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Thermal Power: Will the coal shortages trip the recovery?

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With the ramp-up of economy post the second wave of covid'19 outbreak, power demand has increased significantly. The base demand during Apr'21 – Aug'21 period has shown a robust growth of 15.5% over the corresponding period last year and has already surpassed pre-covid levels (i.e. Apr'19 – Aug'19 period). While the coal-based thermal plants experience lower coal availability around September every year due to the issues related to production, monsoon and concomitant logistics challenges, this year the issue has been exacerbated by sharper surge in power demand. Higher demand this year has resulted in sharp depletion of coal inventory with ~54% of the monitored capacity of 165 GW having a stock of less than four days of production, as on September 30, 2021.

Contrary to popular belief of attributing the lower coal availability with production constraints at Coal India Ltd (CIL) and Singareni Collieries Company Ltd (SCCL), the national coal companies have continued to improve the total despatches over the years.

The issues concerning the coal shortage this year has been exacerbated by increase in imported coal prices which has been unprecedented in recent times. This issue is partly attributable to the reluctance of off-takers to procure power based on costlier imported fuel. The price of imported Indonesian coal as denoted by [Harga Batubara Acuan (HBA)] index has witnessed more than 100% increase in October 2021 on y-o-y basis largely attributable to China related issues of surging power demand, its slower coal production and unofficial restriction on usage of Australian coal by China.

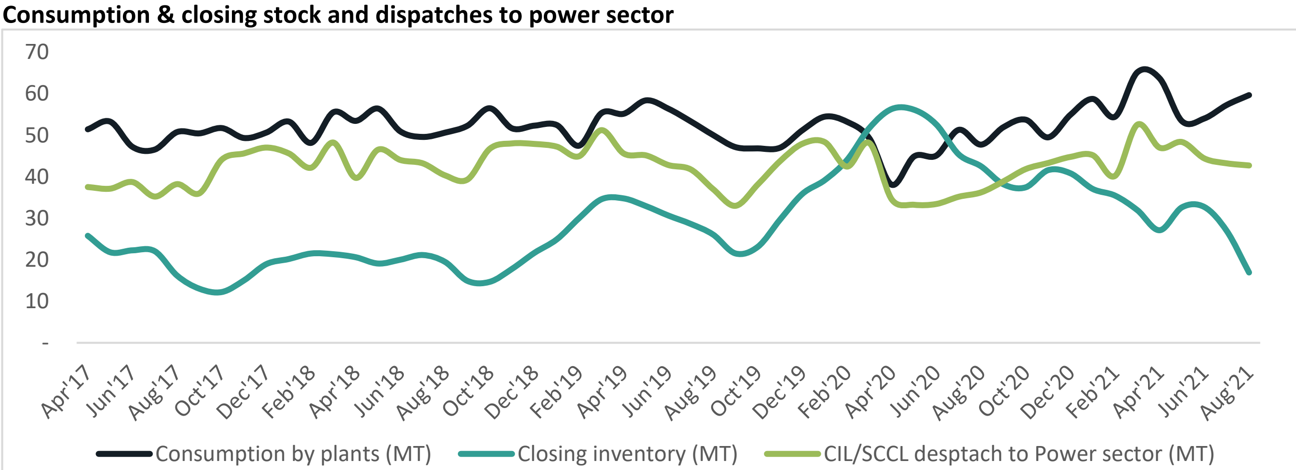
Based on past experience, the coal shortage appears as a recurring phenomenon which tapers down with built up of inventory towards the end of winter season. Although this time around, the issue is more pronounced. Restocking of coal to desired levels is expected to be longer during FY22 as power demand is likely to remain healthy. Such shortages have become a yearly affair and it would be thus structural reforms in terms of production, logistics and regulation which will be essential to ensure optimum coal availability in future.

In terms of impact on credit profile of rated thermal power generators, CARE believes that it is unlikely to be significant. The projects which have tariff determined on a cost-plus basis would be able to recover their fixed cost, basis the declaration of the Plant Availability Factor (PAF). While PAF will be affected temporarily because of current shortage, it is likely to be recouped on a full year basis. Merchant capacities with efficient tie of coal procurement are expected to have better unit contribution during this period. Lastly plants with competitively bid PPAs with aggressively low energy charge may witness lower cash accrual during this period.

The recurring issue during autumn, however more severe currently

More than 70% of the country's demand is met by thermal generators which peaks during the summers every year. Due to production and logistics bottlenecks, coal despatch from CIL and its subsidiaries fail to match the consumption. Hence towards the end of the peak season, coal inventory for the plants significantly declines. As per National Power Portal, the number of plants with inventory equivalent to critical/ supercritical level as on September 30, 2017, was high at 71 (out of total of 112 plants). This situation improved in the subsequent years. However again this year, as on September 30, 2021, 104 plants had critical to supercritical level of coal inventory, which is significant. On an average, the plants in India had stock equivalent to only 4 days of consumption as on September 30, 2021, significantly reducing from September 2020 level of 19 days and September 2019 level of 11 days. Out of the 165 GW capacity under monitoring by CEA, ~54% of the capacity was holding less than 4 days equivalent stock which speaks volumes of the severity of the situation.

Consumption & closing stock and dispatches to power sector



Source: CEA, Ministry of Coal

Usually, the shortage of domestic coal is made up by coal imports, which this year was restricted due to surge in imported coal prices. The HBA thermal coal price which remained benign during CY20 at less than USD 60/tonne has more than doubled to USD 161.63/tonne on October 5, 2021 (As per the Ministry of Energy and Mineral Resources of Indonesia). This extraordinary price rise is largely attributable to China related issues including surging power demand, its lower domestic coal production and unofficial ban on import of Australian coal.

More than the usual issues?

In the past during the same time, production is challenged by heavy rains/ floods affecting mining, poor road condition near pit-head coal plants and lower availability of coal rakes. In the current year, two additional factors have further flared the coal paucity.

Firstly, the sudden surge in energy demand. The resumption of business activities post the second wave of lockdown this year has been faster and higher than envisaged. Base energy demand in Apr'21-Aug'21 was at 595 BUs, already exceeded pre-covid level of YTD-Aug'19 by 2.7% (15.5% up over Apr'20-Aug'20). Secondly, exceptional rise in imported coal has restricted its usage adding to current woes.

Is shortfall in domestic production only to be blamed?

Contrary to the popular notion of lower production (as against requirement) by CIL and SCCL attributing to the current state of less coal availability for the power plants, it is interesting to note that the despatch to power sector has been highest in the recent times. During H1FY22, CIL/SCCL despatch to power sector was 272 million tonnes (MT), as shown below: -

Coal despatch to Power Sector (MT)	H1FY17	H1FY18	H1FY19	H1FY20	H1FY21	H1FY22
CIL	191.50	204.50	235.00	217.39	197.77	245.58
SCCL	22.60	25.00	25.40	25.62	15.15	25.93
Total	214.10	229.50	260.40	243.01	212.92	271.51

Source: Ministry of Coal

Lower coal despatch is not the only cause for lower coal availability. As per National Power Portal, about one third (i.e. 55 GW) of capacity having critical/ supercritical stock as on September 30, 2021, is due to the reasons other than lower coal despatch by national coal companies. Few of the prominent issues are payment delays by gencos, transportation and unloading constraints.

How long will the issue last?

Energy demand is expected to remain healthy for the rest of FY22, with the threat of disruptions due to third wave gradually waning away. Power demand in FY22 is expected to grow by 5-6% over pre-covid level of FY20. With sustained demand recovery, thermal PLFs are expected to remain firm for FY22. With the firmness in imported coal prices likely to sustain over next 5-6 months, we believe the coal inventory levels will improve not earlier than Q3FY22 end; notwithstanding the increase in production by CIL. On a longer-term basis unless structural issues in the sector are addressed by better logistics, the coal availability issue will keep cranking up every year.

Contact:

Amod Khanorkar	Senior Director	amod.khanorkar@careratings.com	+91-22-6837 4444
Sudhir Kumar	Director	sudhir.kumar@careratings.com	+91-11-4533 3232
Agnimitra Kar	Assistant Director	agnimitra.kar@careratings.com	+91-11-4533 3285
Mradul Mishra	Media Relations	mradul.mishra@careratings.com	+91-22-6837 4424

CARE Ratings Limited

Corporate Office: 4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway, Sion (East), Mumbai - 400 022

Tel. : +91-22-6754 3456 I CIN: L67190MH1993PLC071691

Connect :