The 6th IEEJ/APERC International Energy Symposium 2021

China Carbon Peak and Carbon Neutral (3060 Goals)

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1.1 **China's New Carbon Emission, 2019**

China's coal consumption CO2 emissions total 7.3 bn tons, or 20% of world's total

China's energy and industrial CO2 emissions total 10.1 bn tons, more than 28% of world's total

Global CO2 Emissions total 36.6 bn tons

Date Source: https://www.iea.org/data-and-statistics (2018) Estimation of China Oil Cap Project Research Group, 2020



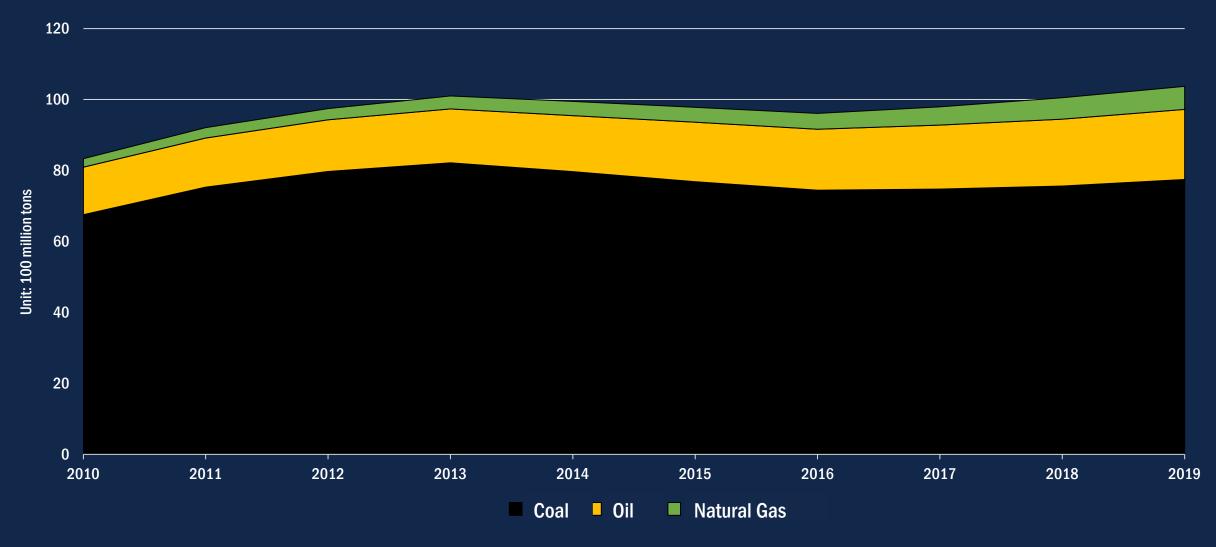
--Reach Peak Carbon Emission before 2030 and carbon neutral before 2060

The Fifth Plenary Session of the 19th CPC Central Committee (October 26 - October 29, 2020) --Formulate the "14th Five-Year Plan" and Embrace the Long-Range **Objectives by the Year 2035**

Climate Ambition Summit (December 12, 2020) --New Measures for China's Intended Nationally Determined Contributions 2



Carbon Emissions Caused by Oil and Natural Gas Consumption Increased Year by Year during the "13th Five Year Plan" Period, Offsetting the Emission Reduction Achievements of Coal Control



Oil Cap Strategy during the "14th Five-Year Plan Period" Five Milestones for the Future

Objectives

1.3

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2013 Peak coal

2025 Government: 14th Five-Year

Plan

Peak oil consumption and carbon emissions

2030

Government: Reach peak CO_2 emissions before 2030; reduce carbon intensity by more than 65%, increase the proportion of non-fossil energy to 25%, and increase forest stock to 6 billion cubic meters; increase capacity of wind and solar power to 1200 GW

Reach peak consumption of fossil fuels, reduce carbon emissions

2035

Government: Create a beautiful and healthy China with steady decline in carbon emissions.

Reach peak natural gas consumption before 2035; Reach peak energy consumption and significant reduction in carbon emissions; phase out HFCs before 2035 **2050** Government: Realize the second goal of the centennial rejuvenation of China.

Reach near zero carbon emissions, with a total emission of less than 5 billion tons; Transform fossil energy enterprises into sustainable green energy enterprises or non energy business.

2060

Government: Realize carbon neutral.

GHG neutral and negative carbon emissions Use CCUS technology; Carbon feedstock chemical technology; Nature based measures.

Time



GDP growth rate 5.8%

- Energy consumption 5.5 bn tce
- **Coal consumption share of 48%**
- Coal consumption for power supply falls to 300 grams of standard coal/kWh
- □ Non-fossil energy accounts for 21.5%
- **Energy intensity reduced by 14.5% compared to 2020**
- **Carbon intensity reduced by 20% compared to 2020**

Ranking of coal production and consumption in China's key provinces in 2019



Data Source: *Statistical Review of World Energy 2020*, BP open data website of National Bureau of Statistics open data website of DAQI.BJX.COM.CN

2.2

Coal Production Rank
Unit: 100 million tons
China
Gillid
Inner Mongolia, China
Shanxi, China
Indonesia
US
Australia
Shaanxi, China
India
Russian Federation
South Africa
Xinjiang, China
Guizhou, China
Shandong, China
Colombia

38.5

10.4

9.7

7.1

6.9

6.3

6.3

6.1

4.4

2.9

2.4

1.3

1.2

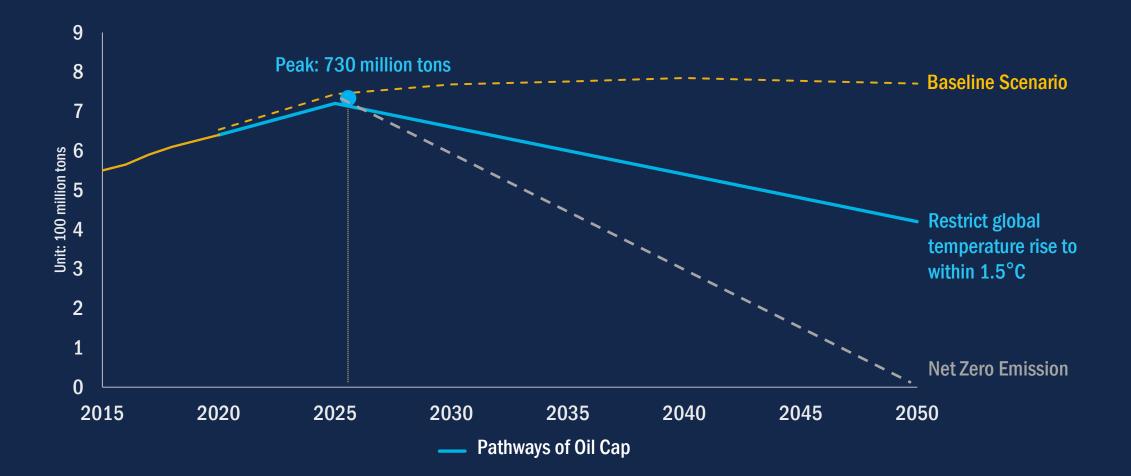
1.1

Coal Consumption Rank

Unit: 100 million tons

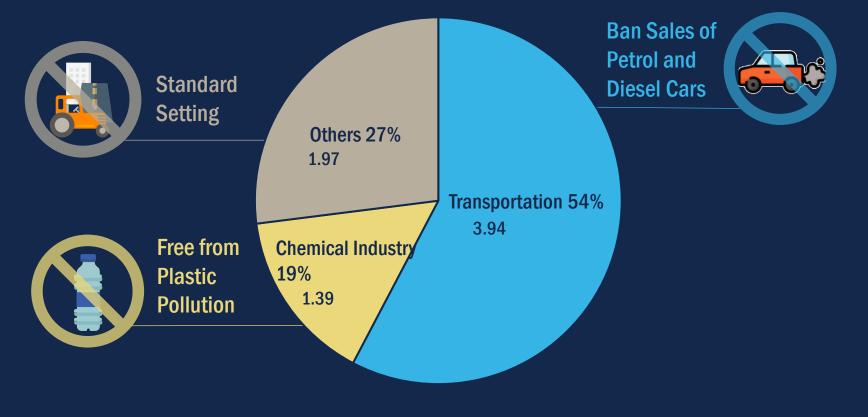
China	39.3
India	9.0
US	5.5
Inner Mongolia, China	4.5
Shandong, China	4.3
Shanxi, China	3.5
Hebei, China	3.5
Jiangsu	2.6
Japan	2.4
Henan, China	2.1
South Korea	1.7





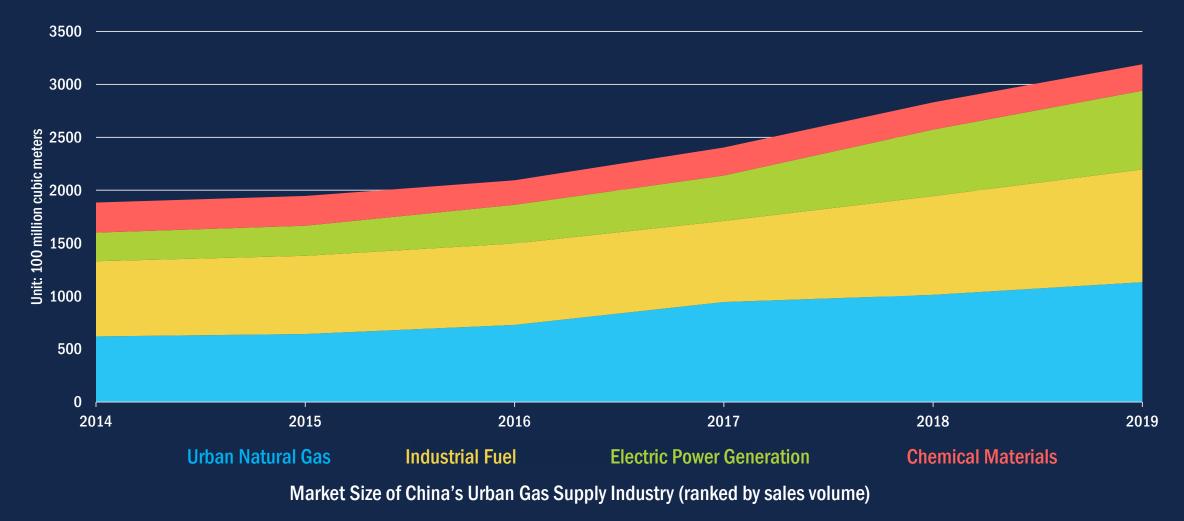


How to Implement the Oil Cap Pathways: Three Sectors and Three Key Points



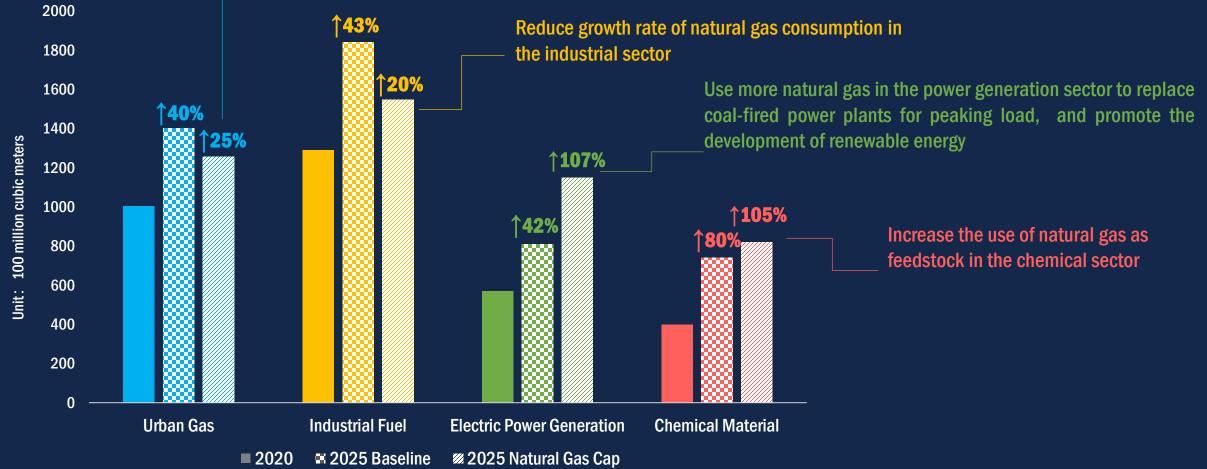
China's Oil Consumption Structure in 2025

4.1 Control Strategy for Natural Gas Consumption: Natural Gas is the Sector with the Largest Growth Rate Among Fossil Fuels, Leading to an Urgent Need to Replace Coal with Natural Gas



Control Strategy of Natural Gas Consumption: Consumption Transfer and Raw Material Transfer of Key Industries

Reduce growth rate of natural gas consumption in the civil gas sector, and popularize electrification



4.2

5

Possibility and Feasibility of Enhancing Elements of China NDC by 2023

- To lower carbon dioxide emissions per unit of GDP by **70%** from the 2005 level;
- To achieve peak of carbon dioxide emissions by 2025;
- To increase the forest stock volume by around 6.5 billion cubic meters on the 2005 level:
- To increase the share of non-fossil fuels in primary energy consumption to around **26** of total energy share;
- To increase a total capacity of wind and solar power to **1500** GW
- To achieve peak of Non CO2 GHG Emission (Methane, black carbon, HFCs etc.) around 2025; and
- South-South Cooperation and BRI

Eliminate coal dependence Leap over the age of oil Embrace the age of clean energy

12