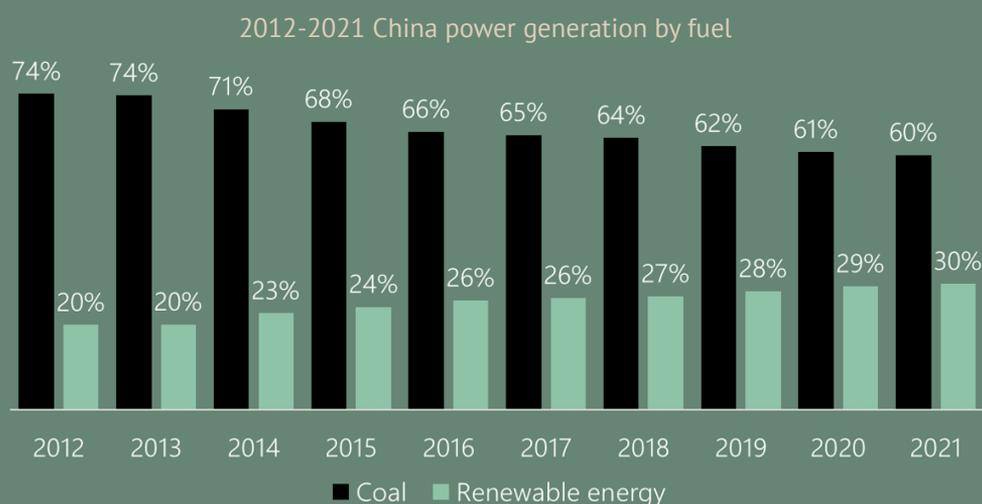


Coal policy revolution - Improving the linkage mechanism of China's coal price, coal power price and end-use electricity price

In 2021, China's power industry has witnessed many challenges such as tight supply, short-term power rationing, and loss in the coal power industry. In particular, more than 20 provinces have adopted measures for orderly consumption of electricity from September to October, and some areas have experienced short-term power supply restrictions (for cause analysis, please refer to the October 2021 newsletter). In the context of the 30-60 carbon peaking and carbon neutrality targets, these events once again show us the role of coal power in ensuring power supply in China and also put forward practical problems such as soaring coal prices and imperfect cost transmission mechanisms that lead to the loss of coal power enterprises. To this end, the National Development and Reform Commission (NDRC) issued Document No. 1439⁸ and Document No. 303⁹ in October 2021 and February 2022 respectively. These two policy documents aim to make coal power enterprises assume social responsibilities and complete supply guarantees while solving the problem of cost transmission to alleviate operational pressure.



Coal power is still the main source of power supply in China, whose proportion in power generation is decreasing year by year, yet reach 60.0% in 2021.



Source: China Electricity Council (CEC) and National Energy Administration (NEA), accessed in March 2022

01 | Problem: Power supply security vs. operating loss

To cope with the dilemma of tight power supply during last winter, the government required state-owned coal-fired power enterprises to increase the number of operating units and overall power output during peak-load periods. The coal power companies headed by the five major power generation groups¹⁰ responded immediately, and the power rationing problem was resolved within two months. In 2021, the coal power utilization hours nationwide reached 4,568 hours, a year-on-year increase of 263 hours.¹¹ However, coal power enterprises have paid a huge economic price for this, 15 of the 20 listed coal power enterprises had a net loss in 2021, with a total loss of RMB 32~50 billion. Among the big-five groups, Huaneng Group had the largest amount of loss of RMB 9.8~11.7 billion; Datang Group had the largest proportion of loss of 400%-450%.

This is mainly due to the sharp rise in coal prices in the second half of last year. The coal price (when going into the furnace) reached nearly 1,000 RMB/tce, an increase of about 50% year-on-year, and the procurement cost of coal power enterprises across the country increased by about RMB 600 billion. However, the coal power feed-in tariffs (FiTs) have not been raised synchronously, which has led to a serious inversion between the cost of fuel and the cost of power generation and heating.¹² At the same time, the NDRC has made it clear that during the 14th Five-Year Plan period, coal power units will continue to be retrofitted for energy-saving, flexible operation, and heat supply, thus coal power enterprises are facing greater operational pressure.¹³

02 | Solution 1: Enhance coal cost transmission

The issuing of Document No. 1439 (2021) and Document No. 303 (2022) released a clear policy signal, teasing out a clear and reasonable cost transmission mechanism. Document No. 303 (2022) aims to strengthen the transmission of coal costs to the coal power FiTs, and Document No. 1439 (2021) aims to further transmit this cost to end-users and achieve the linkage between the three prices.

Coal price vs. coal power FiTs *(Document No. 303 (2022) – effective from May 1, 2022)*

- a) Currently, China's medium- and long-term coal price adopts the pricing mechanism of "base price + floating price", the government will raise the base price (5500 kcal thermal coal) from 535 RMB/ton to 675 RMB/ton, an increase of 26%; the floating price range will be adjusted from 470-600 RMB/ton to 570-770 RMB/ton, an increase of 21%-28%. The government also stipulates a reasonable range for medium- and long-term coal prices (when mining up) in the four major coal-producing areas, giving the market clearer and more stable price expectations.
- b) The government encourages the establishment of terms linked to the medium- and long-term coal price in medium- and long-term coal power FiTs. At present, China's coal price and coal power FiTs are both range prices, which means that **the price elasticity of coal power can be increased by employing range-and-range price linkage**, and coal power enterprises can better transmit fuel costs and ensure profits.
- c) Further enhance the government's dispatchable coal reserves, improve the reserve adjustment mechanism, and stabilize the balance of supply and demand.
- d) Formulate an intervention system for coal price and coal power FiTs; when coal price and coal power FiTs are within a reasonable range, improper intervention is strictly prohibited, with a special strengthening in the anti-monopoly supervision of the spot market; when the price exceeds a reasonable range, the government will guide them to return according to the *Price Law*.

In March 2022, the NDRC issued a document reaffirming the importance of signing medium- and long-term coal contracts, requiring that the number of medium- and long-term contracts signed by coal enterprises this year should cover more than 80% of their coal resources, and the medium and long-term contracts should achieve full coverage of the annual coal use of power generation and heating enterprises, aiming **to ensure the supply of coal for power generation and heating**.¹⁴

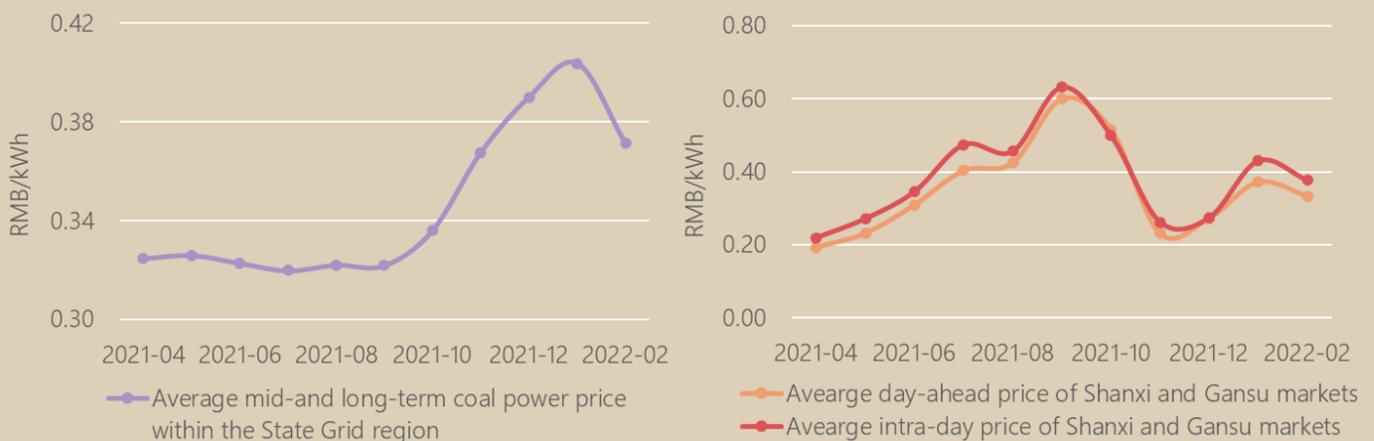
Coal power FiTs vs. end-use electricity prices *(Document No. 1439 (2021) – effective since October 15, 2021)*

- a) Full amount of coal power generation is priced through market-based transactions, while the current ratio is 70%.
- b) All industrial and commercial users above 10kV must participate in market-based transactions, currently 44%.
- c) Currently, the coal power FiTs in China are formed within the specified range of "base price + floating price", and the present base price by province is 0.25~0.45 RMB/tce¹⁵; the floating price is adjusted from +10%/-15% to +20% /-20%, no upper limit for energy-intensive enterprises, and no upper and lower limit for spot market transaction prices.
- d) To protect people's livelihood, agricultural and residential electricity prices are still determined by the NDRC and local DRCs.



After the adjustment of the pricing mechanism, the mid-and long-term coal power price has reached the expectation of rising by 20%, and the price transmission from coal fuel to coal power has been initially achieved. The spot power market prices rise first and then fall, which reflects the dynamic change in the cost of coal power generation.

The mid-and long-term coal power price and spot power market prices from April 2021 to February 2022



Solution 2: Improve the coal pricing mechanism

After clarifying the coal cost transmission mechanism, the rationality and flexibility of the source price, that is, the coal pricing mechanism, becomes more important. In December 2021, the NDRC proposed to further optimize the coal price calculation method in the *Work Plan for Signing and Performance of Medium and Long-term Coal Contracts in 2022 (draft for comments)*.¹⁶ Under the coal pricing mechanism of "base price + floating price", the reference index for the calculation of floating price is expected to increase from three¹⁷ to four, adding the comprehensive price index of the National Coal Exchange. The last monthly price of the four indices will be selected to determine the reference index with a weight of 25% each. When the reference index increases or decreases 1 RMB/tce compared to the base price, the floating price in the next month will fluctuate by 0.5 RMB/tce accordingly, which means that **the medium- and long-term coal price fluctuations are more gentle than market fluctuations**.

03 | Next step: policy implementation

The government has announced that no new coal power projects purely for power generation will be built in China in the future¹⁸, but it has also made it clear that the exit of conventional energy sources must be based on safe and reliable new energy alternatives¹⁹. This means that **coal power will experience an increase in installed capacity but a decrease in the proportion of power generation during the 14th Five-Year Plan period, and its role will gradually transform from a fundamental power source to a power system flexibility provider**. Thus, the ensuring of profitability will be an important issue for coal power enterprises. The above policy documents have put forward the development direction and principles of the future coal and coal power pricing mechanism, while how to design and implement the specific mechanism will be the key to achieving the policy targets. For example, the coal- and coal power range-and-range price linkage plan, the government's price intervention toolbox, and strengthening corporate capacity building and cultivating financial derivatives to hedge the risk of price fluctuations.

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¹⁸ "国家能源局:原则上不再新建单纯以发电为目的的煤电项目," National Energy Administration, 28 February 2022, accessed at <https://news.bjx.com.cn/html/20220228/1206838.shtml>.

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