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Coal Market Outlook for 2023

~ Coal prices will remain high in 2023 ~

< Executive Summary >

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Coal Price Outlook for 2023

1. Looking at coal prices in 2023, the spot price for steam coal (the FOB price at the Port of Newcastle in Australia) is projected to decline from an average of \$360/ton in 2022 to an annual average of \$340/ton.¹ Meanwhile, the spot price for coking coal (the FOB price for Australian premium hard coal) is expected to increase moderately from the current level but decline from \$360/ton to \$280/ton on an annual average basis.

Price trends in 2022

2. The spot price for steam coal in 2022 had been on an upward trend due to the return of demand from 2021, unfavorable weather conditions in supplier countries since the end of 2021, a coal export ban in Indonesia (issued on January 1 and lifted on January 14), and concerns about the situation in Ukraine. After the Russian invasion of Ukraine, it spiked from the mid \$200s/ton to \$400/ton. The price temporarily fell thereafter, but soared following the announcement of bans on Russian coal imports in the EU and Japan; heavy rains in New South Wales, Australia in early July; and the procurement of alternative coal supplies. The price then remained high at around \$400/ton. In October, it fell to the low \$300s/ton on reports that winter coal had been secured in the EU but rose again, most recently to \$400/ton.
3. The spot price for coking coal similarly surged in March after the invasion of

¹ Comparing the average LNG import price of \$16.8/million btu and the average steam coal import price of \$355/ton in 2023 on a calorie basis, LNG is 6.67 cents/thousand kcal, while steam coal is 5.70 cents/thousand kcal. This makes LNG price 1.17 times the steam coal price. The price gap had been between 2 and 2.5 times in recent years but narrowed after the invasion of Ukraine.

Ukraine, at one point closing in on \$600/ton. The price momentarily declined but rose again after April, exceeding \$500/ton. However, after late June, the price temporarily dropped to the low \$200s/ton as supply caught up with the market. Since then, it has remained in the high \$200s/ton to just over \$300/ton.

Demand trends

4. The Chinese government ordered production intensification due to tight supply and demand in 2021, and raw coal production in 2022 remained above the previous year's level, increasing by 420 million tons in January-October. On the other hand, the amount of electricity generated in April and May was lower year over year, due to the Shanghai lockdown and other factors. Coal imports were weak in the first half of 2022 but increased in the second half. In 2023, demand is projected to increase with economic recovery, and imports are also expected to increase depending on domestic production.
5. India experienced power shortages in March. Raw coal production was higher from April to June year over year, but then remained at the same level as the previous year. The amount of electricity generated by coal-fired power plants also exceeded the previous year's level during the same period. Steam coal imports increased by 10.4 million tons in the January-October period year over year. Crude steel production remained above year-over-year levels each month, while coking coal imports declined by 3.2 million tons over the January-October period. In 2023, demand is projected to continue to grow due to the economic recovery, and imports are also expected to increase.
6. Japan's imports of steam coal increased by 4.05 million tons from January to October, while imports of coking coal decreased by 1.7 million tons. In South Korea, steam coal imports increased by 1.6 million tons over the same period, while coking coal imports decreased by 1.1 million tons. Imports are expected to increase in both countries in 2023.

Supply Trends

7. In Australia, heavy rains hampered supply, resulting in weak exports from February through April and again in July. Although exports have continued to be sluggish, export volume in 2023 is expected to exceed the previous year's level. China's embargo on Australian coal, which was issued in November 2020, remains in place.
8. In Indonesia, some producers did not comply with their coal supply obligations despite increasing domestic demand, and coal stock at power plant dropped in December 2021. In response, the government issued a one-month export ban on January 1, 2022. It was lifted on January 14, but January exports fell to less than half of the previous month's volume. Production has been strong, and since

March monthly exports have exceeded totals for the same months year over year.

Market disruption due to economic sanctions against Russia

9. In 2022, the issue of stable fossil energy supply surfaced as a result of economic sanctions in response to the invasion of Ukraine. In the EU, coal demand temporarily increased due to postponing coal-fired power plant closure periods and restarting of previously inactive plants. For lignite-fired power plants, domestic lignite coal would be used; but for bituminous coal, the EU had to rely on imports, most of which came from the United States. Exports from the U.S. to the EU during January-September in 2022 increased by 7.3 million tons to 18.7 million tons from 11.4 million tons in 2021.
10. Japan has also announced an embargo on Russian coal, and its overall imports have declined since April. Japan's coal imports increased during the demand season of July and August, but in September it decreased to 1/3 of the previous month. Total imports from April through October fell 50.5% year over year.
11. From a mid- to long-term perspective, coal demand will temporarily increase in the short term, but once the gas supply system is in place and the use of renewable energy sources accelerates, coal demand will return to its previous downward path. In this case, a sharp contraction would again disrupt the market.

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