

# Governance on Climate Change Mitigation in China

Guo Yuan  
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## Standpoint of China on Addressing Climate Change

- Climate change is a common challenge faced by human being
- “Common but differentiated responsibilities” must be insisted
  - recognizing developed countries and developing countries in their
    - historical emissions
    - current socioeconomic capabilities

## China's Attitude to Address Climate Change

- Addressing climate change should
  - within the framework of sustainable development
  - give equal emphasis on mitigation and adaptation
- Climate change policy should integrate with other development policies
  - A way towards to co-benefits
- In China, climate change policy will integrate with the policies of
  - energy saving
  - non carbon and low carbon energy development
  - ecological system improvement, and etc.

## Most Recent Programme in China for Addressing Climate Change

- In 2006, the National People Congress validated the targets raised by the State Council, by 2010
  - reduce energy consumption per unit GDP output 20%
  - reduce pollutant emission 10%
  - control GHG emission
- In June 2007, Chinese government issued
  - **China's National Climate Change Programme**
    - Drawing a range of targets by 2010
  - **Working Plan for Integrating Energy Saving and Emission Reduction**
    - Detailed arrangement to reach the targets of 2010
  - **China's Scientific & Technological Actions on Climate Change**
    - Formulating priority areas for research and technology development before 2020

## Targets in China's National Climate Change Programme

- Reduce 20% of energy consumption per unit GDP on the base of 2005
- Raise the share of renewable energy up to 10% of primary energy consumption
- Utilize coal bed methane up to 10 billion m<sup>3</sup>
- NOx emission from industrial sector keep at 2005 level
- Increase forest coverage up to 20% of ground
  - increase carbon sink by 50 million tons compared with 2005
- Estimated carbon dioxide mitigation will amount to 900-1400 million tons in 2010

## Programme Undergoing ——10 Key-Projects for Energy Saving

1. Industrial boiler and kiln retrofit
  - Retrofit small and mid sized industrial boilers and kilns with fluidized bed combustion or pulverized coal combustion
2. Co-generation for district heating
  - Replace scattered small boilers with district heating
3. Waste heat and surplus pressure recovery in
  - iron and steel sector
  - building material sector
4. Save and substitute petroleum consumption in
  - road transportation sector
  - power generation sector

## Programme Undergoing —10 Key-Projects for Energy Saving

5. Optimizing driving systems for fans and pumps in coal mining and other sectors
6. Systematically optimize energy utilization in production process for petrochemical, iron and steel factories
7. Energy saving in public buildings
8. Green lighting
9. Energy saving in government office
10. Establishment of monitoring and technical support system for energy saving

## Programme Undergoing —Thousand Enterprises' Energy Saving Actions

- 1008 enterprises distributed in 9 industrial sectors
  - iron and steel, non ferrous metal, coal mining, electricity generation, oil refinery, petrochemicals, chemicals, building materials, textile, paper and pulp
- Each with annual energy consumption over 180 thousand tons of coal equivalents
- Total energy consumption in 2004 was 670 million tons of tce, accounted for
  - 1/3 of the country's energy consumption in 2004
  - 47% of industrial energy consumption at the same year

## Programme Undergoing —Thousand Enterprises' Energy Saving Actions

- Sign volunteer obligations to conduct
  - technical renovation
  - better energy management
  - total energy saving around 240 million tons coal equivalents

## Programme Undergoing —Thousand Enterprises' Energy Saving Actions

- The government will
  - help enterprises to set energy saving targets and implement measures
  - provide some financial supports
  - monitoring, validate and publish the progresses of energy saving of enterprises
  - give honor to the enterprises ahead of schedules and/or excess targets
  - take the implementation of energy saving as an annual examination item for managers of state owned enterprises

## Other Activities Ongoing

- “Instructive for Industrial Production Adjustment”
  - cover 20 industrial sectors
  - to eliminate 399 products or production processes
  - to limit 190 products or production processes
- Higher electricity prices for producing
  - high energy intensity products
  - high pollution products
- Shut down low efficient production capacities
  - especially in 13 industrial sectors
  - before 2010, shut down
    - over 40 million tons steel production capacity
    - around 100 million tons iron production capacity
    - over 40 GW generation capacity

## Other Activities Ongoing

- Energy audit and publish for large commercial buildings, office buildings, and public buildings
  - demonstrated in 17 provinces and municipal cities
- Obligatory energy saving examination and energy efficiency labeling for new
  - government buildings
  - public buildings
- Government energy saving, by 2010
  - conduct energy saving retrofit for 20% of government buildings
  - the central government cut 10 percent energy consumption per m<sup>2</sup> of office area and per staff, on the base of 2002

## Renewable Energy Promotion

- Renewable Energy Law enact on Jan.1<sup>st</sup>, 2006
- Establish a regime for
  - renewable energy obligations
  - legal guarantee for takeoff of electricity generated by renewable energy
  - favorite price for renewable energy generation and its cost sharing within the country
  - favorite tax rate, loan for renewable energy development
  - setting specific funding for renewable energy development

## Renewable Energy Development Targets

- By 2010
  - Build 30 wind farms each with installed generation capacity over 100 MW
  - Total on-grid wind turbine capacity over 5 GW
  - Total biomass and waste fueled generation over 5.5 GW
- By 2020
  - Renewable energy account for 15% of total primary energy consumption, in which
  - On-grid wind turbine capacity over 30 GW
  - Solar heater amount to 30 million square meters
  - Biogas utilization 24 million cubic meters

## Priority Projects of Specific Funding for Renewable Energy Development

- Integrated solar heat and/or solar voltaic utilization with building construction, for
  - hot water supply
  - space heating and/or air conditioning
  - lighting and etc.
- Heating and air conditioning using thermal pump technology and taking
  - earth or underground water as thermal resource
  - waste hot water as thermal resources
  - sea water as thermal resource
  - natural water, in water rich areas, as thermal resource

## Significant Support for Biogas Projects

- During 2003-2006
- 93.85 million Yuan of national debt used to support 98 biogas projects in large animal farms and poultry farms
- 5500 million Yuan of national debt used to support household biogas project in rural areas
  - 5.73 million farmer family in 48 thousand villages build new biogas digesters
  - By the end of 2006, about 22.6 million farmer families have biogas digesters



## Significant Support for Biogas Projects

- More financial support will be provided, by 2010
  - Biogas project in large and mid sized animal farms and poultry farms will amount to 4700
  - Farmers' household biogas project will amount to 40 million
    - 30% farmer families in the areas suitable for small biogas project development will have biogas digesters
    - replacing fossil energy consumption around 24.2 million tons coal equivalents
- Co-benefit
  - Improving living condition and surrounding sanitation
  - Liquid and solid output of digesters can substitute about 20% chemical fertilizer and pesticide

## Institutional Arrangement

- In June 12, 2007, China organized a Leading Group of Addressing Climate Change and Energy Saving, headed by Premier Weng Jiabao and Vice Premier Zeng Peiyan
- Assign energy saving responsibility to local governments on each level , and examine the implementation each year
- Financial support system
  - In 2007, the central government will provided 213 million Yuan for energy saving retrofit

## Government Play Important Roles

- As a responsible Party of UNFCCC and KP, China is serious to address climate change
- The government is trying to
  - transfer the challenge of climate change as a driving force for the country towards to sustainable development
  - give guidance, incentives, and even some pushes to enterprises and society in this regard
- In China, the governance of Climate & Development is mainly based on administrative measures
- Innovative market instrument is required

Thank You!