



# SINOPEC GHG Management

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**Jane Wang**

Deputy Director Low carbon Division

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# About SINOPEC



## Vertically Integrated Energy & Chemicals Value Chain

### Exploration & Production



- One of largest oil & gas producers in China



### Refining



- The largest refiner in China



### Marketing & Distribution



- Second largest globally with more than 30,000 service stations
- Around 60% of domestic market share



### Chemicals



- The largest producer and distributor of chemical products in China

# Concept of Low Carbon Development



Benchmarking with global leading energy & chemical company

To be the LEAD company in China's green and low-carbon development

Transform from traditional petrochemical company with highly consumption of fossil fuels into "clean", "efficient", "low-carbon" and "circular" company.

In 2011, green and low-carbon strategy

In 2013, "Clear Water& Blue Sky", GHG emissions report

In 2014, "Energy Efficiency Improvement " plan

In 2018, "Green Enterprise Action Plan"

In 2020, contribute to achieving the national reduction target of 40-45%

## Four Principles

Adhere to the integration of energy conservation and GHG emissions reduction management

Adhere to the combination of industrial restructuring and energy structure adjustment

Adhere to the combination of material management and value management

Adhere to the combination of GHG emissions reduction and carbon trading

# Focus of Low-Carbon Development



## Development Focus

Strengthen low  
carbon  
technology  
innovation

the leading role  
of science and  
technology

Reduce GHG  
emissions by  
improving  
energy  
efficiency and  
energy  
conservation

Actively  
promote GHG  
emission  
reduction

Strengthen  
GHG emissions  
management

- Control GHG emissions, enhance the sustainable development capability of SINOPEC
- become a LEAD company to practice the "ecological civilization"

# Practice of Low Carbon Development



## Governance Structure

- Social Responsibility Management Committee
- Energy Management & Environment Protection Department

## Regulation

- Carbon Asset Management Procedure
- Carbon Emission Information Disclosure Procedure
- Carbon Trading Procedure

## Capacity Building

- MRV
- CDM and CCER program declaration
- Carbon trading

## Cooperation & Exchange

- International companies
- National ministries
- Industry association
- Scientific research institutions and universities
- NGOs



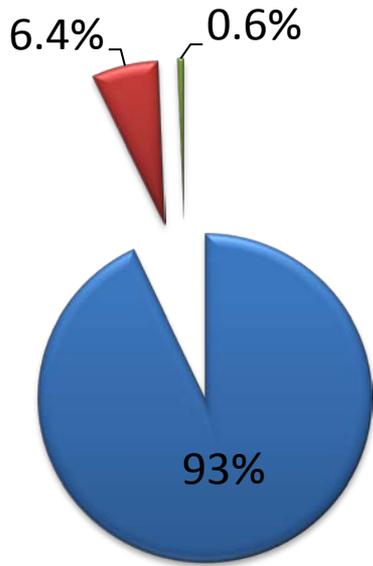
Caring for Climate



## GHG MRV

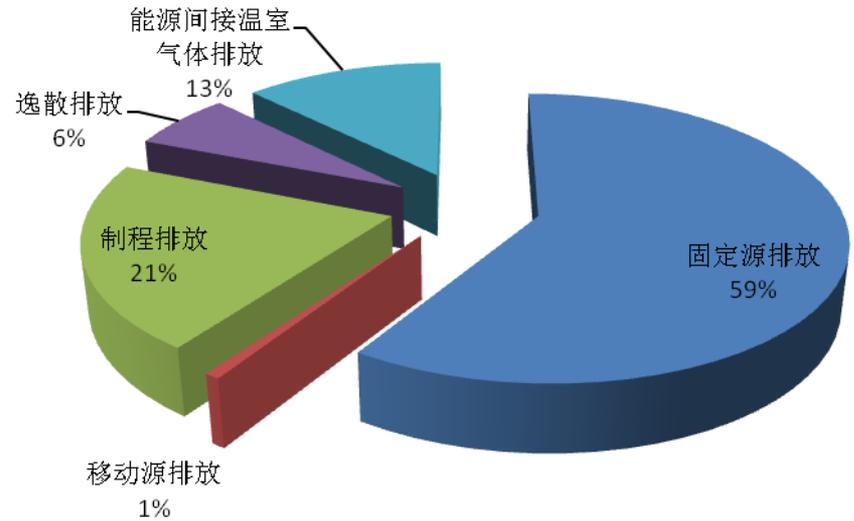
- 96 subsidiaries in SINOPEC Group;
- ISO14064, confirming accounting method & inventory template;
- Establish GHG management system

# SINOPEC GHG Emission



- CO<sub>2</sub>: 93%;
- CH<sub>4</sub>: 6.4%

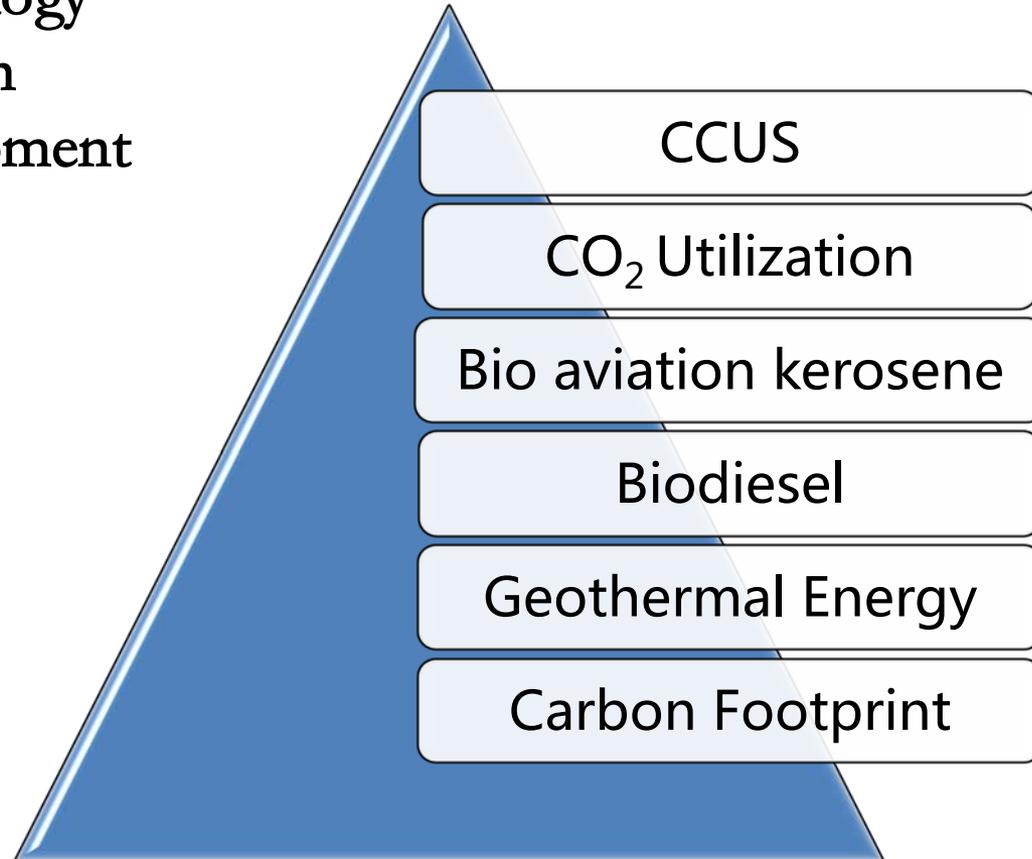
- CO<sub>2</sub>
- CH<sub>4</sub>
- N<sub>2</sub>O
- SF<sub>6</sub>
- HFCs
- PFCs



- Scope 1: 87.5%
- Scope 2: 12.5%

# Science-Based Target

Science and technology  
play a leading role in  
low-carbon development



## GHG emission reduction action

- Adjust energy structure and vigorously develop clean energy – natural gas, shale gas, geothermal energy, biomass fuel, and solar energy;
- Adjusting the industrial structure and improving energy efficiency – the "energy efficiency improvement" plan;
- CCUS and CH<sub>4</sub> recycling and Utilization

# Reduction Action

## Carbon dioxide capture



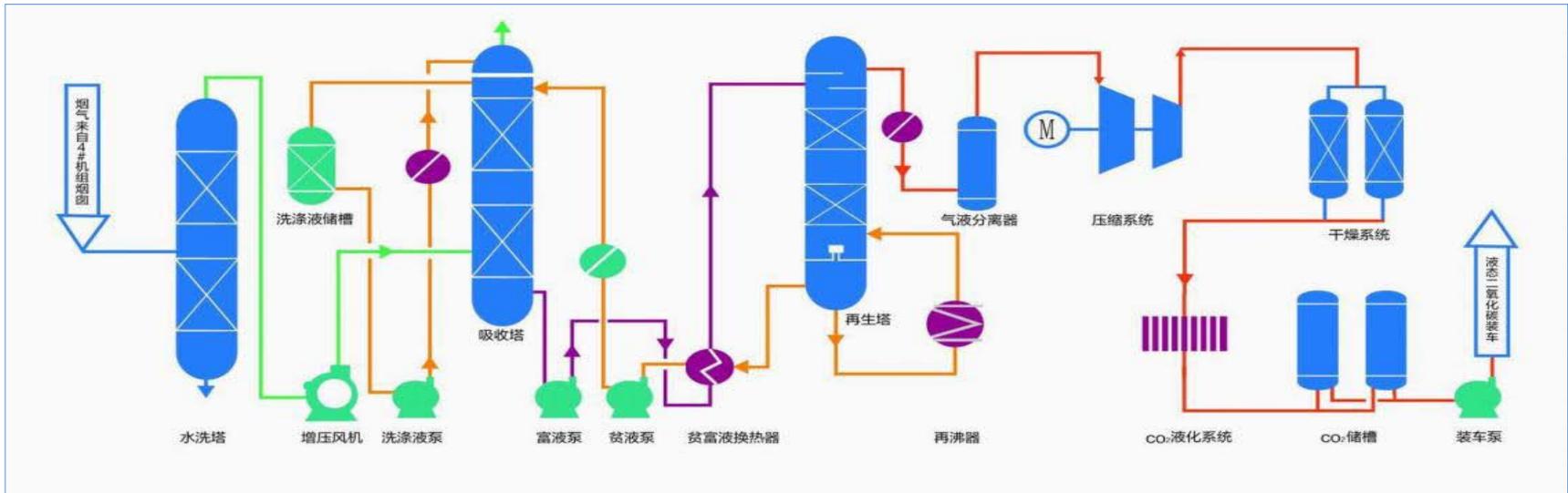
➤ Capture facility of power plant in Sinopec Shengli Oilfield



➤ Capture facility of catalytic cracking unit in Sinopec Zhongyuan Petrochemical Company

# Reduction Action

## CCUS-EOR



- CCUS-EOR experiment in Sinopec oilfields.
- Injected 3.4 million tons of carbon dioxide and enhanced oil production of 350,000 tons.

# Reduction Action



- CH<sub>4</sub> recovery and utilization in Sinopec North China Oilfield.

## Actively participate in the pilot carbon trading market

- Our subsidiaries participated in the first quota-based carbon trading of Shanghai Environment and Energy Exchange, Beijing Environment Exchange and Hubei Emissions Exchange respectively
- The cumulative trading volume is about 10 million tons, and the transaction volume is 230 million RMB
- CDM and CCER declaration

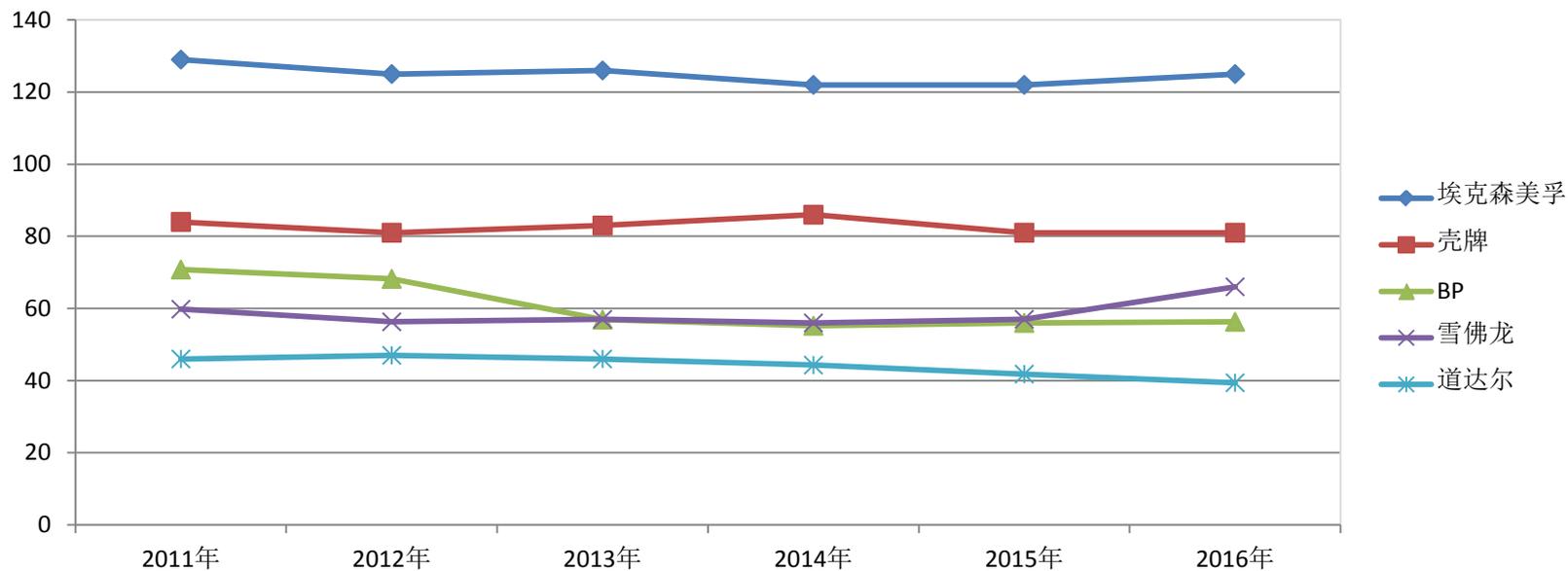
# Awards



# Looking Forward



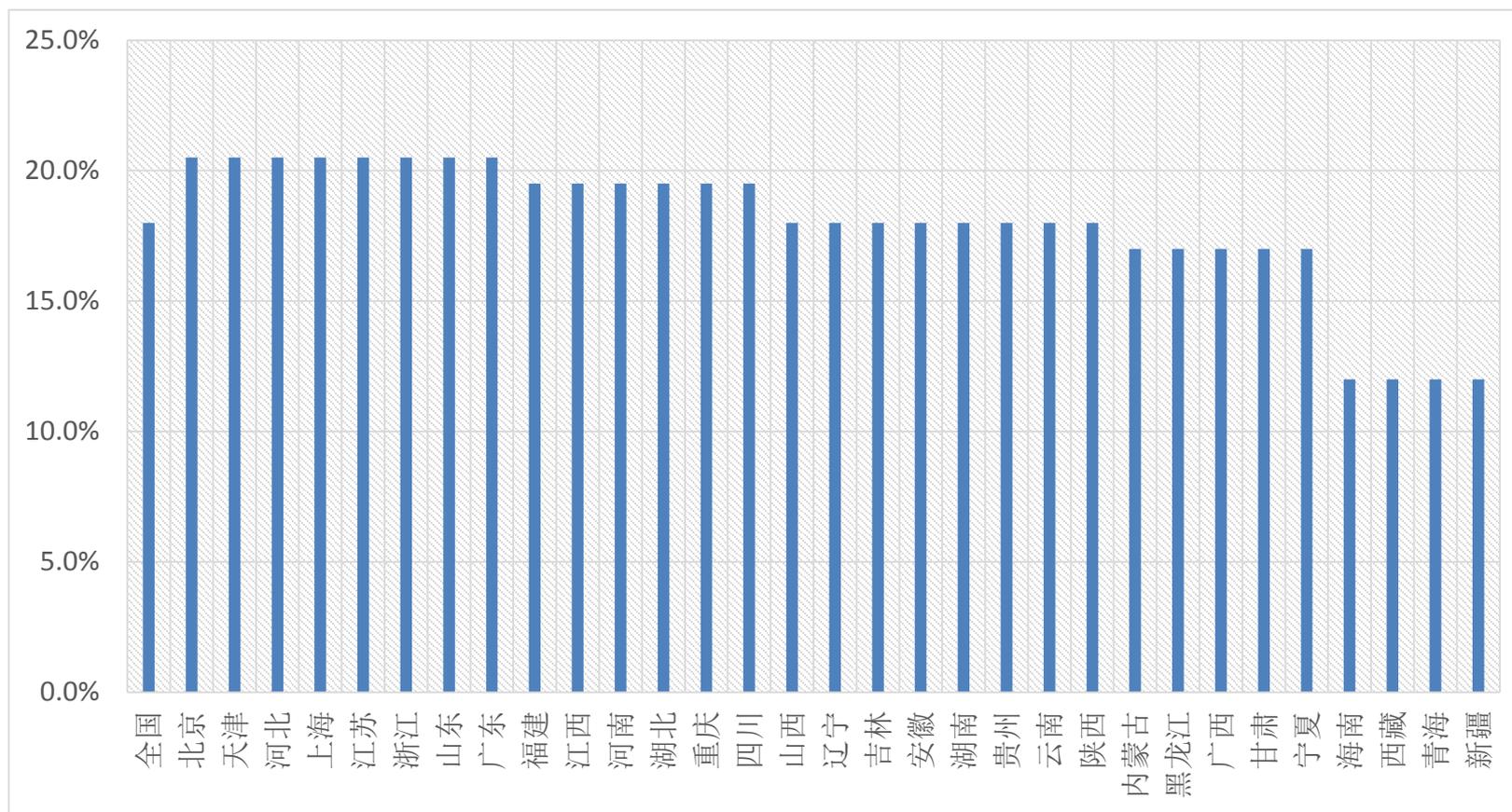
million tons CO<sub>2</sub>e



# Looking Forward



## National GHG emission reduction goals during 13th Five-Year



# Work focus



## Improve GHG management to maximize the value of carbon assets

### Reinforce the management foundation

- Carbon intensity target evaluation and assessment system
- Promote the carbon asset MIS
- Carbon pricing in fixed asset investment projects

### GHG Emission Reduction action

- Carbon footprint
- CCUS
- CH<sub>4</sub> recovery and utilization

### Participate in carbon trading

- Explore forest carbon sinks and carbon finance
- Carry out carbon quota deduction by CCER

# Work focus



## Prepare for the national carbon market

### Policy engagement

- National GHG accounting methods
- Quota allocation methods
- Carbon trading management measures, etc

### Cooperate with local governments in the verification

- Verification process
- Communication mechanism with local governments and verification institutions

### Develop carbon trading plans and implementation plans

- Sync with production and operation plan, including financial budget

# Conclusion



**Emission**

**Externality**

**Reduction**

**Cost**

**Management**

**Value**

Thank you



创新 改变世界  
低碳 引领生活

