

Promote Energy Efficiency Investments: China's Policy and Market-based Instruments

Li Pengcheng, China

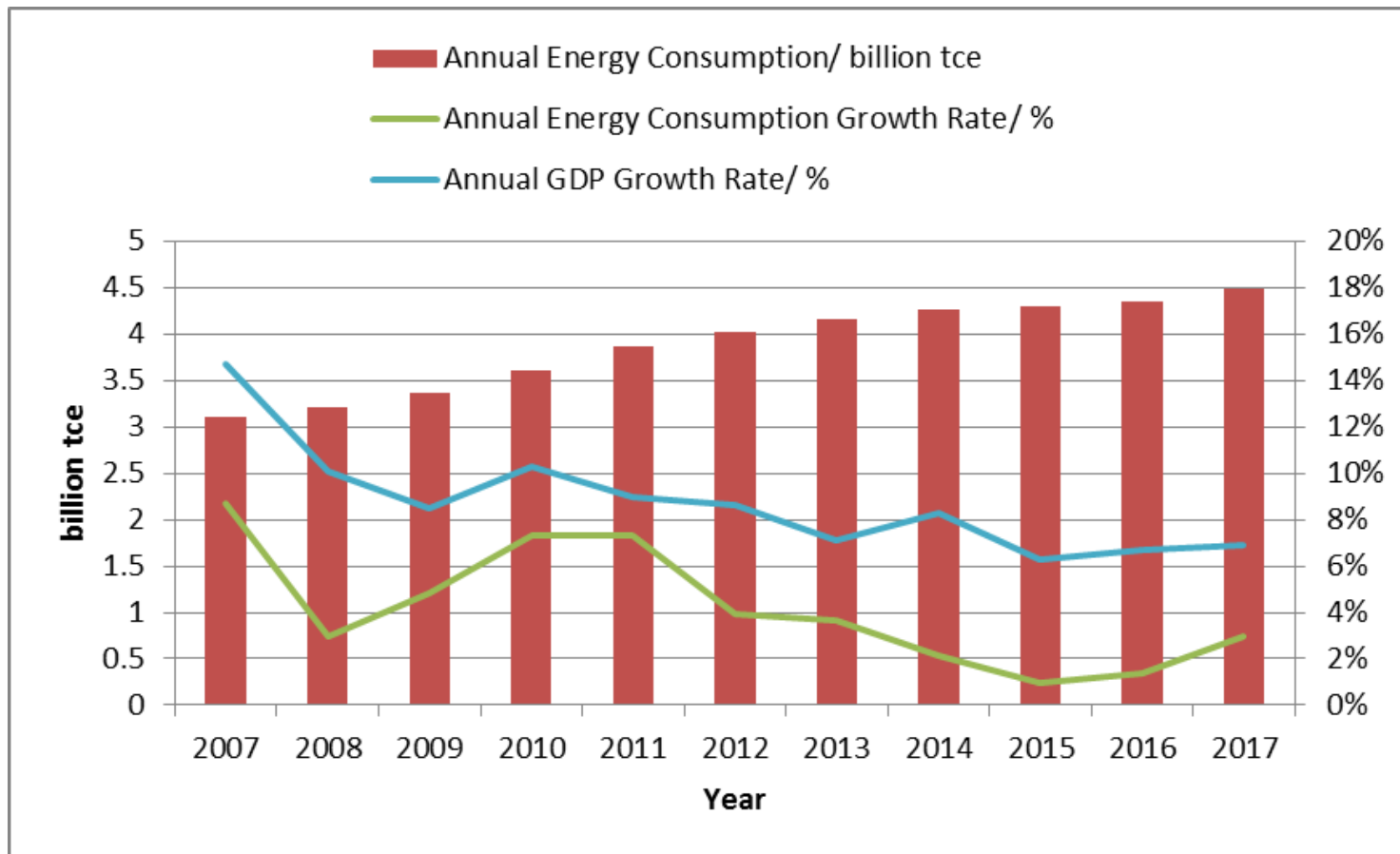
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Energy consumption in China



- ◆ China is the largest economy in energy consumption.
- ◆ The energy intensity of China has reduced around 34% in the past 10 years.





Key Challenges

Limited energy resources

- Oil and gas reserves is only 6% of average level of the world

Limited environmental capacity

- Serious air pollution, water pollution and soil pollution

Low energy efficiency

- Energy consumption per GDP is the twice of the average level of the world

Assurance of energy security

- Around 70% of crude oil is imported



Key Targets of energy efficiency in the 13th Five-Year Plan period (2016-2020)



Metrics	Targets
Total energy consumption/coal consumption	5 billion tce/4.1 billion tons
Reduction of energy intensity (tce/GDP)	[15%]
Share of non-fossil energy consumption	15%
Reduction of coal consumption in total energy consumption	[6%] (from 55% to 49%)



Demand of Investment on Green Sectors

- Investment needs across key green sectors in China will be approximately RMB2.9 trillion per year from 2015 to 2020 (US\$460 billion).
- Two thirds of this, about RMB 2.0 trillion (US\$320 billion) annually, will need to come from domestic and international financial and capital markets, given fiscal limitations and priorities.
 - clean energy
 - industrial energy conservation
 - building energy conservation
 - transport energy conservation
 - improvement of energy efficiency
 - environmental pollution control

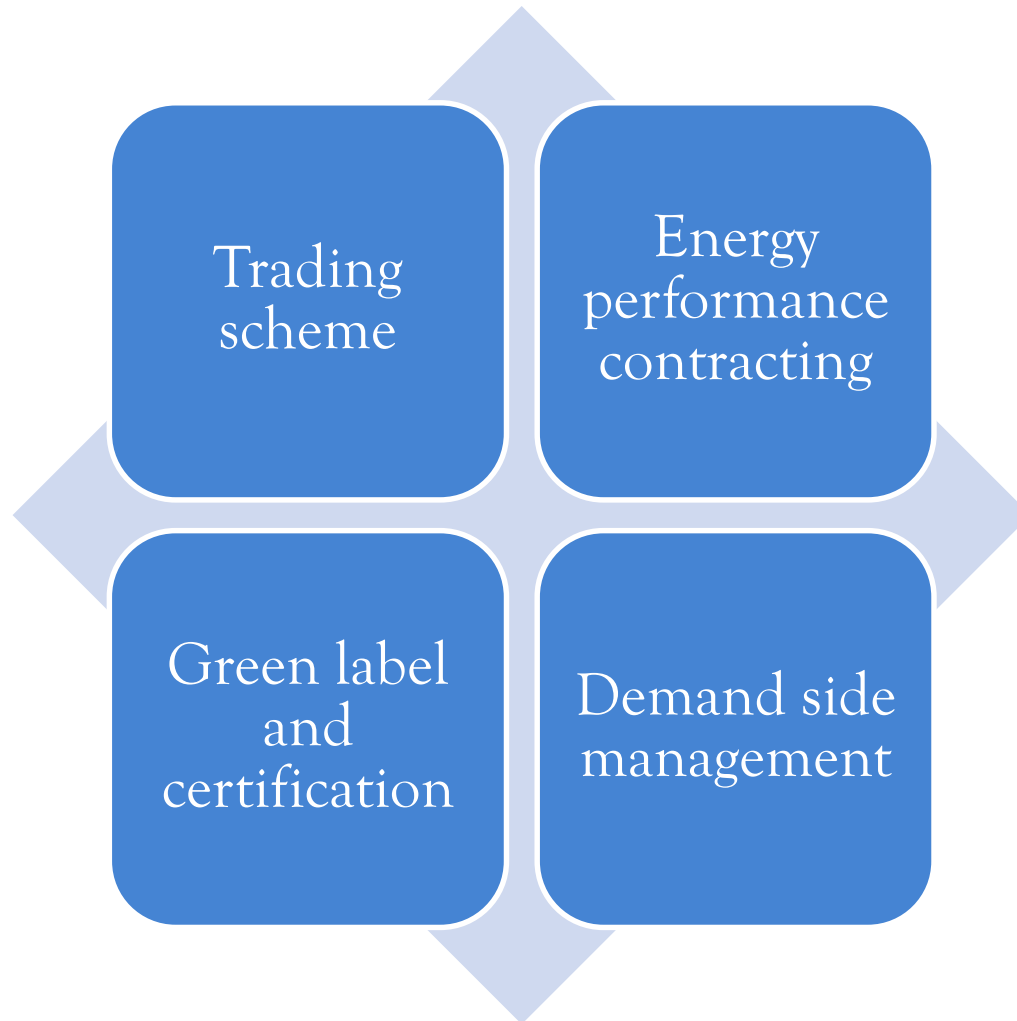


Policy framework for energy efficiency in the National Comprehensive Plan for Energy Conservation and Emission Reduction

- Optimization of structure of industry and energy
- Energy efficiency in key areas
- Key energy efficiency programs
- Technical supporting and service system
- Supporting policy
- Energy efficiency market
- Target accountability system
- Monitoring and inspection system
- Social participation



Components of Energy Efficiency Market



Key policy for promoting energy efficiency investment

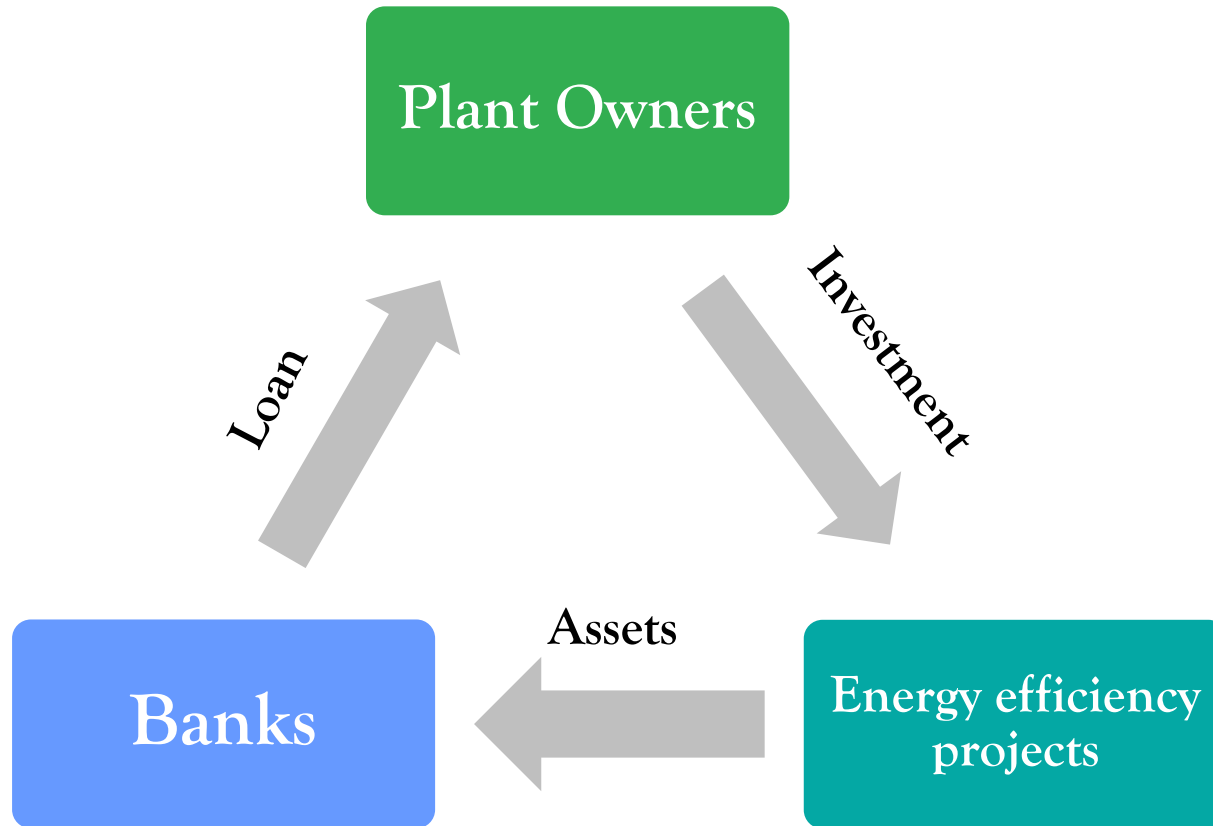
- China Banking Regulatory Commission: Green Credit Guidelines
- China Banking Regulatory Commission and National Development and Reform Commission: Energy Efficiency Credit Guidelines
- People's Bank of China: PBC Document [2015] No. 39 Green Finance Bonds in Inter-bank Bond Market
- National Development and Reform Commission: Green Bonds Issuance Guidelines
- People's Bank of China and China Securities Regulatory Commission: Provisional Guidelines on Green Bond Certification



Typical Market-based Instrument (1)

- Green credit has been the key policy for green finance in China's banking-dominated system
 - In June 2017, the top 21 banks has loaned 8.22 trillion RMB to green projects.
 - The amount of energy efficiency related projects is around 6.6 billion RMB. Annual energy savings is about 215 million tce.

Energy Efficiency Credit

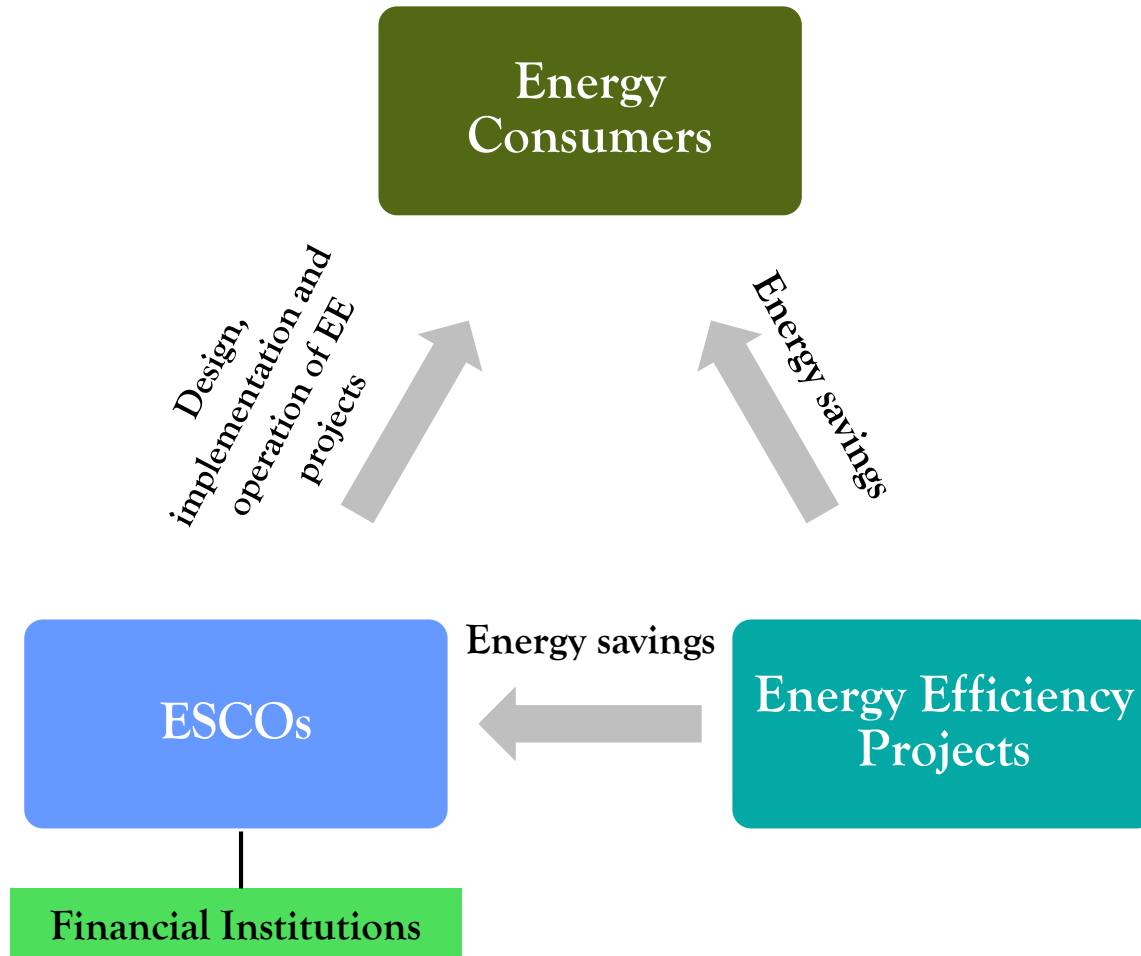


Typical Market-based Instrument (2)



- Quick development of ESCOs
 - By the end of 2017, there are more than 6,000 ESCOs in China with 700,000 employees
 - The total value of energy efficiency services market exceeds 410 billion RMB
 - Investment on Energy Performance Contracting (EPC) is around 110 billion RMB. The annual energy savings is 38 million tce (GHG emission reduction of 100 million ton)

Energy Performance Contracting (EPC)



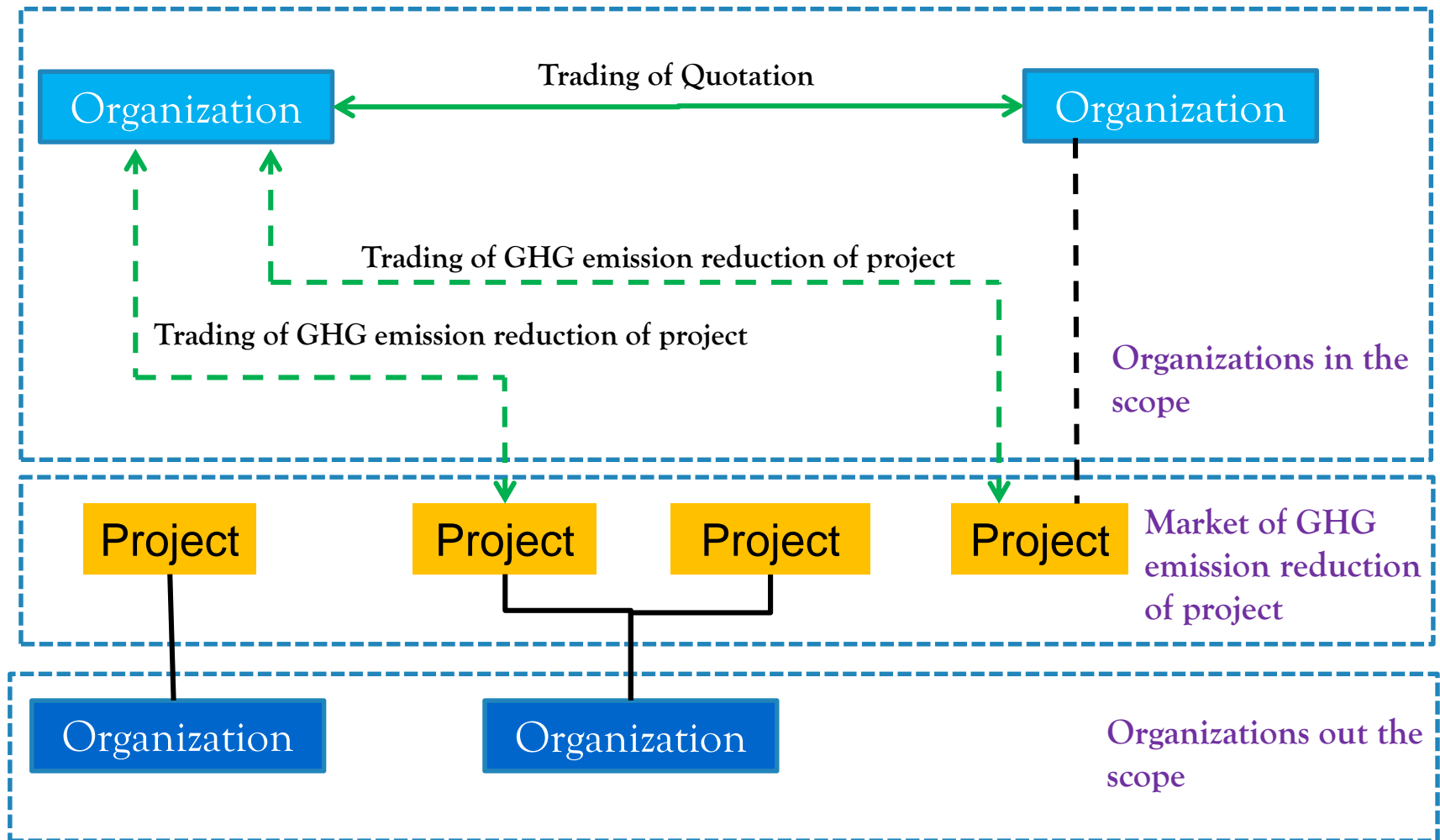
Typical Market-based Instrument (3)



- It was planned to launch a carbon emission trading scheme since 2017 which covering key sectors including iron & steel, power, chemical industry, building materials, paper and nonferrous metal.
- In Dec. 19, 2017, NDRC published the plan for establishing carbon emission trading scheme (power sector).



Carbon Emission Trading scheme

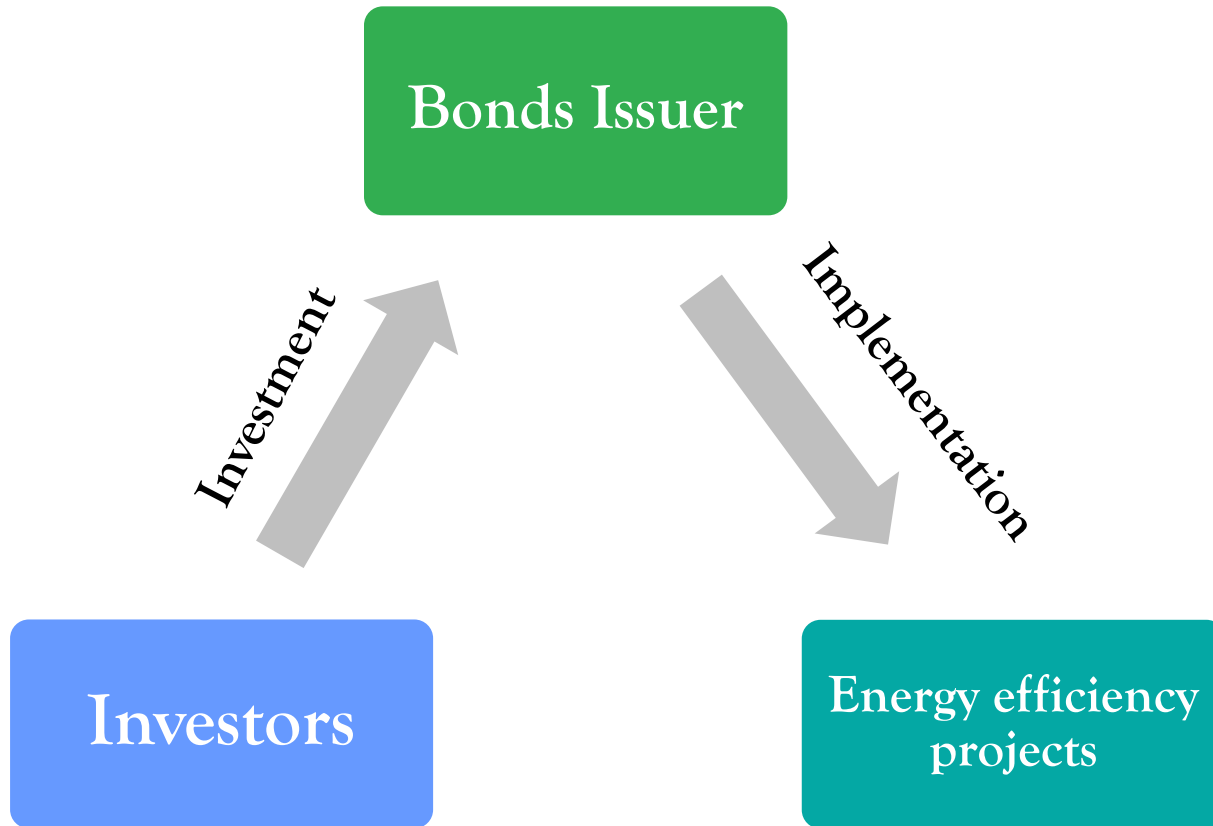


Typical Market-based Instrument (4)



- Green bonds
 - In 2017, total value of green bond in China is 248.7 billion RMB. Around 22% of global market
- Green funds
- Green insurance

Green Bonds





Barriers of EE Investment Market

- The smaller market of EE
- Implementation of EE laws, regulations and systems
- Clear green finance definitions and strategy
- Lack of incentive policies for financial institutions
- Capacity of financial institutions
- Insufficient information disclosure



Key Roles for Government

- Intensified publicity of green finance incorporating EE, RE and Environment Protection
- Improved enforcement of EE laws, regulations and policies
- Establishment of the infrastructure
 - Definitions, standards, procedures, the third party
- Financial policies and fiscal measures to stimulate financial institutions
- Capacity building
- Reinforcement of information disclosure



Thank you for your attention!