

# China

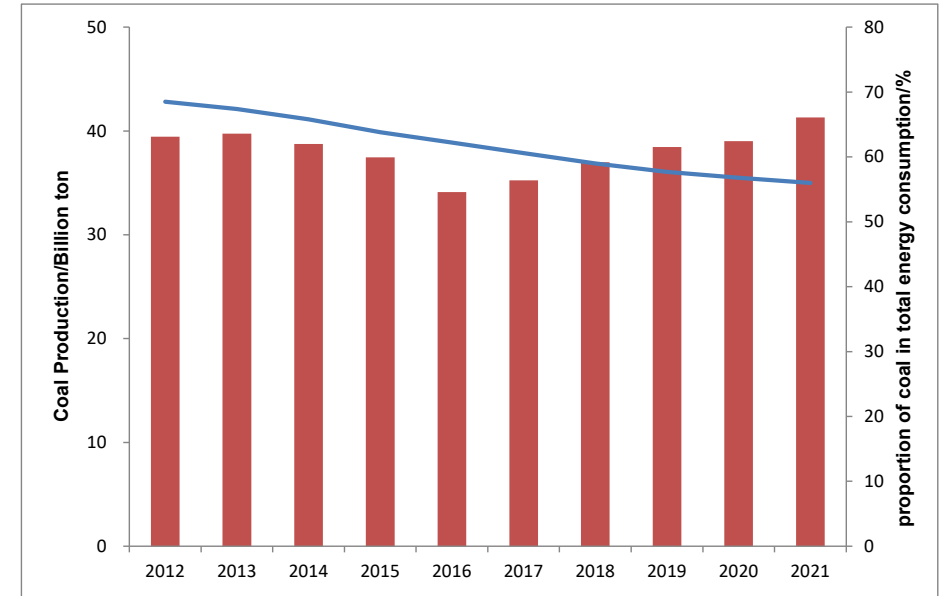
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# Coal Sector Trends Over the Past Five Years

- Demand for coal nationally:
  - The proportion of coal in total energy consumption decreased from 68.5% in 2012 to 56.0% in 2021.
- Coal production:
  - 4.13 billion tons in 2021, increased by 5.7% compared with 2020.
- Coal mine closure:
  - During the 13<sup>th</sup> FYP period, approximately 5500 coal mines were closed, with elimination of more than 1 billion t/a of outdated coal production capacity, and resettlement of more than 1 million employees.

**China's Coal Consumption and Coal Production from 2012-2021**



Source: National Bureau of Statistics of China

# Coal Mine Methane Outlook

- Coal Mine Methane Drainage and Utilization:
  - CMM drainage volume in 2020: 12.8 billion m<sup>3</sup>, with 5.74 billion m<sup>3</sup> utilized
  - CMM recovery rate in 2020: 44.8%
- New or recent developments on coal mine methane mitigation projects:
  - Up to 2020, the installed capacity of CMM power generation units reached 2.55GW, and the utilization of CMM with methane concentration  $\geq 30\%$  have been optimized

# Coal Mine Methane Outlook

- 3 MW low-concentration CMM direct combustion power generation project in Zhaiyadi Coal Mine, Lulian, Shanxi Province
  - Low-concentration CMM ( $\text{CH}_4$  concentration 5% to 8%) drained by the coal mine gas pump station first enters the thermal energy island for combustion to generate high-temperature flue gas through a safe transportation system, and then goes through the waste heat boiler to generate steam with medium temperature and pressure, driving the steam turbine generator and generating electricity.
  - 12 million  $\text{m}^3$  of methane destroyed annually, with 21.6 million kWh of electricity generated.



**Project Devices  
Onsite**

# Coal Mine Methane Outlook

*Policies that support mitigation of coal mine methane in your country:*

- *Notice by the Ministry of Ecology and Environment of Further Strengthening the Environmental Impact Assessment and Management of Coal Resource Development* issued in 2020:
  - increase the recovery rate of CMM and control the emission of greenhouse gas.
  - recover the drained gas with methane concentration  $\geq 8\%$  for comprehensive utilization under safety production.
  - encourage to explore the comprehensive utilization of gas with methane concentration of 2%~8% and VAM.
- Central financial subsidy----*Supplementary Notice of the Interim Administration Measures for Special Funds of Renewable Energy Development* issued in 2019:
  - support the development of unconventional natural gas, including CBM/CMM, shale gas and tight gas.
  - “growth more, subsidy more”
  - “growth in winter, subsidy in winter”: subsidies in winter use the coefficient of 1.5.

Volume that exceed last years'	Volume that below last years'	subsidized /deducted partition coefficient
0-5%(inclusive)	0-5%(inclusive)	1.25
5-10%(inclusive)	5-10%(inclusive)	1.5
10-20%(inclusive)	10-20%(inclusive)	1.75
More than 20%	More than 20%	2

# China's Actions on Methane Emissions

During the 14<sup>th</sup> FYP Period, China aims to take further actions from five aspects on methane emission reduction:

- Research on methane emission control
- Promote the introduction of China's action plan on methane emission control
- Strengthen MRV system construction for methane emissions in key areas
- Encourage pilot and demonstration
- Intensify international cooperation