

# Fact Sheet

LNG is *not* a bridge fuel in China's transition from coal to renewables



Liquefied natural gas (LNG) is not displacing coal in China. Rising LNG imports to China have not reduced or slowed the country's coal consumption. The share of natural gas in the power mix has remained at 3% since 2015, while rising renewable generation has reduced coal's share from 70% to 61% over the same period.

Going forward, cost incentives, energy security concerns, and the meteoric rise in renewable deployment will continue to limit the role that LNG can play at displacing coal from China's power mix, as well as its other large coal-consuming sectors.



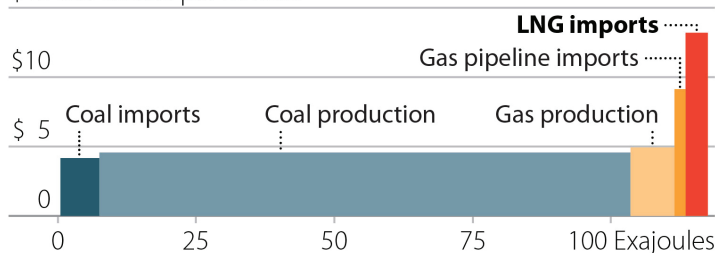
**The argument of imported LNG as a 'bridge fuel' that displaces coal in China ignores fundamental energy security and cost incentives limiting its role in the country's power mix.**

**Sam Reynolds, Research Lead, LNG/Gas, Asia**

## LNG Is Too Expensive to Displace Coal in China

LNG prices were three times higher than coal in 2023

\$15 U.S. dollars per MMBtu



Sources: IEEFA, GACC, UN Comtrade, NBS, Energy Institute, IEA

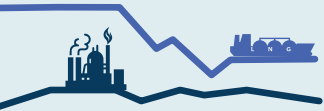
IEEFA

# Why is LNG not displacing coal in China?

## 1. On a cost basis, LNG is too expensive to materially displace coal in power generation:



In 2023, the average LNG import price was nearly three times the average cost of coal supply in China. The price of delivered LNG would need to fall around US\$4 per metric million British thermal units (MMBtu) to compete with Chinese coal, down from China's average LNG price in 2023 of US\$13/MMBtu. Global LNG prices have rarely fallen to these levels.

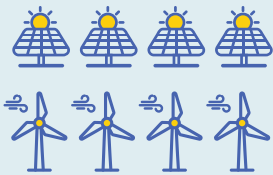


Although LNG prices are expected to come down in the coming years due to a surge in new supply, prices are unlikely to fall to levels competitive with coal.

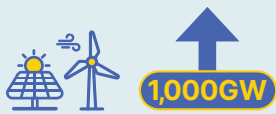


Power generated from coal in China tends to be US\$30-40 per megawatt-hour cheaper than from natural gas. Meanwhile, onshore wind and solar continue to be China's cheapest sources of power generation, coming in at roughly half the cost of gas-fired electricity.

## 2. The growth of renewables generation, not gas or LNG-fired power, has eroded the share of coal generation in China's power mix:



As the share of gas-fired electricity has remained flat, the share of wind and solar in China's power mix has quadrupled over the past decade. In absolute terms, generation from wind and solar has increased by 1,250 terawatt-hours (TWh) since 2015, while natural gas-fired generation has increased by just 140TWh. Although coal generation has increased 1,700TWh over the same timeframe, its market share has fallen from 70% to 61%.



Solar and wind capacity surpassed 1,000 gigawatts (GW) in 2023. China is now on pace to reach 1,300GW by end 2024, achieving a 2030 goal six years ahead of schedule. This will continue to squeeze coal's market share going forward.



The displacement of coal with renewables, not LNG, will enable China to achieve its nationally determined contributions (NDCs) to peak CO<sub>2</sub> emissions by 2030, en route to achieving carbon neutrality before 2060.



**Chinese policies strongly favor domestic energy sources, including coal, renewables, and indigenous natural gas, over imported fuels such as LNG. Recent policies aim to 'strictly control' coal-to-gas switching, use coal for renewables integration, and limit imports to below 50% of total gas consumption.**

**Christopher Doleman, LNG/Gas Specialist, Asia**

### 3. China is relying on domestically produced resources, including coal, renewables, and domestic natural gas, rather than LNG, for energy security and reliability:



China's 14th Five-Year Plan for a Modern Energy System centers coal, not gas, as its cornerstone of energy security and electrical reliability. The country aims to use coal-fired power, not gas-fired power, to provide flexible operations to integrate variable renewables.

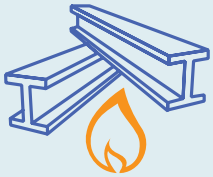


China is promoting domestic production of coal and natural gas to ensure energy self-reliance. Coal production hit a record of 4.6 billion tonnes in 2023, while gas production, the world's fourth highest, continues to grow rapidly, and is on pace to hit 250 billion cubic meters (bcm) by 2025.

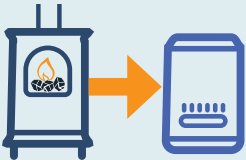


The 2023 Natural Gas Development Report highlights China's focus on developing domestic resources, managing demand, and investing in gas storage to ensure that imports do not rise above 50% of total gas demand. The National Development and Reform Commission (NDRC) aims to "strictly control" coal-to-gas switching.

### 4. Even outside the power sector, LNG is doing little to displace China's coal consumption:



Chinese investments in coal-based iron and steelmaking capacity still far exceed natural gas-based processes, and full decarbonization will require non-fossil fuel alternatives rather than a shift from coal to gas.



In urban areas, efforts to replace coal-fired stoves with gas heaters have been reasonably successful but have largely run their course, and extending these efforts into rural areas will likely prove challenging.



Other policy factors weigh heavily against widescale coal-to-gas switching, including the perceived energy security and cost benefits of domestically sourced coal, as well as recent achievement of urban air quality targets that have reduced the air quality arguments for curbing coal use.



**LNG is likely to play a trivial role in supporting the clean energy transition in China's power sector. Even outside China's power sector, LNG is doing little to displace coal consumption. Chinese investments in coal-based iron and steelmaking capacity still far exceed natural gas-based processes, and full decarbonization will require non-fossil fuel alternatives rather than a shift from coal to gas.**

**Ghee Peh, Energy Finance Specialist, Asia Coal Markets**

