nature, duration and location of pollution incidents; and
 - 关系到群众利益的信息，例如，悬浮颗粒物（ $PM_{2.5}$ 等）、近地面臭氧、重金属等可能对人身健康产生明显影响的重大污染事件的性质、时间和地点等；加大环境管理的宣传透明度和信息公开度，包括污染排放（排放源与排放量）、污染数据及污染趋势分析和污染事件的性质
 - information and data that are fundamental for research and development and policy-making.
 - 影响研发和政策制定的信息和数据。



Recommendation 3: Promote green consumption

建议三：倡导绿色消费

- Advocate “green consumption” concepts and behavior by means of:
- 通过以下方式倡导「绿色消费」的理念和行为：
 - voluntary actions through raising environmental awareness and information sharing to instigate behavioural change; and
 - 通过提高环保意识和信息共享等志愿者行动来促进行为方式的转变；
 - the introduction of taxation measures (e.g. environmental taxes and resource taxes) to promote positive changes in corporate and consumer behavior, and enhance the market competitiveness of environmentally friendly service and products.
 - 利用税收政策（例如环境税和资源税），推进企业和消费者行为转变，并提升绿色经济组分与产品的市场竞争力。



Recommendation 4: Set up a regional fund for environmental protection and pollution control projects

建议四：对地方污染防治提供专项资金

- Set up a pilot “Regional Fund for Environmental Pollution Prevention and Protection”, that can facilitate:
- 设立「环境污染防治地区性基金」试点，以促进：
 - the assessment of environmental health risks (e.g. hazardous chemicals left behind by former industrial plants which have led to soil and groundwater contamination);
 - 对环境健康风险的评估（例如以前的工厂遗留下来的危险化学品导致的土壤和地下水污染）；
 - industrial brownfield site decontamination / detoxification / remediation;
 - 对工业废弃地脱污/脱毒/污染补救；
 - compensation to and resettlement of affected persons; and对受影响人群进行补偿和重新安置；
 - the provision of funding for local environmental protection and pollution prevention projects.
 - 对当地环境污染防治提供资金支持。



Recommendation 5: Establish a regional financial transfer payment mechanism 建议五：实行区域性财政转移支付机制

- Establish a regional financial transfer payment mechanism:
- 建立区域性财政转移支付机制以：
 - promote environmental protection in less developed areas;
and
 - 推进欠发达地区的环境保护工作
 - encourage co-development initiatives between neighbouring regions.
 - 鼓励相邻区域的合作发展。



Recommendation 6: Promote corporate environmental governance 建议六：促进企业环境行为改进

- Promote corporate social responsibility and green corporate governance through the establishment of green business coalitions and development of green supply chain management strategies.
- 为了提高企业的社会责任感，推进绿色企业治理机制，应创立绿色企业联盟并实施绿色产业链管理战略。

Thank you !

ICED

CCIC