

Power sector update

Contact:

Madan Sabnavis
Chief Economist
madan.sabnavis@careratings.com
91-22-6837 4433

Author:

Kavita Chacko
Senior Economist
kavita.chacko@careratings.com
91-22-6837 4426

Mradul Mishra (Media Contact)
mradul.mishra@careratings.com
91-22-6754 3573

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Power consumption and consequently generation declined in November'20, indicative of the dilution of the initial rebound seen with the easing of lockdowns. Consumption as well generation fell on a sequential basis (i.e. from October'20) but were higher than that in November'19.

Electricity generation in November was the lowest in seven months. Conventional as well renewable energy generation witnessed a significant decline on a monthly basis, with a steeper decline in the latter.

Electricity consumption too witnessed a sharp fall to a six month low in November. Although the decline in consumption has been rather broad-based across regions, it was pronounced in the northern and eastern regions. Consumption in the western industrialised regions despite the marginal decline in November has seen a progressive increase in recent months reflective of the activity in these regions.

The short term trade volumes on the power exchanges too were lower in November, denoting lower power demand.

The rate of addition to domestic power generation capacity in the current financial year has been the lowest in 5 years. New capacity addition of conventional as well as renewable energy has slowed down, with the decline in the former being higher. The addition to capacity in the current financial year has been led by solar power.

DISCOMS dues to generators have been mounting. As of October 2020, the outstanding dues amounted to Rs.1.26 lakh crores, a 24% increase from April 2020.

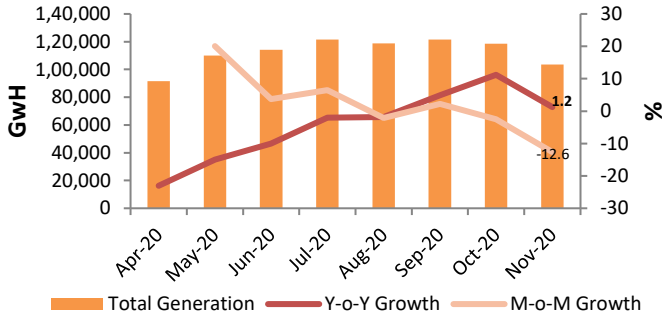
Lower Electricity generation

Power generation in November'20 was the lowest in seven months and marked the second month of sequential decline, indicating that the recovery seen with the unlocking of the economy may not be sustained to the same extent. Electricity generation in November was 13% lower than that in October'20 but was 1% higher than that in November'19. Generation from both conventional as well as renewable energy sources declined during the month with the fall (m-o-m) being sharper in the case of the latter at -24% v/s - 11.5% in the former.

In the first eight months of 2020-21, domestic electricity generation was at a 3 year low and 5% lower than that in the corresponding period of 2019-20. This decline can in large part be attributed to the sharp fall in electricity demand from the industrial and commercial sectors with the decline in level of activity along with the disruptions in the supply of inputs, raw materials, and labour shortages consequent to the pandemic and the subsequent restrictions imposed by the government across states.

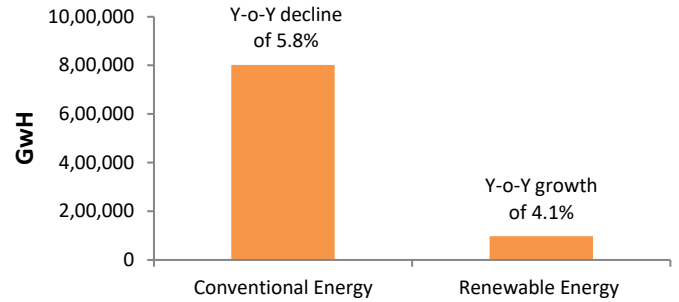
The fall in electricity generation from conventional sources (thermal, hydro and nuclear), which accounts for over 90% of the total output, has weighed down overall generation in the current financial year. The output from conventional energy sources during April-November'20 was 6% lower than that in the corresponding months of 2019-20 while that from renewable energy sources has seen a year-on-year increase of 4%, aided by the higher output during May-August'20. Further, the 'must-run status' of renewable power plants that mandates uninterrupted power procurement by utilities supported the higher generation from these power sources despite the fall in consumption.

Chart 1: All India Electricity Generation



Source: CEA (provisional)

Chart 2: All India Electricity Generation (April-November 2020)

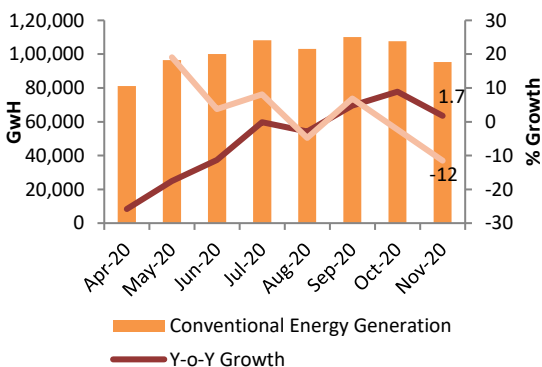


Source: CEA (provisional)

The monthly output from conventional as well as renewable sources has been prone to fluctuations. Renewable energy generation saw a monthly decline in four of the first eight months of 2020-21 while conventional energy after registering a sequential increase during May-July'20 contracted in three of the subsequent four months.

Coal-based power generation (74% of total power output) registered a 7.5% month-on-month decline in November'20 and a 5% year-on-year improvement. Owing to the lower generation, the capacity utilization rate or plant load factor of coal power plants in November fell to 53%, a 3% decline from the previous month.

Chart 3: Conventional Energy Generation



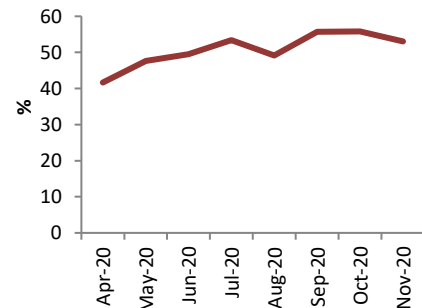
Source: CEA (provisional)

Table 1: Generation from Conventional Sources

	Generation: November 2020 (GWh)	M-o-M Growth (%)	Y-o-Y Growth (%)
Thermal	82,685	-7.8	4.0
Coal	76,410	-7.5	4.6
Gas	3,838	-19.8	0.8
Lignite	2,425	8.8	-9.5
Hydro	8,409	-36.0	-16.1
Nuclear	3,752	-3.4	-1.1

Source: CEA (provisional)

Chart 4: Plant Load Factor - Coal-Based Power



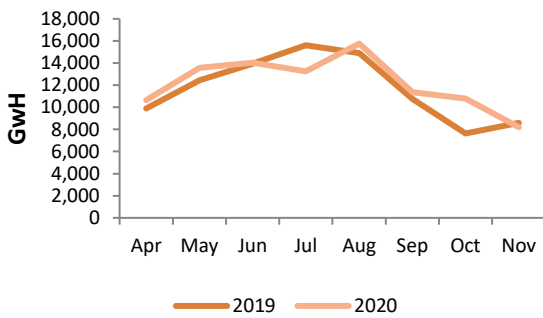
Source: CEA (provisional)

Generation from renewable energy sources in November’20 was the lowest in thirteen months at 4% lower than in November’19. Both wind and solar power witnessed a monthly decline in generation. The decline, however, was sharper in the case of wind power at 24% as against the 14% fall of solar power generation.

Wind power generation dropped to a twelve month low (of 3,038 GwH) in November’20. During April-November’20, wind power generation, which accounts for the larger share in renewable energy (nearly 50%), was 9% lower than a year ago and this decline can be attributed to low wind speeds, especially in the peak monsoon season.

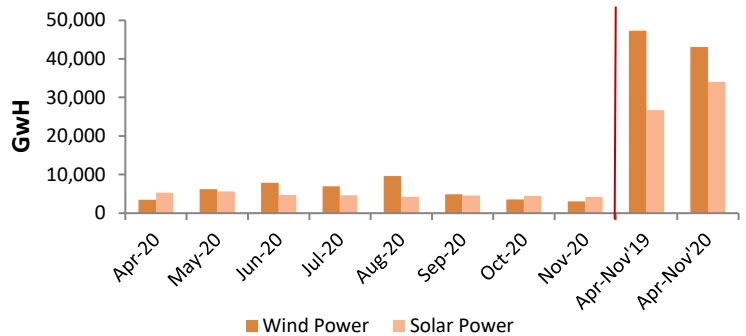
Solar power generation in November’20 (at 4,212 GwH) was the lowest in eleven months. However, the cumulative generation in the eight month period of April- November’20 was 25% more than that in the same period last year. This increase can be credited to the higher generation during the summer months (Apr-May) which was nearly 30% higher than a year ago. Solar power has seen fluctuations in monthly power generation in the last six months which can be linked to seasonal factors as well as the disruptions in the input (imported) supply chains.

Chart 5: Renewable Energy Generation



Source: CEA (provisional)

Chart 6: Wind and Solar Power Generation



Source: CEA (provisional)

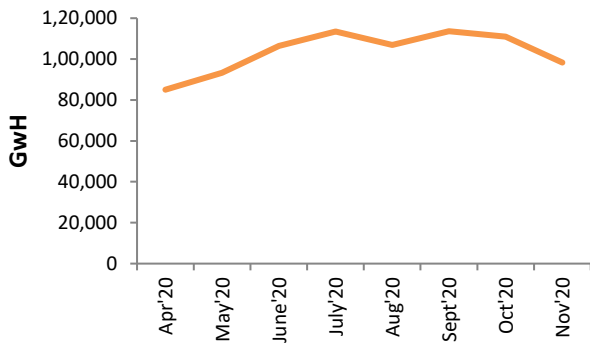
Fall in electricity consumption

The consumption of electricity in the country in November’20 was 11% lower than that in the previous month and the lowest in six months. It was nevertheless 4% higher than that in the same time of last year.

Power consumption has seen a monthly decline during October and November. With the industrial and commercial segment accounting for nearly 50% of the electricity consumption, the fall in monthly power consumption can be taken as being indicative of the cooling of the initial rebound in industrial and commercial activity seen with the easing of the lockdown. The lower consumption by households (~25% share in total consumption) with the seasonal drop in temperatures could also have contributed to the lower electricity consumption.

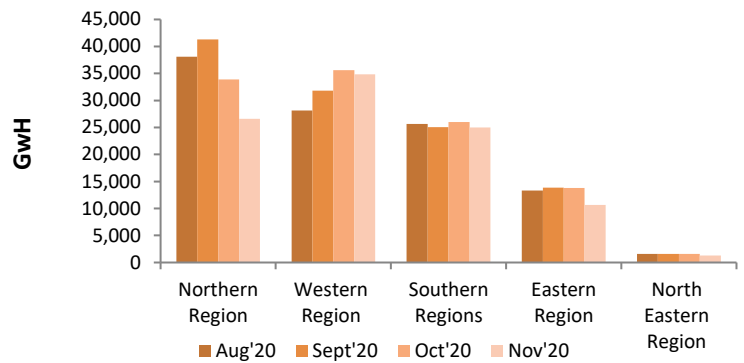
In terms of regional consumption, there was a broad-based decline in consumption across regions on a monthly basis. The fall in electricity consumption in November was the highest in the northern (21% m-o-m) and eastern (23% m-o-m) regions. The western and southern regions witnessed a decline of 2% and 4% respectively in November’20 v/s October’20. Despite the monthly decline, the consumption in the western regions was 24% higher than in August’20, indicating higher activity in the most industrialised parts of the country.

Chart 7: Electricity Consumption



Source: POSOCO

Chart 8: Region-wise electricity consumption



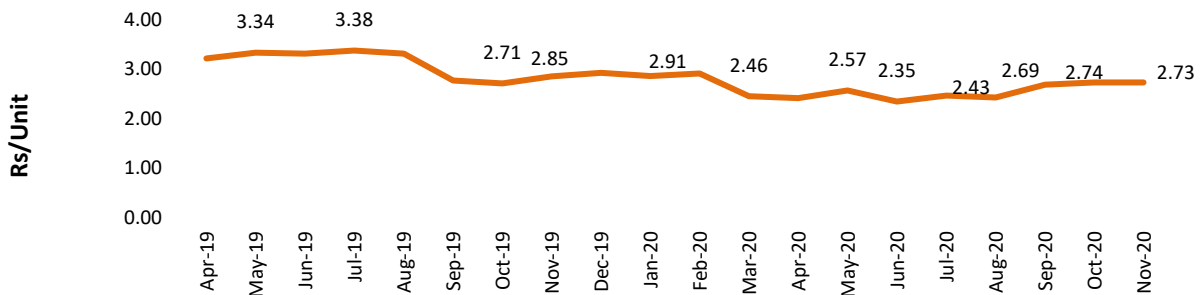
Source: POSOCO

Short term electricity trades

The short term electricity trade volumes on the power exchanges in November '20 at 4702 MU was 15% lower than in October'20 but was nearly 40% higher than that in November'19.

Prices in the day ahead market (DAM) were largely steady during November'20 with the average prices of electricity at Rs.2.73 per unit. It was nevertheless 4% less than in November'19.

Chart 9: Average price of electricity in the day ahead market



Source: IEX

Lower Addition to Power Generation Capacity

Capacity addition in both conventional, as well as renewable power generation, has slowed in the current financial year. In the first eight months of 2020-21, the total new power generation capacity additional stood at 9.2 GW which was the lowest annualised addition in 5 years and nearly half of that in the same time in 2019 (Apr-Nov'19). The decline in annual capacity addition was higher in the case of conventional energy sources (68% decline y-o-y) than that on renewable energy (38% lower y-o-y).

The lower capacity addition can be attributed to the lockdown led disruptions in the supply chain (which slowed movement of inputs and has led to an increase in their prices), labour shortages as well as the constrained finances and liquidity pressures faced by the developers. In addition, the restriction on the imports of inputs viz. for solar power has aggravated the constraints faced by the developers. Project timelines have been extended as a result, further aggravating the financial

stress of developers. A six month extension has been given by the Ministry of New and Renewable Energy for the completion of the under construction projects

New power generation capacity addition so far in 2020-21 has been led by renewable energy. 7 GW of renewable energy generation capacity has been added during Apr-Nov'20 versus the 2.2 GW of conventional energy. Renewable energy capacity addition has been led by solar power, which accounted for 75% or 5.2 GW of new capacity. Solar power generation capacity has been raised to 37 GW. Coal-based power, which is the dominant sources of electricity in the country and which accounts for 55% of the total power generation capacity, added 1.9 GW to generation capacity in the last eight months.

Despite the higher addition, the generation capacity of renewable energy stands at 90 GW (24% of the total domestic generation capacity) while that of conventional energy is 284 GW.

Chart 10: Addition to Generation Capacity

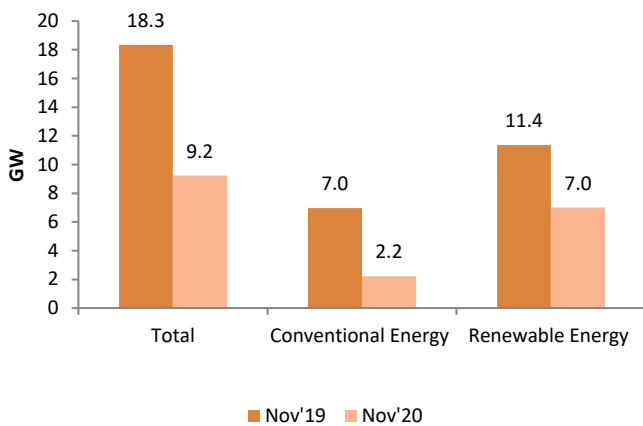
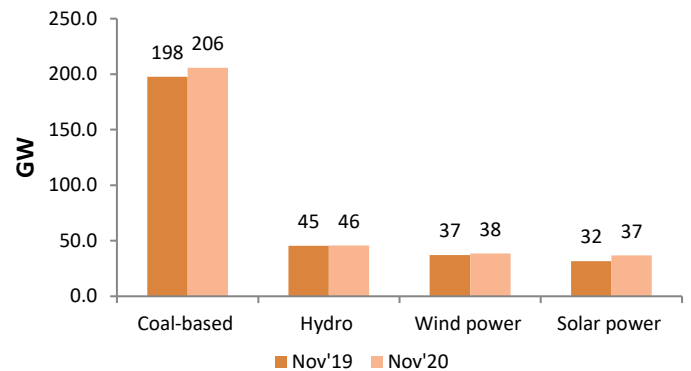


Chart 11: Electricity Generation Capacity - Sources



Source: CMIE and CEA (provisional)

Rising DISCOMs dues

The outstanding dues owed by DISCOMs to power generators as of October 2020 amounted to Rs.1.26 lakh crores, which is a 24% increase from April 2020. The absence of cost reflective tariffs, rising operational expenditure and high AT & C losses has been pressuring the finances of state distribution utilities over time. Added to this is the fall in power demand and disruptions in the billing and collections consequent to the lockdown.

The outstanding dues were the highest for Rajasthan (Rs.38,237 crs), Tamil Nadu (Rs.20,646 crs) and Uttar Pradesh (Rs.13,851 crs). They accounted for 58% of the total outstanding dues. The other states with sizeable dues are Karnataka, Maharashtra, Telangana, Jammu & Kashmir, Jharkhand, Andhra Pradesh, Madhya Pradesh and Haryana. Table 2 details the outstanding dues of the 10 states who account for 92% of the total outstanding dues.

Table 2: State-wise DISCOM Dues as of end October '2020

Statewise Dues	Oct'2020
Rajasthan	38,237
Tamil Nadu	20,646
Uttar Pradesh	13,851
Karnataka	8,532
Maharashtra	7,558
Telangana	5,747
Jammu & Kashmir	5,462
Jharkhand	5,083
Andhra Pradesh	4,217
Madhya Pradesh	3,621
Haryana	3,469
Total	1,26,025

Source: PRAAPTI

Outlook

Power generation would largely be contingent on the sustainability of the rebound in economic activity. Although business and commercial activity is expected to be higher in the remainder of the financial year with the resumption of economic activity and optimism surround the vaccine, uncertainty abound all these fronts.

For the 2020-21 as a whole electricity demand and consequently generation is likely to contract given the sharp fall in industrial and commercial activity. Moreover, even with the unlock process, economic activity is unlikely to attain pre-lockdown level of activity in the current financial year.

CARE Ratings Limited

Corporate Office: 4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway, Sion (East), Mumbai - 400 022. CIN: L67190MH1993PLC071691

Tel: +91-22-6754 3456 | Fax: +91-22-6754 3457

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