Coal: Dependence on Domestic Production to Rise as Prices Surge amid Geopolitical Tensions

CareEdge RESEARCH

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Coal Production during February 2022

In February 2022, coal production rose to 79.5 million tonnes (MT), highest for the month in the last 3 years. The total coal production for Feb-22 has witnessed an increase of 6.6 per cent over the same period in 2021 and 2 per cent over the period in 2020.

Table 1: Production for the month of February for 2022, 2021, and 2020

Production (in MT)	Feb-22	Feb-21	Feb-20	Growth % (Feb-22 vs. Feb-21)	Growth % (Feb-21 vs. Feb-20)	Growth % (Feb-22 vs. Feb-20)
CIL	64.3	61.9	66.2	3.8	-6.5	-2.9
SCCL	6.0	5.6	5.6	8.1	-0.7	7.3
Captives	9.2	7.1	6.2	29.4	15.2	49.0
Total	**79.5**	**74.6**	**78.0**	**6.6**	**-4.3**	**2.0**

Source: Ministry of Coal, CareEdge Research, CIL- Coal India Limited, SCCL- Singareni Collieries Company Limited

Between February 20-22, the share of Coal India Limited (CIL) in total coal production decreased from around 85 per cent in February 2020 to 81 per cent of total coal produced in February 2022. The share of captive mines has risen significantly over the past three years from around 7.9 per cent in February 2020 to around 11.6 per cent in February 2022. The share of SCCL has also increased slightly from 7.2 per cent in February 2020 to around 7.6 per cent in February 2022.

Coal production during the 11 months ended February 2022

India's cumulative coal production stood at 681.5 MT, indicating a growth of 9.8 per cent during the 11 months from April 2021 to February 2022 as compared to the corresponding period of the previous year (FY21) and 7.6 per cent compared to the same period of FY20.

The eleven-month period (from April 2020 to February 2021) of FY21, witnessed a degrowth in coal production by 2 per cent as compared to the same period for FY20 (non-Covid-19 year). This degrowth in coal production was on account of slow economic growth due to the ongoing Covid-19 pandemic led lockdowns in the country.

Table 2: Coal production April to February

Production (in MT)	April 2021 to February 2022	April 2020 to February 2021	April 2019 to February 2020	Growth % (FY22 vs. FY21)	Growth % (FY21 vs. FY20)	Growth % (FY22 vs. FY20)
CIL	542.4	515.1	517.4	5.3	-0.4	4.8
SCCL	58.6	44.2	58.1	32.5	-23.9	0.9
Captives	80.6	61.2	57.9	31.6	5.7	39.0
Total	**681.5**	**620.5**	**633.4**	**9.8**	**-2.0**	**7.6**

Source: Ministry of Coal, CareEdge Research, * indicates these growth numbers are for comparable periods in each of these financial years

Coal despatch for February in 2022, 2021, 2020

The overall coal despatch stood at 71.3 MT for the month ended February2022. The coal despatched to the power sector accounted for around 84 per cent of the total despatches in February 2022 compared to 79 per cent of the total despatches in February 2021 indicating an increase in the share of coal despatch to the power sector. The despatch to the power sector increased by 20.8 per cent on February 2022 over February 2021 as collieries continue to prioritise fuel supply to coal-starved power plants to ensure uninterrupted electricity supply to meet the increased power demand of the country.

Table 3: Coal Despatch in February of 2022, 2021 and 2020

Sectors	Feb-22	Feb-21	Feb-20	Growth % (Feb-22 vs. Feb-21)	Growth % (Feb-21 vs. Feb-20)	Growth % (Feb-22 vs. Feb-20)
Power	60.1	49.7	52.1	20.8	-4.6	15.3
CPP	2.5	3.6	5.1	-30.9	-29.2	-51.1
Steel	0.7	0.6	0.9	12.9	-27.1	-17.6
Cement	0.6	0.7	0.9	-13.7	-15.1	-26.7
Sponge Iron	0.7	0.9	1.2	-24.1	-25.0	-43.1
Others	6.7	7.1	6.3	-4.8	12.9	7.5
Total	71.3	62.6	66.3	13.9	-5.6	7.5

Source: Ministry of Coal, CareEdge Research, CPP- Captive Power Plants

Sectoral Coal Supplies

Table 4: Coal Despatch April to February (11 Months)

Sectors	April to February (in MT)			April to February Growth (%)		
	FY 22	FY 21	FY 20	FY22 vs. FY21	FY21 vs. FY20	FY22 vs. FY20
Power	612.4	486.1	515.1	26.0	-5.6	18.9
CPP	32.7	41.8	48.3	-21.8	-13.6	-32.4
Others	96.0	88.3	80.4	8.6	9.8	19.3
Total	741.0	616.2	643.8	20.3	-4.3	15.1

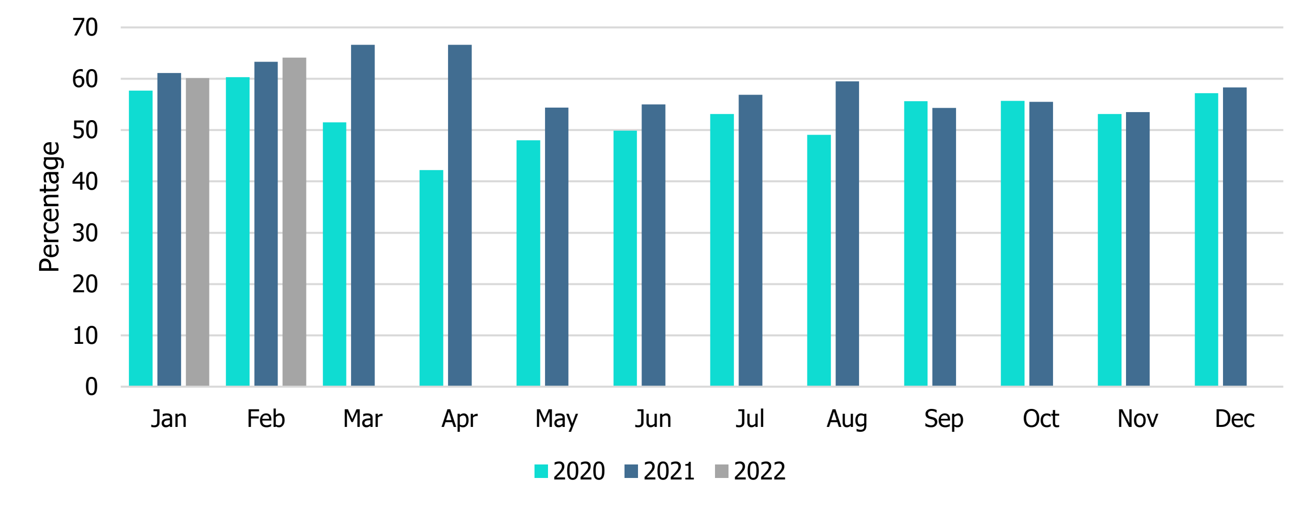
Source: Ministry of Coal, CareEdge Research, Note 1- CPP- Captive power plants. Note 2 – Non-power includes – cement, steel, sponge iron, and others like fertilizers, textiles, chemicals, paper & pulp, and other basic metals. This is comparison of 9 months for all the three years.

The share of coal despatched to the power sector improved to around 83 per cent in FY22 from an earlier 79 per cent of the total coal despatched in FY21. Unlike the power sector, the share of coal despatch to captive power plants reduced from 7 per cent in FY21 to 4 per cent of the total coal despatched in FY22 and the share of coal despatch to others also reduced from 14 per cent in FY21 to 13 per cent in FY22. This decrease in supply was on account of the comparatively increased supply of coal to the power sector.

Plant Load Factor

PLF (Plant Load Factor) or capacity utilisation is measured in terms of the proportion of electricity generation in comparison to overall installed capacity. The PLFs have improved in 2021-22 compared to last year due to increased supplies by domestic coal producers to keep up with the increased demand.

Figure 1: Plant Load Factor (Thermal Plants)



Source: Central Electricity Authority (CEA), CMIE, CareEdge Research, Data is provisional

Coal Despatch to Power Sector

The increase in domestic coal despatch to the power sector was on account of reduced imported coal volumes, apart from the increase in overall demand for power generation with the resumption in economic activity. As per data from the Ministry of Coal, imported coal volumes (for thermal power plants) decreased by around 41.7 per cent from 39.10 MT in a ten-month period from April-20 to Jan-21 to 22.73 MT from April-2021 to Jan-22. Domestic coal producers are continuously trying to improve their supply to the power sector to overcome that gap between demand-supply caused by a reduction in import volumes.

Power Generation

Table 5: Source-wise Power Generation

Source- (MU)	April-21 to Feb-22	April-20 to Feb-21	April-19 to Feb-20	Growth % (FY22 vs. FY21)	Growth % (FY21 vs. FY20)	Growth % (FY22 vs. FY20)
Coal	938,430	850,686	882,921	10.3	-3.7	6.3
Lignite	33,841	27,342	29,963	23.8	-8.7	12.9
Hydro	141,243	141,832	146,311	-0.4	-3.1	-3.5
Nuclear	42,571	39,752	42,153	7.1	-5.7	1.0
Gas, Naptha & Diesel	33,866	47,089	44,086	-28.1	6.8	-23.2
RES (Wind, Solar, Biomass & Others)	154,718	134,478	127,019	15.1	5.9	21.8
Total	**1,344,670**	**1,241,179**	**1,272,453**	**8.3**	**-2.5**	**5.7**

Source: CEA, CareEdge Research, Data is provisional, * indicates these growth numbers are for comparable periods in each of these financial years

Coal-based power generation has registered a growth of 10.3 per cent in FY22 over FY21, indicating improved coal supply for power generation. In addition to this, the share of coal-based generation in total power generated increased from 69 per cent in FY21 to around 70 per cent of the total power generated in FY22. In FY22, the share of lignite and nuclear-based power generation remained at around 2 per cent and 3 per cent of the total power generated respectively, and share of hydro and gas, naptha & diesel reduced by 1 per cent compared to FY21.

Over the past three periods, the share of RES (Wind, Solar, Biomass and others) based power generation has increased from 10 per cent in FY20 to nearly 12 per cent of the total power generated in FY22 indicating a transition towards green resources for power generation.

Coal Stocks at Non-pithead power plants

Table 6: Coal Stock at Non-pithead plants

Date	No. of Plants	Capacity (MW)	Daily Requirement (TT)	Total Stock (TT)	Total Stock (in Days)
30-Apr-21	118	1,31,546	1,470	17,760	12
31-May-21	119	1,32,866	1,373	23,602	17
30-Jun-21	118	1,32,656	1,475	24,093	16
31-Jul-21	118	1,32,656	1,360	19,199	14
31-Aug-21	119	1,33,256	1,452	9,472	7
30-Sep-21	119	1,29,866	1,369	5,611	4
31-Oct-21	119	1,29,866	1,357	7,647	6
30-Nov-21	119	1,31,096	1,387	13,445	10
31-Dec-21	162	1,63,442	2,218	17,439	8
31-Jan-22	162	1,63,442	2,220	18,133	8
28-Feb-22	155	1,63,944	2,216	18,048	8

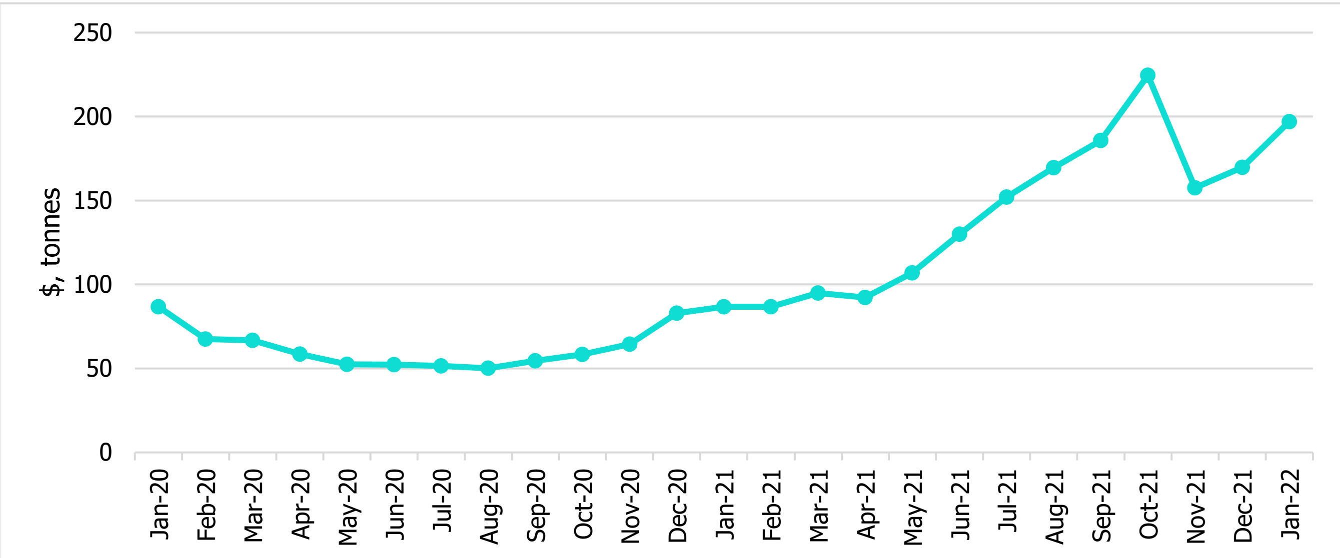
Source: Central Electricity Authority (CEA), CareEdge Research, TT- Thousand Tonnes, Data are provisional

As per CEA data, the pithead power plants have around 85% of their normative stock available, while non-pithead plants (non-pit head plants are power plants where the coal mines are more than 1,500 km away) have only around 31% of their normative stock available as on February 28, 2022. Although the stocks have improved, they remain lower than normative stock levels, shortage of stocks at most power plants is hampering operation and affecting the profitability of such power plants.

Coal Prices

Coal prices of Australian thermal, a global benchmark, have been on an upward trajectory since the beginning of January 2021 due to coal shortages in top importer countries like China and India. After its peak price in October 2021, the coal prices remained below the all-time high of 224.5 per MT in October 2021. However, the ongoing tensions between Russia-Ukraine are highly impacting the international coal prices. The continuous rise in coal prices is discouraging coal imports which are pressurising coal producers to increase supply to fulfil the domestic coal demand.

Figure 2: Prices of Coal in Australia ($/tonne)



Source: World Bank, CareEdge Research

Outlook:

In the near term, coal prices are expected to remain high as the ongoing Russia-Ukraine conflict is expected to lower coal imports by power plants. To reduce the impact of the war, India is looking to increase domestic coal output and supplies and is working towards reducing imports gradually over the long term.

Although, domestic coal production is expected to increase further, the increased supply to the power sector will hamper the supply of fuel to the non-power sector (industries like aluminium, cement, steel, sponge-iron, paper, fertiliser, chemical, rayon and their captive power plants). Non-power plants sectors will be impacted by limited supply and increased prices adversely affecting their cost of production.

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