Climate change adaptation in China: national policy and regional practice

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Addressing climate change in China

- 1992: China signed up to join UNFCCC (US: 23%, EU: 20%, China: 11%)
- 1997: Kyoto Protocol “common but differentiated responsibilities”
- 2002: *Approved Kyoto Protocol
- 2005: *Clean Development Mechanism in China
- 2006: Energy Efficiency Labeling
- 2007: Renewable Energy Law
- 2009: Circular Economy Promotion Law
- 2011: World’s biggest CO2 emitter (28%)
- 2012: *Carbon Trade Centres
- 2014: *Planning Roadmap for Low Carbon Development in 2030 & 2050
- 2013: National Strategy of Climate Change Adaptation
- 2005: Renewable Energy Law
- 2006: Circular Economy Promotion Law
- 2008: The 11th FYP target – Energy intensity: -20% by 2010 (below 2005 levels)
- 2009: The 12th FYP target – Energy intensity: -17% by 2015 (below 2010 levels)
- 2011: World’s biggest CO2 emitter (28%)
- 2012: *Carbon Trade Centres
- 2014: *Planning Roadmap for Low Carbon Development in 2030 & 2050

China announced its long-term target at COP15: Reduce carbon intensity by 40%-45% by 2020 (compare with 2005 levels)

The 11th FYP target – Energy intensity: -20% by 2010 (below 2005 levels)
Mitigating GHG emissions in China

- Energy intensity target
- Retiring inefficient power plants
- Closing inefficient industrial plants
- Top 1,000 enterprises programme
- Promoting end-use energy efficiency

- China-EU Partnership
- Asia Pacific Partnership

- Reforestation

- Export taxes on energy-intensive products
- Promoting advanced technologies to achieve industrial transformation and upgrading

- Fuel Economy Standards

By 2020, 20% from renewables
- Nuclear power
- Liquefied Natural Gas
- Hydropower
Climate regime in China

National Response Leading Group on Climate Change (NRLGCC)
(headed by Chinese Premier)

National Development and Reform Commission (NDRC)
(leading planning agency)

Ministry of Finance
Ministry of Environmental Protection
State Oceanic Administration
Ministry of Science and Technology

etc.

Provincial NDRCs
Municipal NDRCs

Provincial sectors
Municipal sectors
National Strategy of Climate Change Adaptation

To improve overall adaptation capacity

To fulfill key adaptation tasks

To form regional adaptation setups

Infrastructure
Health
Water
Tourism
Urbanization
Coastal region
Ecological security
Forest
Agriculture
Agriculture development

3 objectives, 3 highlighted domains, 7 aspects
National Strategy of Climate Change Adaptation

• **Highlights**
  ✓ Acknowledges challenges/adaptation deficits
  ✓ Sets clear focused goals
  ✓ Opportunities for international collaborations

• **Deficiencies**
  ➢ Outlined macroscopic framework, but implementation and enforcement remain unclear
  ➢ Localization: how to break down the national strategy and embed it into local level decision making system?
  ➢ Legislation, capacity building and institutional development should be addressed
  ➢ Novel financing means should be explored
  ➢ Information sharing and peer learning mechanism should be fostered
  ➢ Intra-sectors coordination mechanism should be developed
Local context

- **Asia’s world city**
- One of the world's leading international financial centres
- Land: 1,100 km²
  - 40% protected
  - 25% developed
- Population: ~7 million
- One of the highest population density regions in the world
- Humid subtropical climate
Climate change in Hong Kong

• Facts and trends
  ✓ Temperature increasing with hotter days
  ✓ Severe urban heat island effect
  ✓ Longer duration of dry day
  ✓ Stronger raining in shorter time
  ✓ Sea level rising speedily
Hong Kong’s SWOT in climate regime

**Strengths**
- High adaptive capacity
- Sound administrative system
- Comprehensive & flexible financial system
- Autonomy
- International perspective

**Weaknesses**
- Weak political will
- Adaptation is not on the policy agenda
- Not of general public’s interest
- Limited natural resources

**Opportunities**
- Public consultation on climate change strategy
- National strategy of climate change adaptation in China
- Deepening collaboration with Guangdong/Pearl River Delta
- Paradigm in China/Asia

**Threats**
- Serious storm surge with risen sea level
- Severer inland inundation with short-time rainstorm
- Aggravated urban heat island effect with extreme hot weather
- High exposure to impacts
Addressing climate change in Hong Kong

• Before 2003: combating poor air quality and pollution problems

• 2003: Kyoto Protocol was extended to Hong Kong

• 2007: Inter-Departmental Working Group on Climate change (led by Environmental Bureau)

• 2010: Hong Kong’s Climate Change Strategy and Action Agenda
  • Proposed an voluntary reduction target
    (reduce carbon intensity by 50-60% below the 2005 level by 2020)

• 2014: where are we?
Water resource in Hong Kong

- Long history about importing freshwater from mainland (Dongjiang/Eastern River) since 1960
- Dongjiang, one of main branches of Pearl River (6.3%), is main freshwater source for Dongguan City, Huizhou City, Shenzhen City, and Hong Kong.

Challenges:
- Water pollutions
- Reduced runoff due to climate change
- Increased water demand from other three cities
- Reduced manufactures
- Increased water consumption per capital
- Longer dry days and more intensive storm rainfall
- Abandoned desalination project
Water resource in Hong Kong

Solutions:

- Water conservation by leveraging economic instruments
- Raising Hong Kong’s water self-reliance
  - Promote and encourage water reuse
  - Enhance and improve water supply ability of 17 reservoirs
  - Re-launch seawater desalination projects
- Deepening collaboration with Guandong province proactively
Conclusion

• Adaptation in China
  • It is in its initial stage
  • Adaptation along with mitigation is a new strategy
  • There is a big gap between national strategic policy and local action plans

• National adaptation strategy opens up window of policy
  • Legislation, capacity building, institutional development, etc.
  • Implementation and enforcement at local level
  • Opportunity for international collaboration

• National plan VS local practice
  • National level: macroscopic perspective, industrial layout, regional strategy
  • Local practice: city-tailored action plans
Conclusion

• Hong Kong’s role
  • A role of entry point
  • A paradigm with regards to local/regional adaptation response
  • Advance financing services and products for adaptation in mainland

• EU’s contribution
  • Share of best practice at local level
  • Better understand China’s position
    • promote mutual trust
    • acknowledge China’s development needs
  • Fund transfer/investment
Thank you!