According to India Infrastructure Research, the total coal-based installed capacity stood at 197 GW as of March 2018, accounting for about 58% of the installed capacity of 344 GW across all sources of power generation. While, the share of coal-based capacity in total capacity has increased consistently between 2013 and 2015, it has continued to decline marginally since then.

Meanwhile, in 2016-17, electricity generation from coal-based plants accounted for more than 80% of the total power produced during the year. Private sector (IPPs and utilities) had the highest share in coal-based generation, followed by the central and state sectors. Between 2012-13 and 2016-17, generation from coal-based power plants has increased at a CAGR of 8.1%. In 2017-18, coal-based generation until was around 951 BUs, maintaining the 80% share of the total power generation.

The plant load factor (PLF) for coal-based power plants has declined considerably from about 70 per cent in 2012-13 to 59 per cent in 2017-18, and is set to decrease even further. Rapidly changing generation mix will require coal-based power plants to be more flexible through multiple physical changes. Moreover, the operational strategy of power plants will need to be changed in order to deal with the challenges posed by flexibilisation.

By 2022, renewables are expected to account for 33% of the country’s power generation, and 43% by 2027. The future load generation scenario suggests a heavy demand growth, likely to be fulfilled in part by renewable sources of energy. However, given the intermittent and variable nature of these sources, the role of load balancing will be significantly played by coal-based and hydropower plants.

Trends in Coal-based Power Generation
The installed coal-based power capacity is expected to reach 248,513 MW by 2026-27, as per CEA's National Electricity Plan. An additional capacity of 51,342 MW is under-development and likely to yield benefits by 2021-22. Major changes are expected in the country's installed capacity mix going forward. The share of coal-based power capacity in total installed capacity is expected to stand at about 48% by 2021-22 as against 57.3% in 2017-18. It is further expected to reduce to 39% by 2026-27.

According to India Infrastructure Research, the average year-on-year growth rate of power generated by coal-based power plants during 2012-16 was 9.3%. Based on power generation forecasts, high-, medium- and low-growth scenarios have been determined to forecast the demand of coal by the power sector over the next five years.
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