4th U.S.-China Energy Efficiency Forum

Welcoming Remarks

David Danielson

Assistant Secretary
Energy Efficiency and Renewable Energy
U.S. Department of Energy

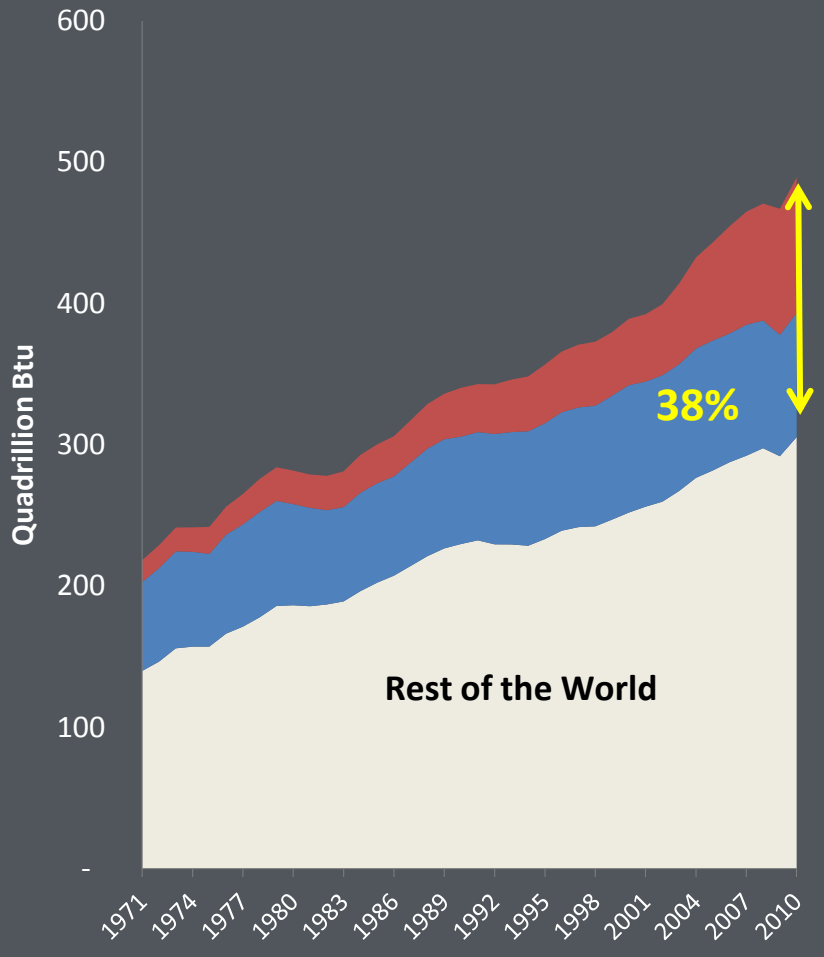
The 4th U.S. – China Energy Efficiency Forum

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

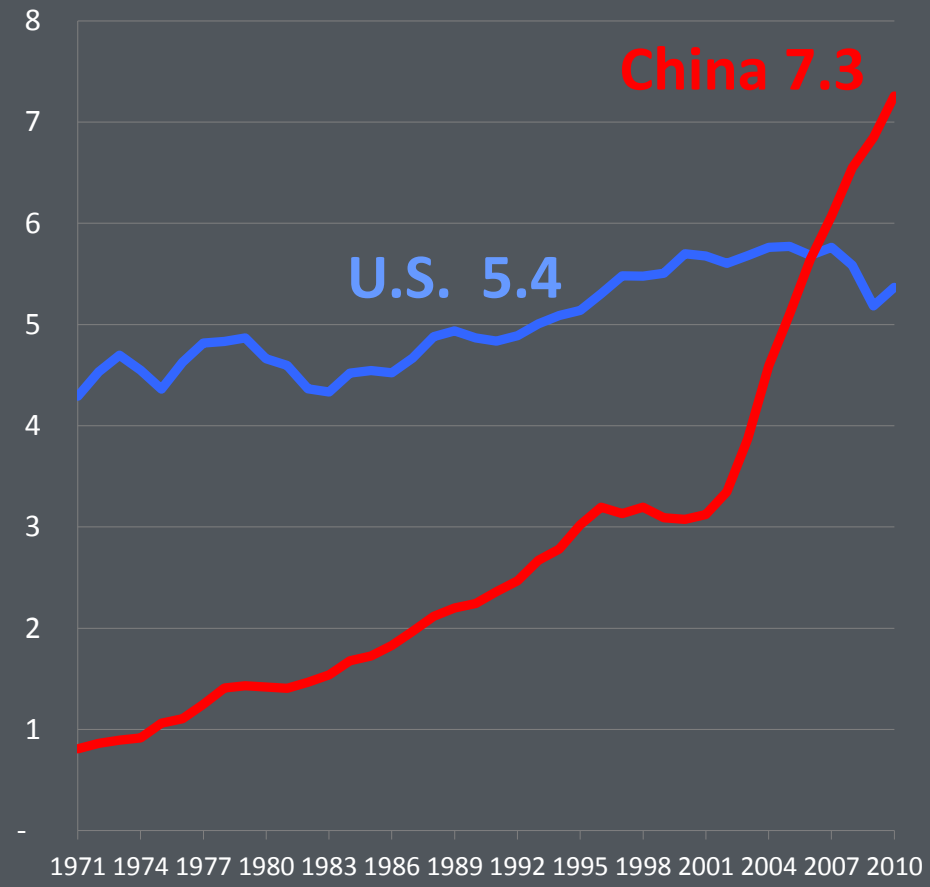
Dr. David Danielson, Assistant Secretary

U.S. and China : World's Largest Energy Consumers and Emitters

Global Energy Consumption



Total CO2 from Energy Consumption (Gt)

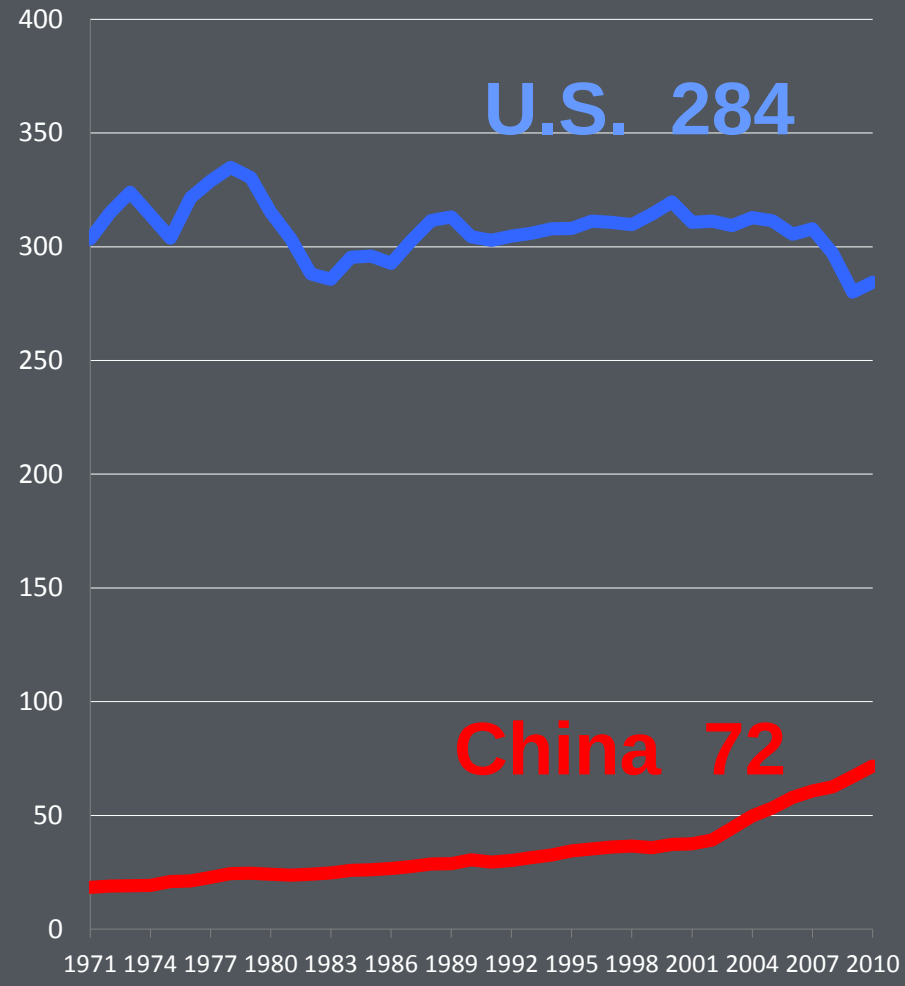


Source: World Bank Indicators. CO2 Emissions from Fuel Combustion (2012 Edition), IEA, Paris.

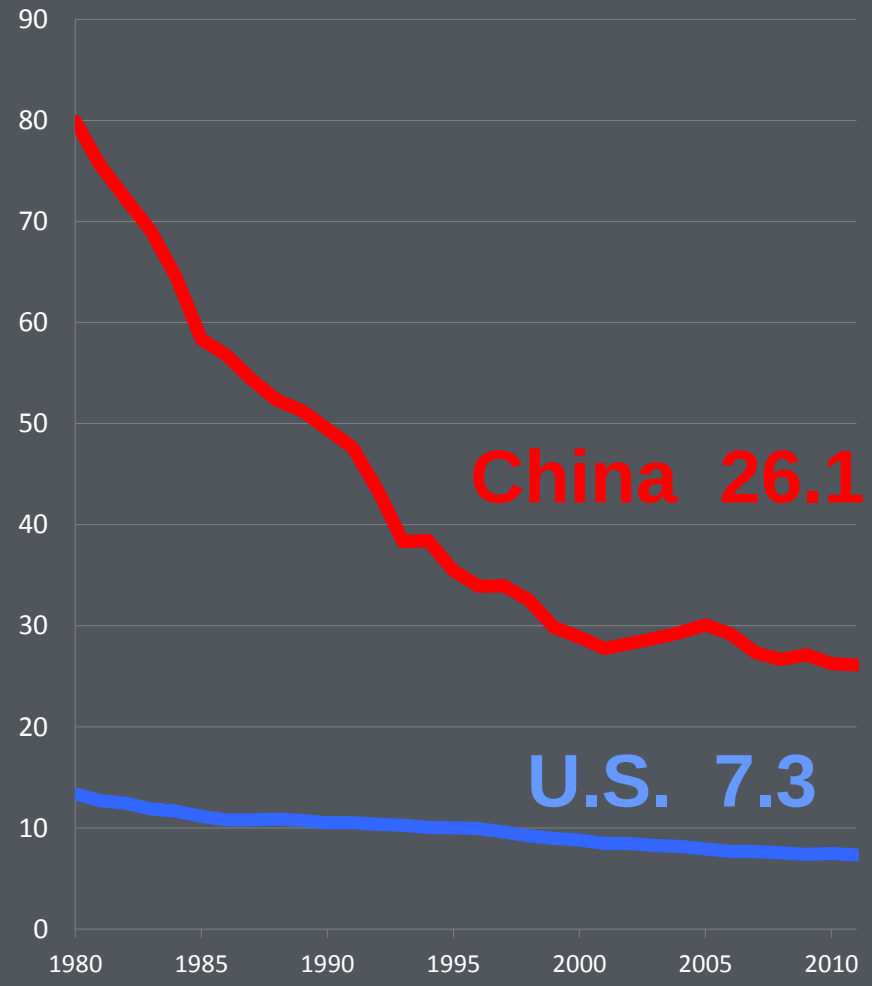
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Unique Situations, but Shared Challenges and Opportunities

Primary Energy Consumption per Capita (million Btu)



Primary Energy Consumption per USD (thousand Btu per 2005 USD)



Source: World Bank Indicators. EIA.

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

“The question now is whether we will have the courage to act on climate change before it’s too late. And how we answer will have a profound impact on the world that we leave behind…”

- President Barack Obama, June 2013

Building Efficiency

Better Buildings
NEIGHBORHOOD PROGRAM
U.S. DEPARTMENT OF ENERGY

energy
ENERGY STAR

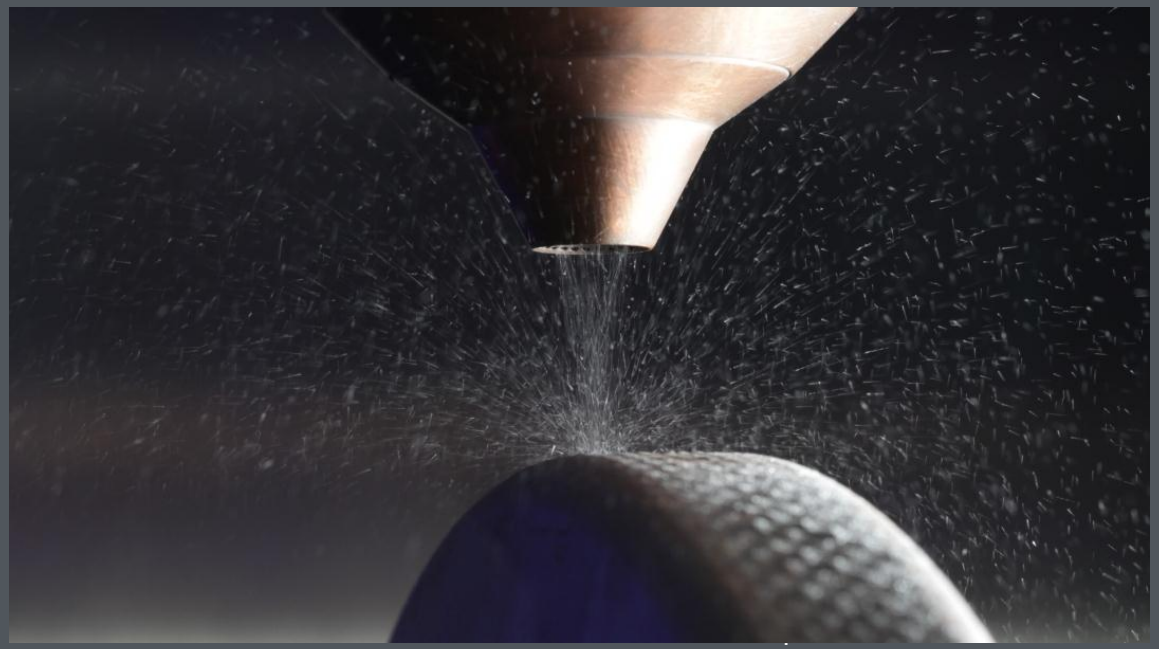
U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON

Building AMERICA
U.S. Department of Energy

Advanced Manufacturing

President Obama's goal:

Double the economic output per unit of energy consumed in the United States by 2030, relative to 2010



Better Buildings, Better Plants Challenge Partners

United States – China Clean Energy Initiatives, November 2009

- Clean Energy Research Center
- Electric Vehicles Initiative
- ***Energy Efficiency Action Plan***
- Renewable Energy Partnership
- Shale Gas Partnership
- 21st Century Coal
- Energy Cooperation Program

Spotlight: China Rural Building Energy Codes

China's Rural Buildings:

- Used by 700M people
- 25B m^2 of floor space
- Consume 68% of total primary energy used by all buildings

Collaborative Activities:

- Joint technical workshops, modeling and analysis, policy recommendations, assessments of code implementation

Results:

- New landmark building code, effective May 1, 2013
- Estimated to reduce consumption by up to 50% on a per household basis
- Market opportunity for companies with relevant technologies and services

Source: NASA


U.S. DEPARTMENT OF
ENERGY
Energy Efficiency &
Renewable Energy

4th U.S.-China Energy Efficiency Forum

Welcoming Remarks

Xie Zhenhua

Vice Chairman
China National Development and Reform Commission

4th U.S.-China Energy Efficiency Forum

Welcoming Remarks

Todd Stern

Special Envoy for Climate Change
U.S. Department of State

4th U.S.-China Energy Efficiency Forum

Memorandum of Understanding

Signing Ceremony

CESI – CIE - LBNL

China Electronics Standardization Institute (CESI), Chinese Institute of Electronics (CIE), and Lawrence Berkeley National Lab are signing an MOU on green data centers. The three parties will conduct extensive exchanges on improving energy efficiency of data centers, conduct joint research, and disseminate key findings.

They will also explore energy efficiency technology and solutions, internationally-compatible energy efficiency assessment measurement tools and methods, energy efficiency performance standards, and dissemination of best practices.

4th U.S.-China Energy Efficiency Forum

Hunan University – Changsha Maxxom – University of Colorado

Hunan University, Changsha Maxxom High-Tech Company and the University of Colorado-Boulder are signing an MOU to establish an International Center for Urban and Building Engineering Sustainability to promote sustainable models in the U.S. and China and deliver technical advice and support for local governments.

The Center will serve as a platform to stimulate global research and education exchange activities and to promote commercialization and implementation of innovative energy and environmental systems and products.

CIE - DESSC

Chinese Institute of Electronics (CIE) and Digital Energy and Sustainability Solutions Campaign (DESSC) are signing an MOU on the Promotion of Energy Efficiency through Electronic Information Technology. The parties will promote collaboration between research institutes and enterprises from both China and the United States in the field of information technology. They will also facilitate research and application of advanced energy conservation and emission reduction technology and best practices. The cooperation will spur more effective communication between industries, research institutes, and government on data center efficiency.

4th U.S.-China Energy Efficiency Forum

Progress Under the U.S.-China Energy Efficiency Action Plan

Remarks by:

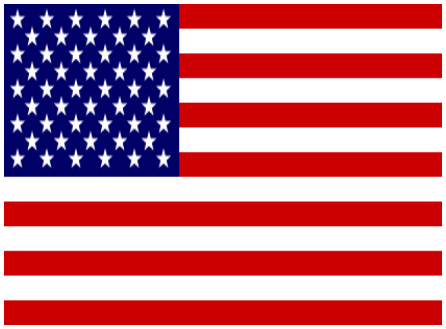
Robert Sandoli
International Director
Office of Energy Efficiency and Renewable Energy,
U.S. Department of Energy

The 4th U.S. – China Energy Efficiency Forum

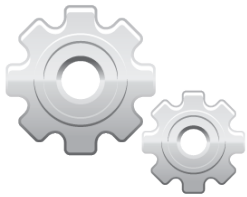
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Rob Sandoli
Director, International

Energy Efficiency Action Plan



1. Energy Efficiency Forum
2. Buildings Codes, Labels and Rating Systems
3. Industrial Energy Efficiency Auditing and Benchmarking
4. Energy Efficient Consumer Products
5. Trade and Investment Promotion
6. Mayors Sustainable Cities Program



1. Energy Efficiency Forum

- *"The Energy Efficiency Forum will serve as a platform for policy-makers in both countries to share experience and best practices in promoting energy efficiency in buildings and communities, industry and consumer products... As a public-private partnership, the Energy Efficiency Forum will bring together industry representatives from both countries to unlock commercial opportunities in energy efficiency while meeting energy and environmental goals.*

  -

  - Energy Efficiency Action Plan 2009

2a Building Energy Efficiency: Tools

- ***Commercial Buildings Analysis Tool (COMBAT)***

Collaborators: Tongji University, Natural Resources Defense Council (Beijing), Shanghai Energy Conservation and Supervision Center, Tianjin University, Tongji University, Shanghai Energy Conservation and Supervision Center, Shenzhen Microgrid Lab, Shenzhen Institute of Building Research, CAS-IEE, Xiamen University, Hefei University

Milestone: Bi-lingual building tools for Chinese buildings

2b Building Energy Efficiency: Codes

Status

- Landmark new rural building energy code adopted, effective May 1, 2013. Up to 50% savings

Next Step

- Building material product rating initiative

"PNNL collaborated with CABR and provided technical support to study energy efficiency designs in rural buildings and related technical and institutional issues and examine potential approaches to implementing the rural code; this supported the development and implementation of the Energy Code for Rural Residential Buildings and helped build capacity for Chinese stakeholders. "

-- China Academy of Building Research

3a Industrial Energy Efficiency: Training

Participants:

- 300 people from Chinese central and local governments, industrial companies, universities, research institutes, and energy service companies
- Included 15 U.S. technology and service providers

Milestones:

- Oct 2011: Alumina plant training in Zhengzhou
- May 2012: Cement plant training in Guangdong; steel plant training in Jinan
- Jan 2013: Petrochemical plant training in Beijing; pulp and paper plant training in Suzhou
- Sept 2012 and Aug 2013: webinar training on process heating and steam system

24

3b Industrial Energy Efficiency: Boiler Systems

Participants:

- MIIT, China Machinery Industry Energy Conservation Center, U.S.-China Energy Cooperation Program

Next Steps:

- Provide inputs to MIIT's draft action plan
- Inform strategies to capture bundled opportunities
- Identify trade and investment opportunities in implementation of boiler programs in China

25

3c Industrial Energy Efficiency: Green Data Centers

Participants:

- MIIT, China Institute of Electronics, China Electronics Standardization Institute, U.S. China Energy Cooperation Program

Next Steps:

- Design green data center demonstration
- Develop guidance for implementation program

26

4 Consumer Products: Test Procedures

Solid State Lighting (LED)

Participants

- EPA, National Lighting Test Centre, CNIS, China Solid State Lighting Alliance.

Status

- Technical meetings/workshops in 2011 and 2012

Next Steps

- Study of U.S. standards and ENERGY STAR for adaptation within China standards.
- Study of Chinese lighting research underway to inform U.S. efforts.

Computers and servers

Participants

- EPA, CNIS

Next Steps

- Technical discussions on adaptation of server test procedure for Chinese market

27

5 Trade and Investment Promotion

Standards Conformity Assessment Cooperation Program (SCACP) Phase III

Participants

- Standards organizations, trade associations, private sector experts.

Status

- 45 workshops since 2006
- 5000 Chinese participants

Next Steps

- Continue information sharing to promote understanding and open markets.

28

6a. Sustainable Cities: Mayors Exchange

3 Chinese Mayoral delegations to the U.S

1 U.S. Mayoral delegation to China

6b. Sustainable Cities: Eco-City Demonstration

Chinese Cities

- Hebi, Henan (鹤壁)
- Jiyuan, Henan (济源)
- Rizhao, Shandong (日照)
- Weifang, Shandong (潍坊)
- Langfang, Hebei (廊坊)
- Hefei, Anhui (合肥)

U.S. Cities

- Charlotte, NC
- Franklin County, OH
- San Francisco, CA

4th U.S.-China Energy Efficiency Forum

Remarks by:

Xie Ji

Deputy Director General
Dept. of Resource Conservation and Environmental Protection
China National Development and Reform Commission

中国能效及提升途径

Chinese Energy Efficiency and Improvement Approaches

谢　极

Xie Ji　Deputy Director-General

中国国家发展改革委 环资司

Dept. Of Resources Conservation & Environment Protection

National Development and Reform Commission

2013-9-25

目 录
Contents

NDRC

一、“十一五”以来中国节能主要成效

Main Achievements since the 11th FYP Period

二、中国能效提升途径

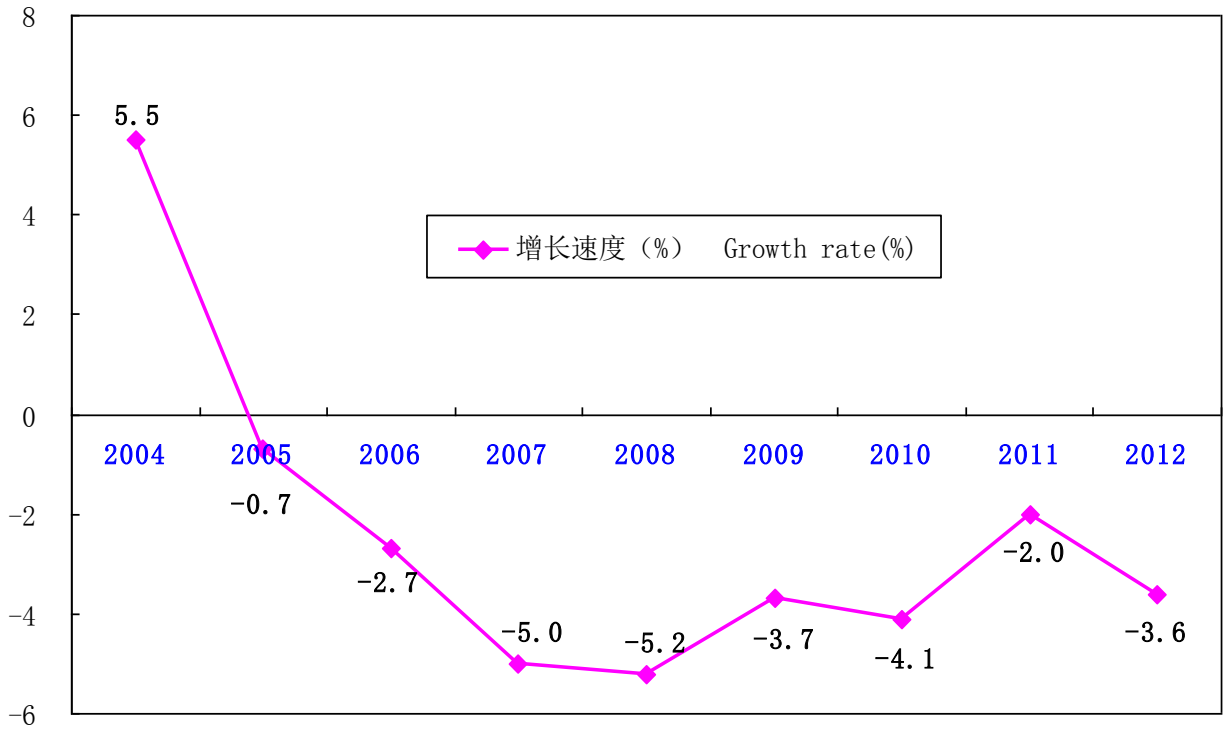
Approaches to Improve Energy Efficiency

一、”十一五”以来中国节能主要成效

Main achievements since the 11th FYP period

单位GDP能耗变化情况（2004-2012）

Variation of Per Unit of GDP Energy Consumption



“十一五”以来，中国GDP能耗逐年下降，累计下降23.5%，实现节能8.4亿吨标准煤。

China’s per unit of GDP energy consumption has fallen year by year since the 11th FYP period with accumulative decrease of 23.5%, saving about 840 million tce.

一、”十一五”以来中国节能主要成效

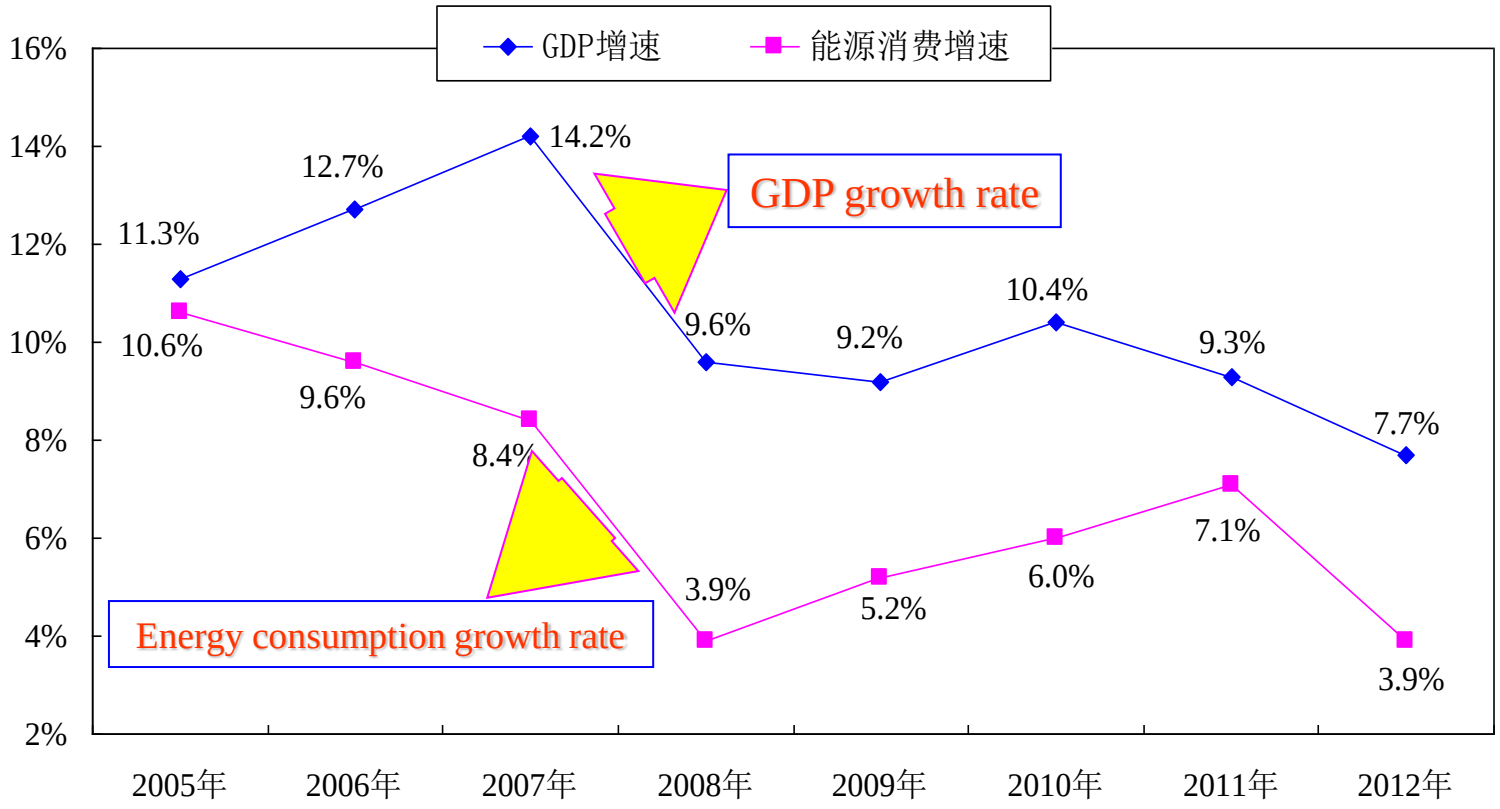
Main achievements since the 11th FYP period

- 以能源消费年均6.3%的增速支撑了国民经济年均10.4%的增长

  An average energy consumption growth rate of 6.3% supported an average economic growth rate of 10.4%.

- 能源消费弹性系数由“十五”时期的1.04下降到2012年的0.51

  Energy consumption elasticity dropped from 1.04 during the 10th FYP period to 0.51 in 2012.



一、”十一五”以来中国节能主要成效
Main achievements since the 11th FYP period

- “十一五”和“十二五”节能目标及实现情况

The energy conservation targets and implementation status during the 11th FYP period and the 12th FYP period.

单位GDP能耗下降情况
(Decrease of per unit GDP energy consumption)

“十一五”时期（2006～2010） During the 11th FYP period		“十二五”时期（2011～2015） During the 12th FYP period		
目标 Target	实现 Target completed	目标 Target	到2012年下降 Decreased by 2012	完成“十二五”进度 Progress achieved for the 12th FYP target
20%左右 About 20%	19.1%	16%	5.5%	32.7%

二、目标实现途径

Approaches to realize energy conservation target

（一）目标分解与考核（Target decomposition and performance evaluation）

（二）调整产业结构（Industrial structure adjustment ）

（三）重点用能领域节能改造行动（ Energy-saving retrofit action in major energy-consuming industries）

（四）绿色建筑节能行动（ Energy-saving action in green buildings ）

（五）交通领域节能行动（Energy-saving action in transportation ）

（六）公共机构节能行动（Energy-saving action in public institutions ）

二、目标实现途径

Approaches to realize energy conservation target

（七）高能效产品的推广行动（Promotion of energy efficient products）

（八）能力建设行动（Capacity building action)

（九）节能低碳财政政策综合试点（Demonstration of energy-saving and low-carbon fiscal policy)

（十）节能环保产业（Development of energy-saving and environmental protection industries)

（十一）国际合作（International cooperation)

（一）目标分解与考核
Target decomposition and performance evaluation

- 将中国31个省（市、区）节能目标分解为五档

Decompose the energy efficiency target for 31 provinces (including province-level cities and regions) into five classes

“十二五”节能目标（%） Energy efficiency target during the 12th FYP period (%)	地　区 Provinces	
18	天津、上海、江苏、 浙江、广东	Tianjin, Shanghai, Jiangsu, Zhejiang, Guangdong
17	北京、河北、辽宁、山东	Beijing, Hebei, Liaoning, Shandong
16	山西、吉林、黑龙江、 安徽、福建、江西、河南、 湖北、湖南、重庆、四川、陕西	Shanxi, Jilin, Heilongjiang, Anhui, Fujian, Jiangxi, Henan, Hubei, Hunan, Chongqing, Sichuan, Shanxi
15	内蒙古、广西、贵州、 云南、甘肃、宁夏	Inner Mongolia, Guangxi, Guizhou, Yunnan, Gansu, Ningxia
10	海南、西藏、青海、新疆	Hainan, Tibet, Qinghai, Xinjiang

- 每年组织有关部门及专家到地方进行节能目标责任评价考核，并向社会公告考核结果

Implement target responsibility mechanism and organize relevant departments and experts annually to evaluate, assess and publicize the energy efficiency improvement performance of local governments.

（二）调整产业结构

Industrial structure adjustment

- 抑制高耗能、高排放行业过快增长

  Inhibit industries of high energy consumption and emission from excessive growth.

  - ✓ 能评制度自2010年建立以来，发挥了控制能源强度和能源消费总量的“双控”作用

    Since its establishment in 2010, the system of Energy Efficiency Assessment for Fixed-assets Investment Projects has played the dual function of controlling energy intensity and absolute consumption.

- 加快淘汰落后产能

  Accelerate the elimination of backward production capacity.

- 推动传统产业改造升级

  Promote the transformation and upgrading of traditional industries.

- 调整能源消费结构

  Adjust the energy consumption structure.

- 提高服务业和战略性新兴产业在国民经济中的比重

  Enhance shares of the service industry and Strategic Emerging Industries in national economy.

（三）重点用能领域节能改造行动

Energy-saving retrofit action in major energy-consuming industries

- 实施锅炉窑炉改造、电机系统节能、能量系统优化、余热余压利用、热电联产、节约替代石油等节能改造工程

Implement energy-saving retrofit projects: the transformation of boiler and furnace, transformation of motor system, systematic energy utilization optimization, integrated utilization of waste heat and pressure, CHP, oil saving and replacement and so on.

- 重点推进电力、煤炭、钢铁、有色金属、石油石化、化工、建材、造纸、纺织、印染、食品加工等行业节能减排

Focus on promoting the energy saving and emission reduction efforts in such industries as electricity, coal, iron and steel, nonferrous metals, petroleum, petrochemicals, chemicals, building materials, paper-making, textile, printing and dyeing, food processing and so on.

（三）重点用能领域节能改造行动

Energy-saving retrofit action in major energy-consuming industries

- 万家企业节能低碳行动：2012年，中国国家发展改革委公布了六大行业共16078家万企业，包括工业、道路运输、港航运输、商贸、宾馆饭店和学校，其中工业企业14641家，占91%；“十二五”万家企业要实现节能2.5亿吨标准煤

Top-10,000 Enterprises Energy-saving and Low-carbon Action: in 2012, the National Development and Reform Commission conducted energy efficiency improvement in 16,078 enterprisers in six sectors including industrial, road transport, port and shipping transport, trade, hotels and schools, among which 91% were industrial enterprises with a number of 14,641. This action aims to save 250 million tons of standard coal during the 12th FYP period.

（四）绿色建筑节能行动

Energy-saving action in green buildings

- 在城镇化进程中推进绿色建筑行动

  Promote green building action along with China's urbanization.

- 主要目标：“十二五”期间，新建绿色建筑10亿平方米，2015年城镇新建建筑中

  绿色建筑的比例达到20%；对各类既有建筑实施节能改造近6亿平方米

  Main target: newly built green buildings reach to 1 billion square meters during the 12th FYP period, with the share of green buildings in newly built buildings in urban areas up to 20% in 2015; performing 600 million square meters of energy-saving renovation for existing buildings.

（五）交通领域节能行动

Energy-saving action in transportation

- 主要目标：与2005年相比，营运车辆单位运输周转量能耗下降10%；营运船舶单位运输周转量能耗下降15%；港口生产单位吞吐量综合能耗下降8%

  Main target: compared to 2005, the energy consumption per volume of freight transportation of operating vehicles down by 10%; that of operating ships by 15%; comprehensive energy consumption of unit cargo handling capacity of port production by 8% in 2015.

- 重点工程：营运车船燃料消耗量准入与退出工程、节能与新能源车辆示范推广工程、甩挂运输节能减排推广工程、智能交通节能减排工程等十大工程

  Key projects: 10 projects, such as the entry and exit project for fuel consumption of operating vehicles and ships, the demonstration and promotion project of energy saving and new energy vehicles, the promotion project of energy saving and emission reduction for drop and pull transport, the energy saving and emission reduction project for intelligent transportation.

（六）公共机构节能行动

Energy-saving action in public institutions

- 节能量目标：以2010年能源资源消耗为基数，2015年人均能耗下降15%，单位建筑面积能耗下降12%

  Energy saving statistics: based on the energy and resource consumption of 2010, per capita energy consumption down by 15% in 2015; energy consumption of unit construction area down by 12%.

- 重点工程：节约型公共机构示范单位建设工程、绿色数据中心工程、节能与新能源公务用车推广工程等

  Key projects: the demonstration project of energy-saving public institutions, the project of green data center, and the promotion project of government energy-saving and new energy vehicles and so on.

（七）高能效产品的推广行动

Promotion of energy efficient products

- 2009年6月，启动节能产品惠民工程，陆续推广节能家电（空调、平版电视、电冰箱等）、高效照明产品（节能灯和LED灯等）、节能汽车、高效电机、风机、水泵、压缩机和变压器等

  In June 2009, the Energy Saving Product Benefiting People Program was launched to successively promote energy-saving appliances (air-conditioners, lithography TVs, refrigerators, etc.), energy-efficient lighting products (energy-saving lamps and LED lamps, etc.), fuel-efficient vehicles, highly-efficient motors, fans, pumps, compression machines and transformers.

- 截至今年5月，推广高效节能家电1.4亿台（套），节能灯6.8亿只，节能汽车750多万辆，高效电机2000多万千瓦，直接拉动消费近1.2万亿元，高效节能家电产品市场占有率达60%以上

  By this May, it has promoted 140 million units (sets) of energy efficient appliances, 680 million pieces of energy-saving lamps, more than 7.5 million of energy efficient vehicles, and over 20 million kilowatts of high efficient motors, and directly boosted consumption of nearly 1.2 trillion RMB Yuan with energy efficient home appliances taking a market share of more than 60%.

（八）能力建设行动

Capacity building action

- 百项能效标准推进工程：2012年6月，中国国家发展改革委、国家标准委联合启动，拟在两年时间里发布100项重要节能标准，提高节能准入门槛，发挥倒逼和引领作用，促进节能减排。2012年共发布能效标准54项，制修订高耗能能耗限额标准28项

Project for promoting 100 energy efficiency standards: in June 2012, National Development and Reform Commission and National Standards Committee jointly launched the project with the aim to release 100 major energy efficiency standards within two years, to improve the access threshold of energy saving, and play a forcing and leading role to promote energy saving and emission reduction. In 2012, a total of 54 energy efficiency standards were issued; 28 limitation standards for high energy consuming products were established or revised.

（八）能力建设行动

Capacity building action

- 省、市、县节能监察机构能力建设：近两年，中央预算内资金相继支持了1194个市、县节能监察机构，配套节能相关检测、监测仪器设备

  Capacity building for provincial, city and county-level energy supervising institutions: in the past two years, the central budget funds have funded 1194 city and county-level energy monitoring institutions with detection and monitoring equipment.

- 万家企业能耗在线监测系统：按照地区之间、部门之间“统一平台、动态分析、数据共享”原则，目前，已在北京、山西、河南、浙江等地区开展试点

  Energy Consumption online monitoring system for Top-10,000 Enterprises: According to the principle of unified platform, dynamic analysis, data sharing among regions and departments, pilot projects are on the way in regions such as Beijing, Shanxi, Henan and Zhejiang.

（九）节能减排财政政策综合示范

Demonstration of energy saving and low-carbon fiscal policy

- 2011年，财政部、发展改革委选择北京、重庆、深圳、杭州、吉林、新余、长沙、贵阳共8个城市启动节能减排财政政策综合示范

  In 2011, Ministry of Finance, Development and Reform Commission selected 8 cities including Beijing, Chongqing, Shenzhen, Hangzhou, Jilin, Xinyu, Changsha and Guiyang to comprehensively demonstrate fiscal policies of energy saving and emission reduction.

- 探索以城市为平台，以产业低碳化、交通清洁化、建筑绿色化、服务业集约化、废弃物减量化和循环化、新能源利用规模化为目标，整合财政支持政策，推动节能减排体制机制创新

  To create cities as platforms, to innovate energy saving and emission reduction mechanisms based on low-carbon industry, clean transportation, green building, intensive service, scaling of new energy utility, waste reduction and integrated financial support policies.

- 自2012年实施以来，效果较好，目前考虑进一步扩大试点范围

  Since the implementation in 2012, good effects have been achieved and the following expansion is under discussion.

（十）节能环保产业

Development of energy-saving and environmental protection industries

- 节能环保约束性目标，为节能环保产业的发展提供了机遇

  Binding targets of energy saving and environment protection have provided opportunities for the development of energy-saving and environmental protection industry.

- 节能环保产业产值年均增速在15%以上，到2015年，总产值达到4.5万亿元，成为国民经济新的支柱产业

  The annual average growth rate of the output value of energy-saving and environmental protection industry is more than 15%, and the total output value will be 4.5 trillion RMB Yuan by 2015, becoming a new pillar industry of national economy.

（十）节能环保产业

Development of energy-saving and environmental protection industries

- 加快节能技术装备升级换代，推动重点领域节能增效：高效锅炉、高效电动机、蓄热式燃烧技术、新能源汽车技术、半导体照明产业化

  Increase EE by accelerating the upgrading of energy-saving technologies and equipment in following key areas: efficient boilers, high efficiency electric motors, regenerative combustion technology, new energy vehicle technology, semiconductor lighting industrialization.

- 壮大节能环保服务业：发展节能服务产业、扩大环保服务产业、培育再制造服务产业

  Expand and strengthen energy-saving and environmental services: develop the service industry of energy saving, expand service industries of environmental protection, cultivate the remanufacturing service industry.

（十一）国际合作

International cooperation

- 中美（Sino-American）：2009年签署能源环境十年合作框架下能效行动计划，加强建筑、工业、标准、市场化机制等能效领域合作。2010-2012年分别在北京和旧金山成功举办了3届中美能效论坛，签约了8个合作项目

  Sino-American: in 2009, Energy Efficiency Action Plan was signed under the framework of Ten Year Cooperation for Energy and Environmental Protection to strengthen the cooperation in energy efficiency fields of building, industry, standards and market-based mechanisms. 3 sessions of China-US Energy Efficiency Forum were successfully held in Beijing and San Francisco during the period of 2010-2012, and 8 cooperation projects have been signed.

- 中日（Sino-Japan）：中日节能环保综合论坛，开展节能环保示范项目，加强中日节能人才培训合作，开展重金属污染治理合作。从2006年起，连续举办了七届中日节能环保综合论坛，签署了218个合作项目

  Sino-Japan: Sino-Japanese energy conservation and environment protection forum, energy-saving demonstration projects, cooperation in the trainings of energy saving employees, cooperation on heavy metal pollution controlling. Since 2006, 7 Sino-Japanese energy conservation and environment protection forums have been held and 218 cooperation projects have been signed.

（十一）国际合作

International cooperation

- 国际能效合作伙伴关系（IPEEC）：多边能效合作机制，是各成员国能效交流和合作的重要平台，目前共14个成员国，中国为副主席国，并于2011年在中国举办了第四届政策委员会会议，2012年提出了“双十佳”项目倡议，得到了多个成员国赞同

  International Partnership for Energy Efficiency Cooperation (IPEEC): the multilateral cooperation mechanism of energy efficiency is an important platform for exchanges and cooperation for member states to communicate energy efficiency and cooperation. It now has 14 member states with China as Vice President Country. In 2011 the 4th session of the policy committee meeting was held in China, in 2012 the “double Ten Top” project initiative was proposed and endorsed by multiple members.

- 世行一期、二期、三期：由国家发展改革委与财政部、世界银行、GEF联合启动，一期、二期为中国节能促进项目，三期为中国节能融资项目，利用世行转贷资金和国内配套资金，促进中国建立节能市场化机制和节能服务公司的发展

  First, second and third phases of World Bank project: these projects are jointly launched by China’s National Development and Reform Commission, Ministry of Finance, World Bank and GEF. First and second phases are for China’s Energy Saving Promotion Project, while the 3rd phase for China’s Energy Efficiency Financing Project, aiming to promote the establishment of market mechanism of energy saving and the development of energy saving service companies by using fund from the World Bank and domestic resources.

小 结

Summary

- 经济发展，资源环境约束越来越明显

  Accomplish with the economic development, resource and environmental constraints become increasingly evident.

- 人们对环境改善要求越来越强烈，如要改善大气雾霾的影响

  Growing demand for environmental improvement come from citizens, such as to reduce air pollutants and improve the quality of atmospheric environment.

小 结

Summary

- 转方式、调结构，节能环保的抓手作用进一步凸显

  Gripping function of energy saving is further highlighted as the economic development pattern is to be transformed and the industrial structure is to be adjusted.

- 中国节能减排任务依然艰巨，“十二五”后三年单位GDP能耗年均需下降3.84%才能完成“十二五”节能目标任务

  The task of energy saving in China is still arduous. It can only say that the energy-saving goals and tasks of the "12th 5-year-plan" are finished if the unit GDP energy consumption annually fell 3.84% during the last 3 years of the "12th 5-year-plan".

Thank you for your attention!

4th U.S.-China Energy Efficiency Forum

Remarks by:

Jiang Lin

Chairman
Energy Foundation – China Sustainable Energy Program

Jiang Lin, Senior Vice President, The Energy Foundation, Sept 25th, 2013

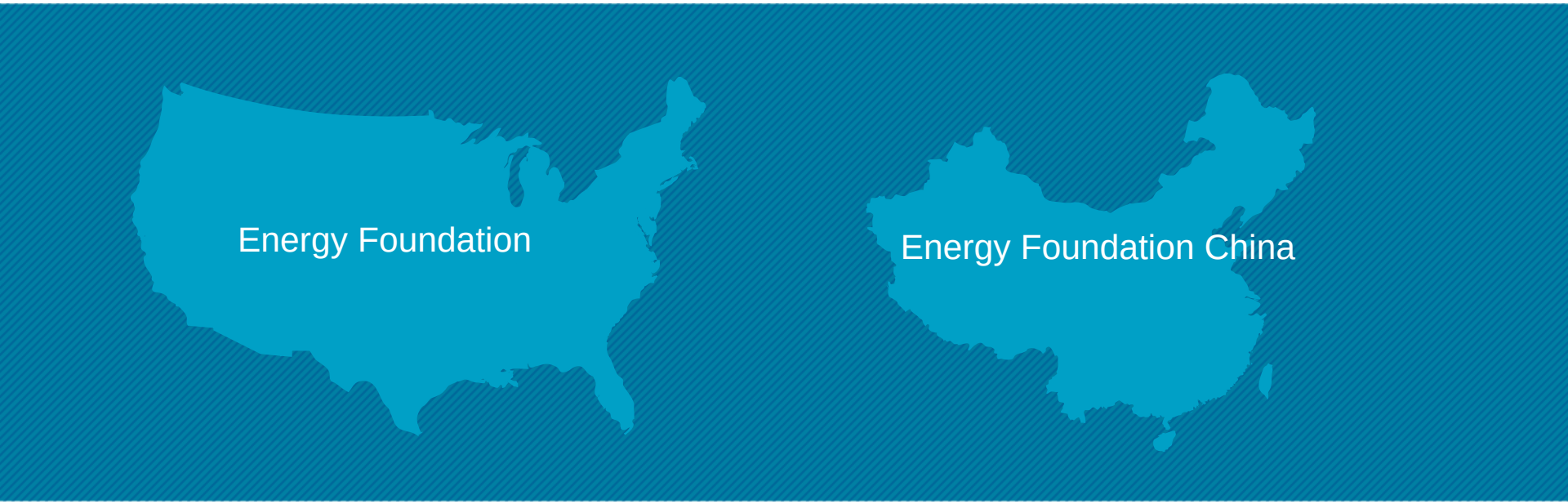
Partnership and Policy for Energy Efficiency

ENERGY FOUNDATION
能源基金会

Our Mission

To assist in China's transition to a sustainable energy future by promoting energy efficiency and renewable energy

Energy Foundation - 22 years in the US, 14 years in China

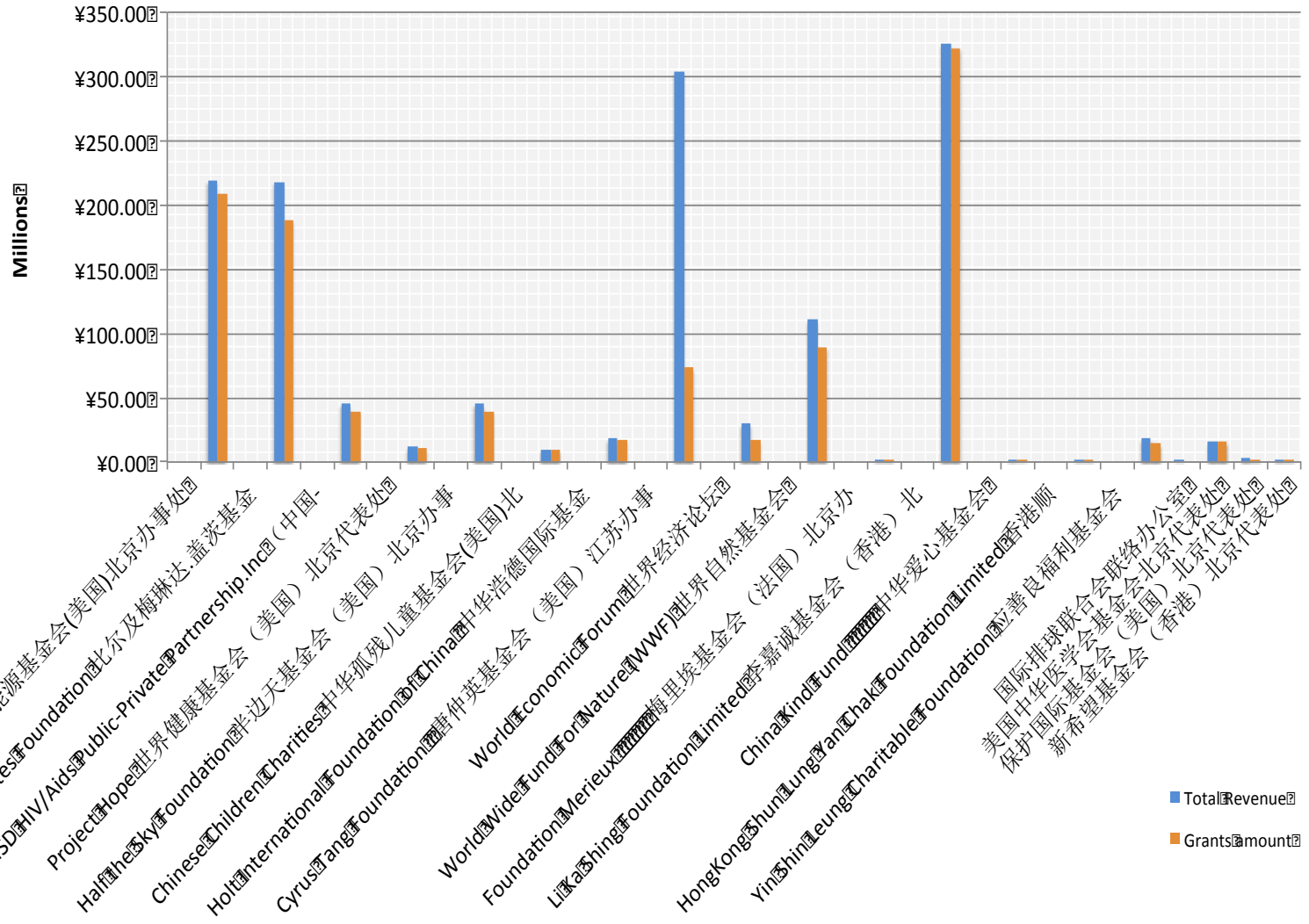


- Founded in SF, USA in 1991
- Focusing on policy to advance energy efficiency and renewable energy.

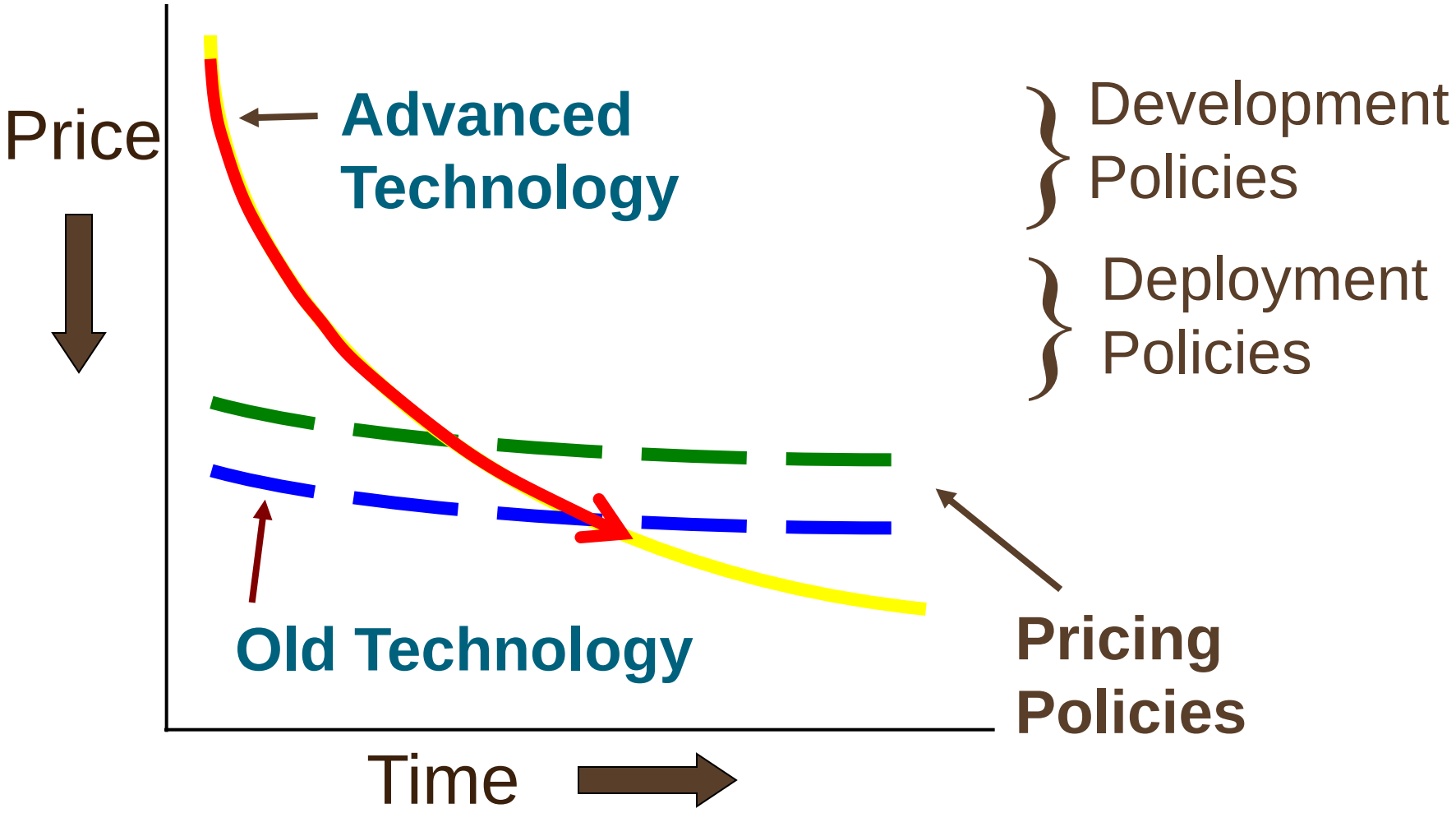
- Founded in Beijing in 1999.
- Focusing on energy efficiency, renewable energy and climate change.

No.1 funder among NGOs in energy/environment

- There are 19 global NGOs registered in MOCA
- Energy Foundation is listed as No. 2 in total funding (2011 figure)



Policy Catalyzes Markets



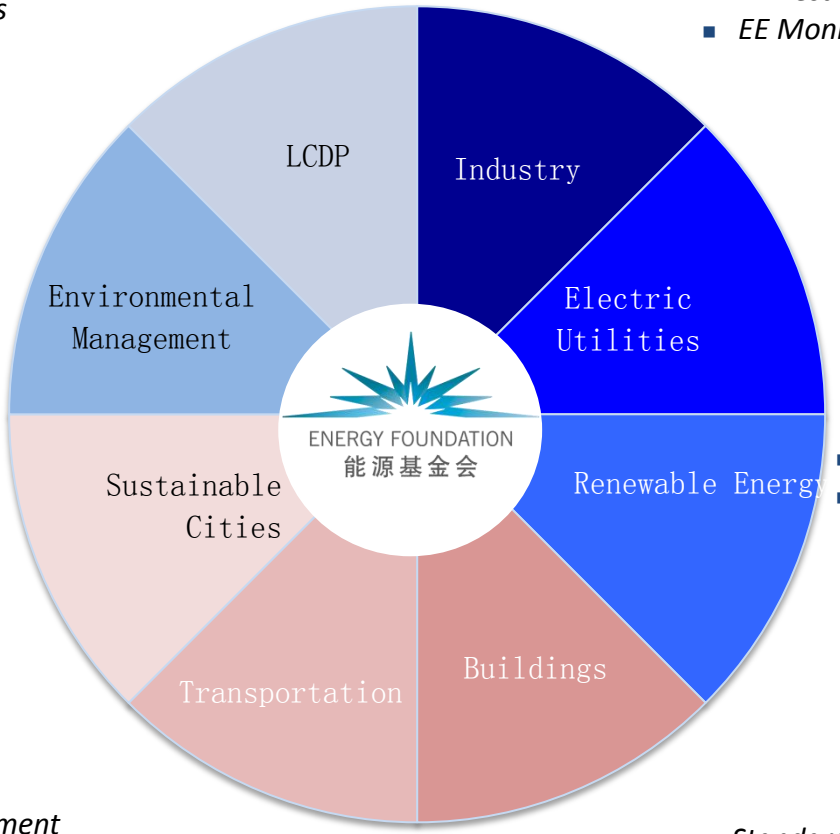
Energy Foundation focuses on 8 program areas

- *National Energy and Climate Target*
- *Local Implementation*
- *Market-Based Instruments*
- *Joint Initiative with NCSC*

- *Industrial EE Policies and Standards*
- *EE Best Practices*
- *EE Monitoring and Services*

- *Environmental Regulatory System Reform*
- *Air Quality Management*
- *Life Cycle Environmental Impacts of Energy Use*

- *Demand-Side Energy Efficiency*
- *Clean and Efficient Power System*
- *Coal and CCS*



- *Pilot Program*
- *National Policy*
- *Strategic Outreach and Capacity Building*

- *Renewable Energy Policy*
- *Renewable Energy Grid Integration*

- *Vehicle Fuel Efficiency Improvement*
- *Regulations on Emissions and Fuels*
- *New Energy Vehicles Promotion*
- *Transportation System Improvement*

- *Standards and Labels*
- *Buildings Codes*
- *Green Buildings*

Partnering with 150~ institutions in China and the US

国家电网 STATE GRID
中国电力科学研究院 CHINA ELECTRIC POWER RESEARCH INSTITUTE

清華大學 Tsinghua University

CPCIF

中国标准化研究院 CHINA NATIONAL INSTITUTE OF STANDARDIZATION

北京地球村

PEKING UNIVERSITY 1898

CERS 中国能源研究会

国家发展和改革委员会能源研究所 Energy Research Institute National Development And Reform Commission

BERKELEY LAB Lawrence Berkeley National Laboratory

ROCKY MOUNTAIN INSTITUTE

UC DAVIS UNIVERSITY OF CALIFORNIA

RESOURCES FOR THE FUTURE

WORLD RESOURCES INSTITUTE

icct THE INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION

THE PAULSON INSTITUTE

NRDC THE EARTH'S BEST DEFENSE

RAP

CALTHORPE ASSOCIATES URBAN DESIGNERS, PLANNERS, ARCHITECTS

VE RI TAS HARVARD

Remarks by:

Li Xinghua

Transport Planning and Research Institute
China Ministry of Transport

Green Transport in China

Current Status and Prospects

Li Xinghua Director-General

Transport Planning and Research Institute

Ministry of Transport, P. R. China

US-China

Develop convenient, safe, economic, efficient, green transport system in China

- Transport as one of key areas for energy saving and emission reduction
- Rapid development facing challenge of sustainability

1

Overview of Transport Development

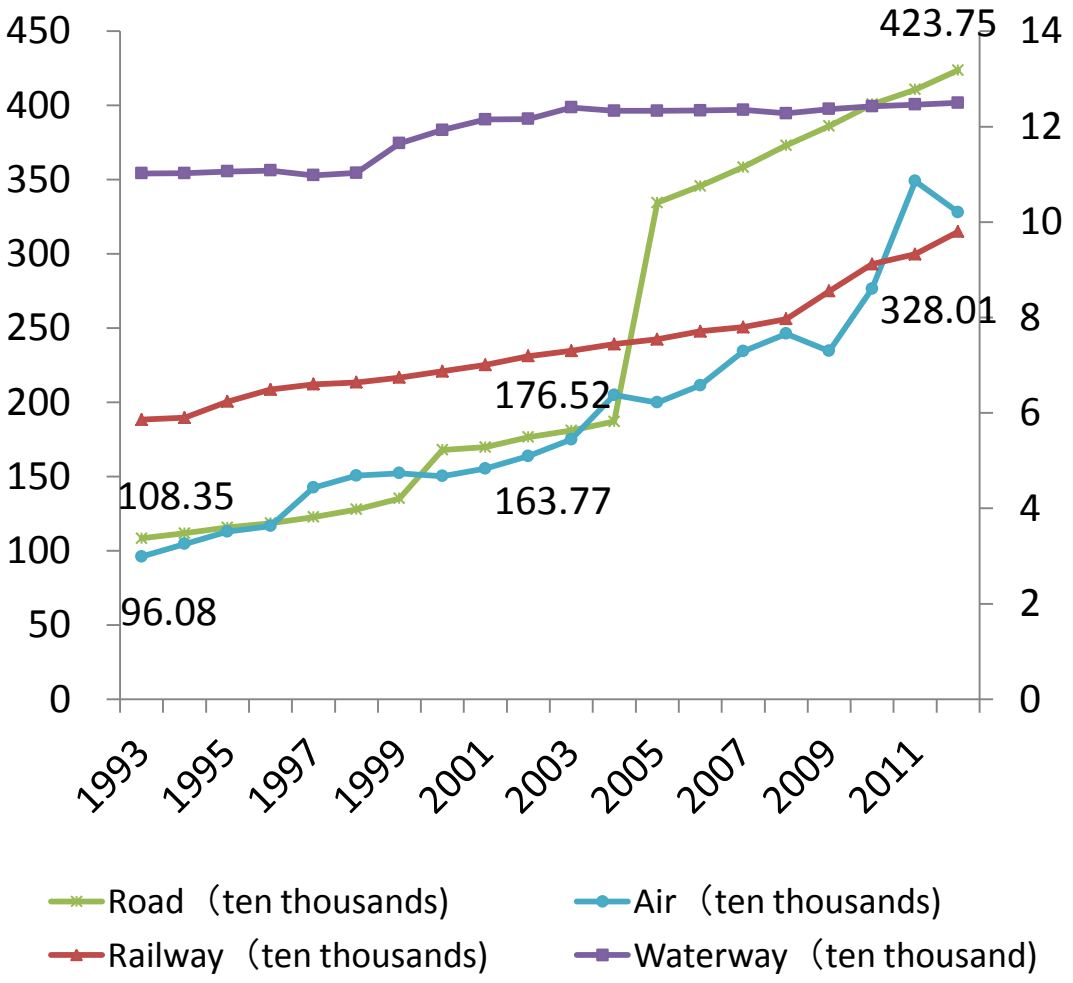
Fast Growth of Transport Infrastructure

- Highway

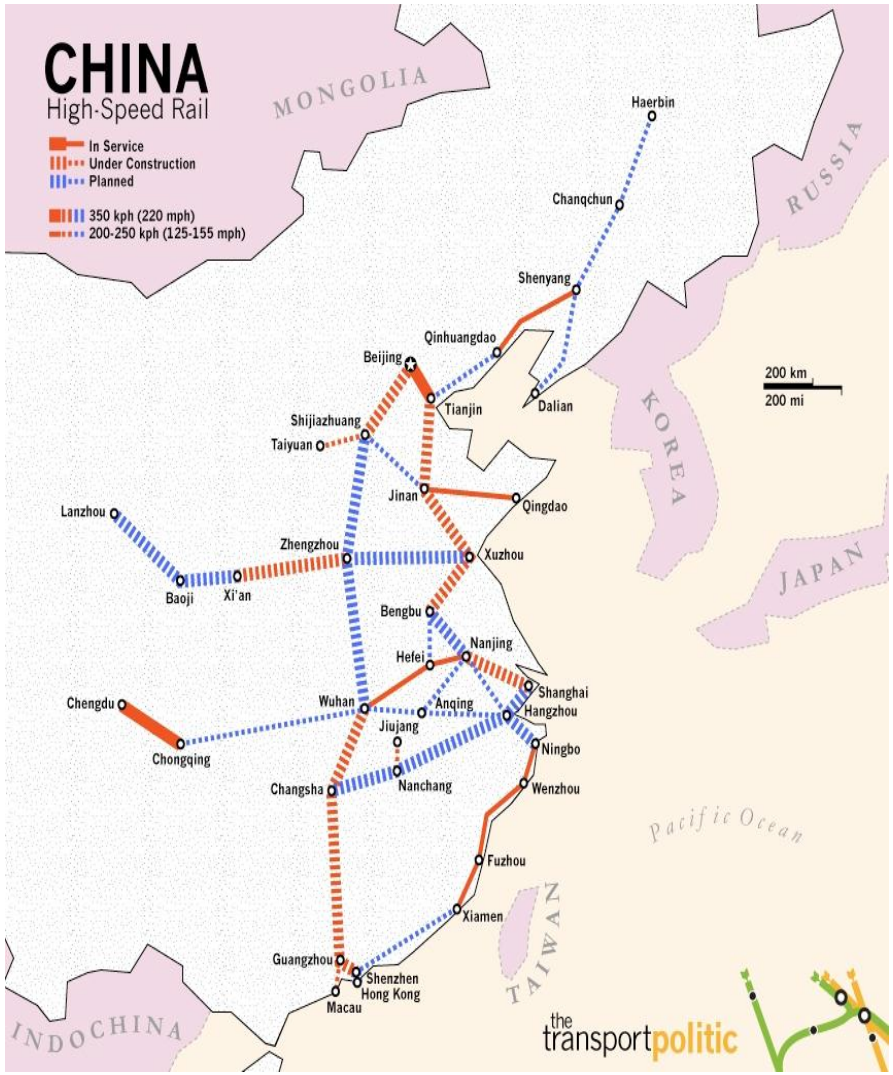
4.23 million km

- Expressway

96,200 km



Fast Growth of Transport Infrastructure



- Railway

98,000 km

- High-speed railway

9,365 km

Rapid Development of Transport Service

Freight Volume

41.2

billion tons

Freight Turnover

17.3

trillion ton-kms

Port Throughout

9.74

billion tons

Passenger Volume

37.9

billion person-times

Passenger Turnover

3.3

trillion person-kms

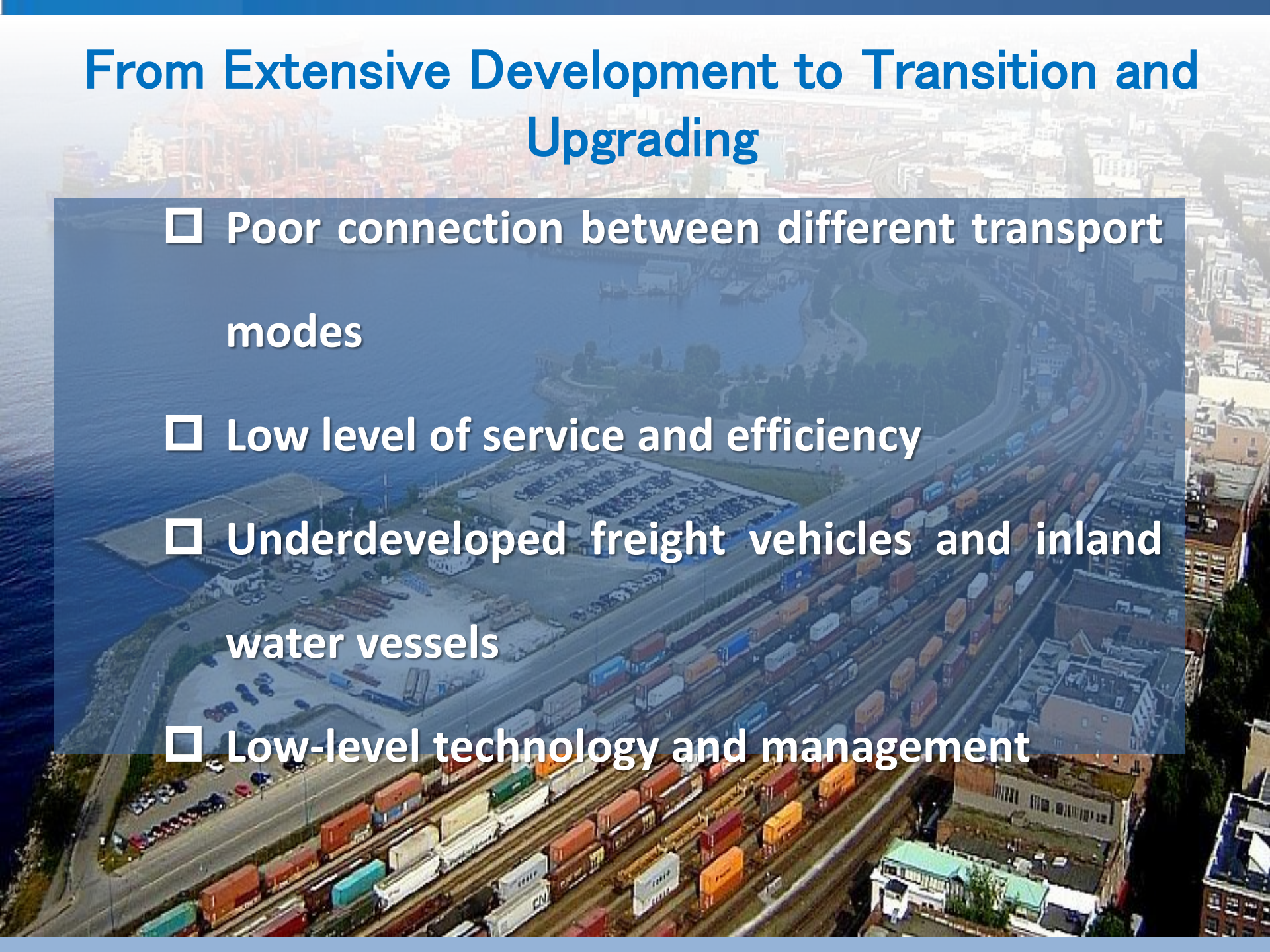
Container Throughout

180

million TEU

From Extensive Development to Transition and Upgrading

- Poor connection between different transport modes
- Low level of service and efficiency
- Underdeveloped freight vehicles and inland water vessels
- Low-level technology and management

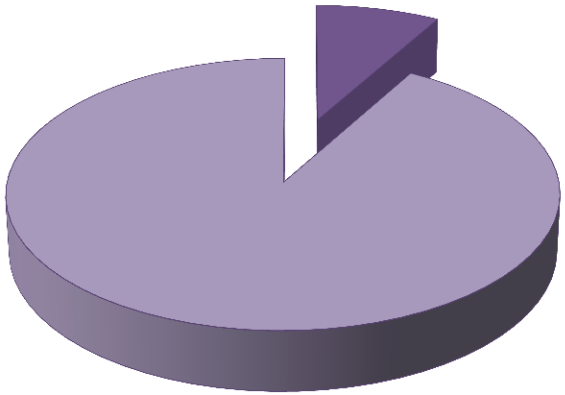


2

Energy Consumption in Transport Sector

Transport: Main Sector of Energy Consumption

8.2% by transport



Energy Consumption

1/3 by transport

Fuel Consumption

In 2012, transport consumed 285 million tons SCE, increased by 1.6 times in 10 years

Energy Saving in Transport Sector

Road Transport

- Energy Saving: 2.84 million SCE
- Emission Reduction: 6.16 million tons

Waterway Transport

- Energy Saving: 1.28 million SCE
- Emission Reduction: 2.88 million tons

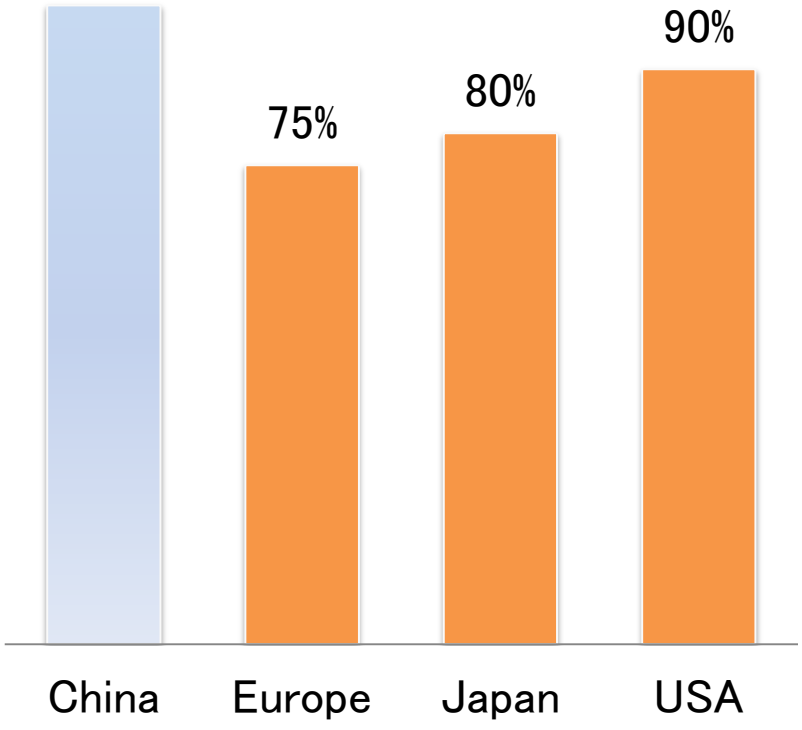
Ports

- Energy Saving: 0.08 million SCE
- Emission Reduction: 0.13 million tons

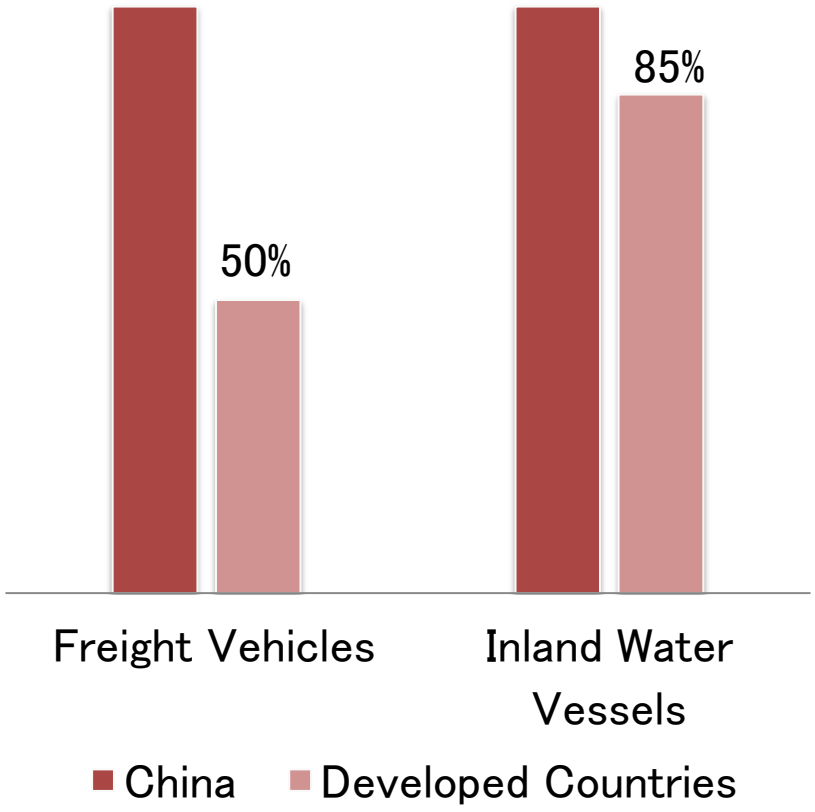
Energy Saving in Transport Sector

2020 / 2005	Energy consumption per unit transport turnover	CO_2 emission per unit transport turnover
Commercial vehicles	−16%	−18%
Commercial vessels	−20%	−22%
Urban passenger transport	−26%	−30%

Energy Efficiency in Transport Sector

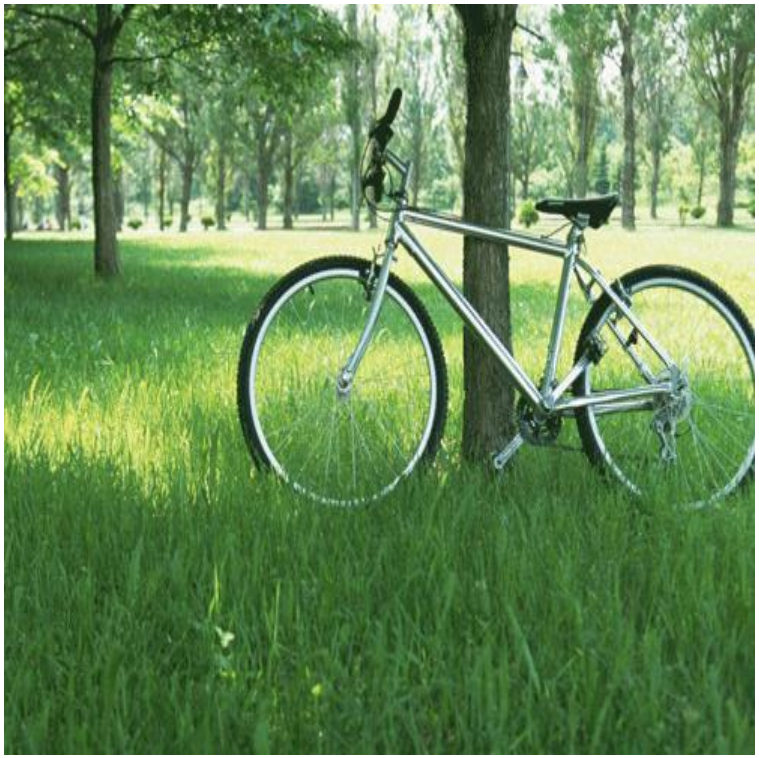


Fuel Consumption of Vehicles



General Strategy and Measures for Green Transport

3



Emphasize Top-level Design & Identify Key Tasks

Issue a series of regulations and guidelines

Development of low-carbon transport system

Policies and action plan in addressing climate change

Plan for energy-saving and emission-reduction（2011-2015）

Promoting green, recycling and low-carbon transport development

Initiate Pilot Programs

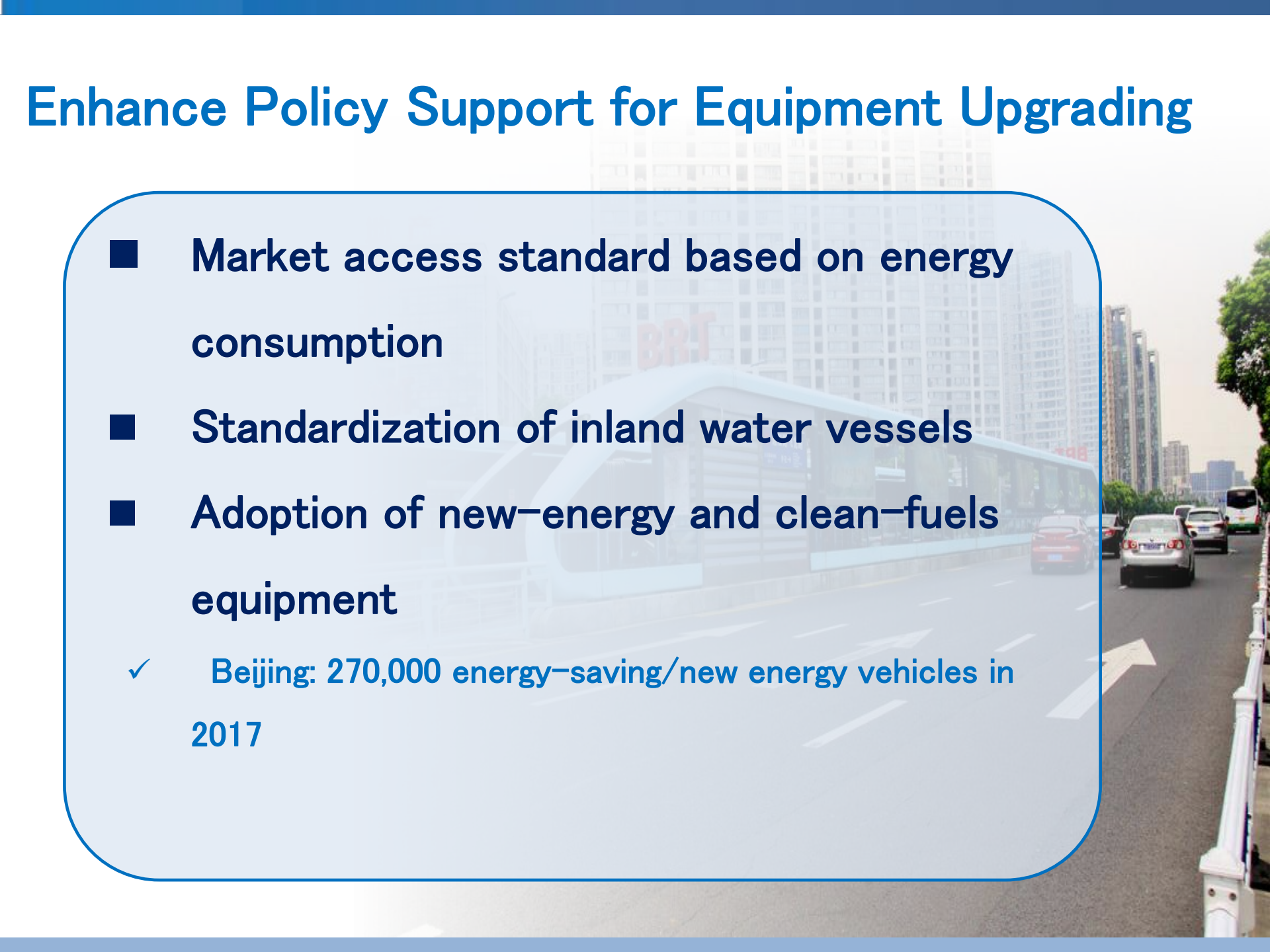
- 26 Pilot cities of low-carbon transport
- Pilot programs in certain regions or with specific themes:
  - ✓ 10 cities, 4 ports and 7 roads
- 100 pilot projects
- Enterprises participation
- Energy consumption monitoring and statistics

Optimize Transport Service Organization

- **Transport network and structure**
  - ✓ Interconnectivity between transport modes
- **Advanced service modes**
  - ✓ Drop-and-pull transport and joint distribution
- **Public transport priority**
  - ✓ Guideline on Prioritizing Urban Public Transport Development

Enhance Policy Support for Equipment Upgrading

- Market access standard based on energy consumption
- Standardization of inland water vessels
- Adoption of new-energy and clean-fuels equipment
  - ✓ Beijing: 270,000 energy-saving/new energy vehicles in 2017



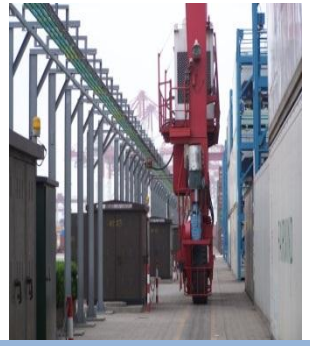
Facilitate Technology Innovation

Initiate demonstration projects

- ✓ energy-saving operation of expressway

ICT application

- ✓ ETC, ITS
- ✓ Logistics Information System



Energy-saving equipment and technology

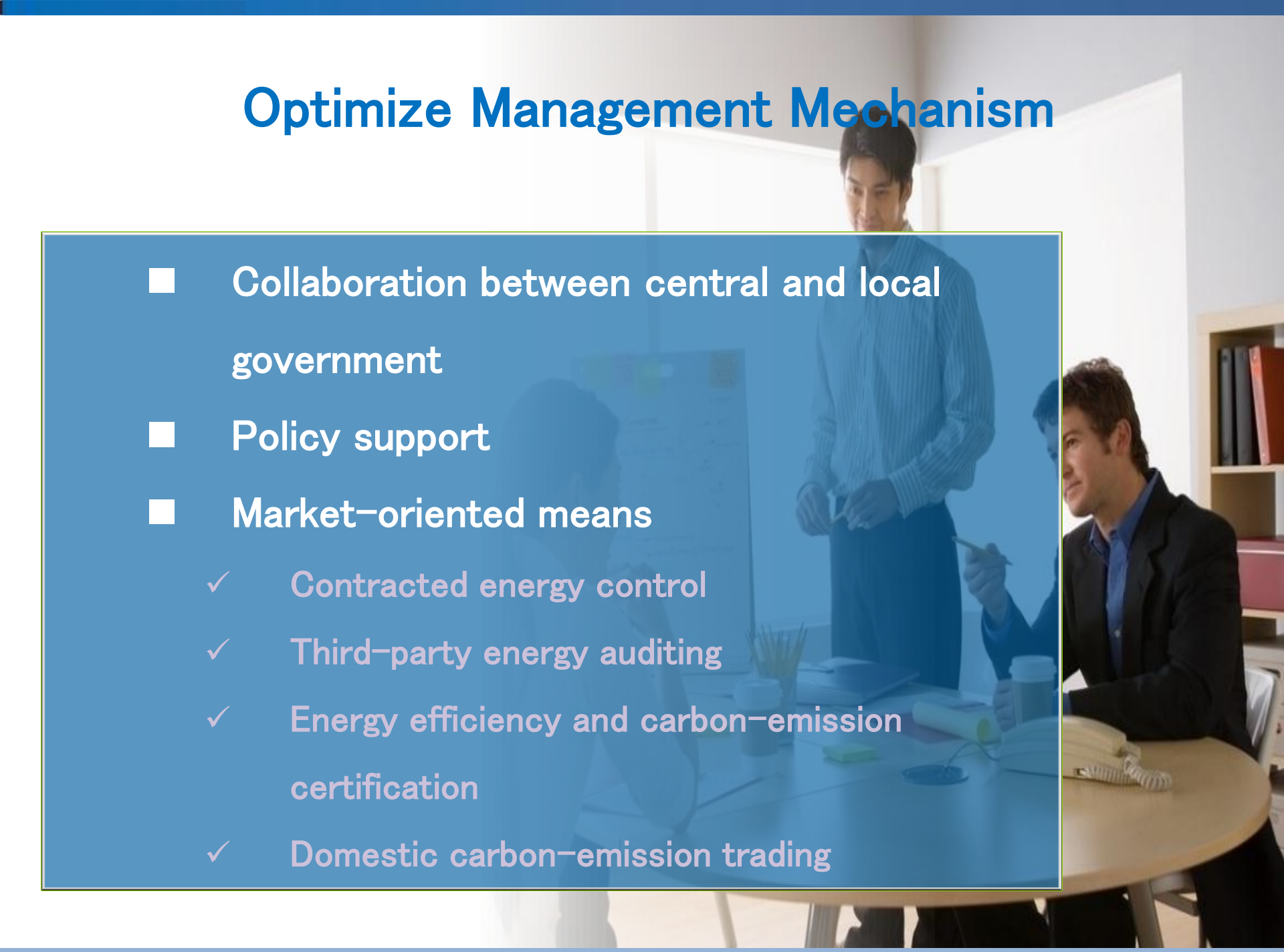
Future Prospects and Suggestions

4

Refine Top-level Design

- Next-stage roadmap and timetable
- Responsibility mechanism and monitoring/evaluation system
- Organization and management system

Optimize Management Mechanism



- Collaboration between central and local government
- Policy support
- Market-oriented means
  - ✓ Contracted energy control
  - ✓ Third-party energy auditing
  - ✓ Energy efficiency and carbon-emission certification
  - ✓ Domestic carbon-emission trading

Expand Pilot Programs

- Spread of pilot projects experiences
- “Green Urban Freight Transport”

Strengthen Capacity Building

- Rules and regulations system
- Policy improvement
- Statistics, monitoring and evaluation system
- Standards and manuals

Establish a specific platform for cooperation of technology and policy study within the framework of US-China EEF

A harmonious and inclusive globe

embracing social mobility with environment and resources

4th U.S.-China Energy Efficiency Forum

Thank you!

Please proceed to lunch