Pre-2020 emission reduction policies in China

Dr. Liu Qiang

Director, Strategy and Planning Department
National Center for Climate Change Strategy and International Cooperation (NCSC)

14 Nov. 2016, COP22
Key policies and targets in recent years

- **2009,** declaring the carbon intensity target: reduction of CO2/GDP 40-45% from 2005 to 2020

- **2012,** *Work Plan for Controlling GHG Emissions During the 12th FYP Period.* Reduction of CO2/GDP by 17% from 2010 to 2015

- **2014,** *National Plan on Climate Change (2014-2020).* Raising main targets and tasks for 12FYP

- **2015,** *China’s INDC.* Declaring the targets for 2030: carbon emission peaking around 2030 and making best efforts to peak early; reducing CO2/GDP by 60-65% from 2005 to 2030; 20% non-fossil fuel in total energy

- **2016,** *Work Plan for Controlling GHG Emissions During the 13th FYP Period.* Declaring targets for GHG emission controlling, including reduction of CO2/GDP by 18% from 2015 to 2020
Low-carbon policies and measures in 2010-2015 (1)

I. Established a sound organizational foundation of low carbon innovation
   • National leading group on climate change
   • Department of climate change; climate change departments on provincial level
   • National Experts Committee on climate change, NCSC

II. Strengthened the regulatory system for low carbon development
   • Energy intensity target and evaluation system (11th FYP)
   • Dual control of energy intensity and carbon intensity, and evaluation system (12th FYP)

III. Top-level designing
   • Climate change legislation
   • Plans and strategies: mitigation and adaptation
   • Low carbon development strategy research
Low-carbon policies and measures in 2010-2015 (2)

IV. Actions and measures in main areas
   • Economy structure adjustment: eliminating backward and development new strategic industries
   • Energy conservations in key areas
   • Energy structure optimization: controlling of coal consumption and development of RE
   • Increase of carbon sink
   • Non-CO2 GHG emission controlling

V. Pilots and demonstrations
   • Low carbon provinces and cities pilots
   • Low carbon industrial park pilots, community pilots, product pilots
   • Carbon emission trading pilots
   • CCUS trial and demonstrations

VI. Strengthened the data information basis of low-carbon policy making
   • National communication and inventory compilation (1st, 2nd)
   • Provincial Greenhouse Gas Inventory Guidelines (Trial) and inventory compilation
   • GHG emissions accounting and reporting guidelines for 11 key industry sectors
Energy related carbon emissions in China by 2015

Data resource: Estimation by NSCS based on national statistic data of China

- Huge carbon emission and high emission growth
- Emission per capita has achieved the world average level
- Carbon intensity has decreased by large degree since 2005, mainly due to energy saving measures
### Key targets on GHG emission controlling by 2020

- Reducing the CO2 emission per unit of GDP: 18% reduction from 2015 to 2020
- Controlling the total carbon emission
- Enhancing the controlling of non-CO2 GHG emissions

- Early peaking of key optimization development regions
- Early peaking of some key energy-intensive industrial sectors around 2020
- Deepening the low-carbon pilots and demonstration
- Co-controlling of carbon and pollutant emissions

- Launching the national carbon emission trading market
- Establish the preliminary legal and standard system on climate change
- Completing the MRV system
- Raising the public awareness and active participation on addressing climate change
## Low-carbon policy and actions in key areas by 2020

### Promote the energy transformation
- Control the primary energy consumption: lower than 5Gtce by 2020
- Improve energy conservation in key areas:
  - 15% reduction of energy intensity in 2015-2020
  - Large-scale power generation group: no more than 550gCO2/KWh by 2020
- Control the coal use, lower than 4.2Gt by 2020; negative growth in key pollutant regions
- Promote the use of natural gas: 10% by 2020

### Build low-carbon industry system
- Transformation of traditional manufacturing industries and eliminate backward capacity
- Develop strategic emerging industries and service industries: 15% by 2020
- Develop service sector: 56% by 2020
- Control the industrial GHG emissions
- Low carbon agriculture: N2O emission peaking around 2020
- Increase carbon sink: forestry coverage 23.4% by 2020

### Promote the low-carbon urbanization
- Low-carbon development of buildings: 20% green buildings in newly-built buildings by 2020; zero carbon emission building pilots
- Low-carbon development of transportation: reduction of CO2/turnover of all transportation modes; new energy cars, 2 million capacity by 2020
- Promote the low-carbon disposal of urban waste
- Encourage the low-carbon lifestyle

### Promote the regional low-carbon development
- Set different carbon intensity reduction targets for different regions
- Peaking earlier of carbon emission in key optimization development areas
- Promote the innovative low-carbon pilots and demonstration
- Enhance the low carbon development of poverty regions
# Low-carbon Pilots and Demonstrations by 2020

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Near-zero-carbon-emission demonstration projects** | • In exploitation-restricted and exploitation-prohibited  
• 50 pilot projects by 2020                         |
| **Low Carbon Provinces and Cities**           | • The 42 low carbon pilot provinces and cities have been approved with low carbon goals and action plans, including carbon emission peak targets  
• 100 pilots by 2020                             |
| **Low Carbon Industrial Parks**               | • Proving the action plans of 51 low-carbon industrial park pilots  
• 80 pilots by 2020, of which 20 national-level pilots |
| **Low Carbon Communities**                    | • 1000 low carbon community pilots by 2020  
• 100 national low-carbon demonstration community |
| **Other pilots and demonstration**            | • Low Carbon commerce, low carbon tourism, low carbon enterprises  
• Climate financing pilots  
• Large-scale demonstration of CCUS projects     |
Formulation of national carbon emission trading market

2011
Start the work of 7 ETS pilots

2012
Interim Measures on the Management of Voluntary GHG Emission Reduction

2013
Launch the first ETS pilots

2014
Interim Measures on the Management of Carbon Emissions Trading

2017
Launch the national ETS market

Establishing the regulatory system
- Legal system and regulation
- National and regional management scheme
- Quota allocation scheme

Launching the market in 2017
- Quota allocation and trading
- Market adjustment, offset and risk preventing
- Continually improving system

Enhancing the basic capacity
- Registry
- MRV system
- Training and research
Policy evaluation for carbon emission reduction by 2030

- **Research method:**
  - Policy Evaluation Model (system analysis model)

- **Research Targets:**
  - Make quantitative evaluation of the mitigation potential of different policies by 2030
  - Compare the effects of different categories of policies in different scenario
  - Identity the policies that can most cost-effectively drive down China’s emissions

- **Research Partner:**
  - Energy Innovation (EI), US
Policy evaluation for carbon emission reduction by 2030

- Regulatory policies will still play an important role in short and medium term
- Carbon pricing has far higher abatement potential than others and can drive significant carbon reductions

- Efficiency policies are the primary driver of emissions reductions, followed by clean energy policies
- Direct emissions abatement policies would appear more significant if all GHGs were included in these figures
Conclusion

- **Development pattern transition is key for low carbon development**
  - An innovative development pathway is crucial to achieve LC development and LEDs
  - It is possible to achieving carbon emission peak around 2030 and even earlier
  - Coordinate with environmental and energy policies to achieve the co-benefits and environmental integrity

- **13FYP is a key period for achieving NDC targets**
  - Slower the carbon emission growth rate by dual controlling on emission intensity and total emission
  - Control the total energy consumption and especially the coal consumption
  - Build a strong base for the scale use of renewable energy

- **Good policy environment is key for driving the low carbon transition**
  - Strengthen the legal status of carbon emission control and enhance the constraint force of relevant target;
  - Enhance the carbon pricing via market-based mechanism, e.g. ETS
  - Enhance the information disclosure of carbon emission data
  - Enhance the low carbon financing
Thank you for your attention!

liuqiang@ncsc.org.cn