

## Power sector update

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Power consumption and consequently generation bounced back in December'20, reversing the decline of the previous two months. The improvement in electricity consumption and generation points to the expansion in economic activity during the month.

Electricity generation in December was led by coal power, with output rising to the highest level since June'19.

The improvement in electricity consumption in December was broad-based across regions, with the northern regions seeing the highest monthly increase in the same.

The short term trade volumes on the power exchanges rose in December, denoting the improvement in 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 November'20, the outstanding dues amounted to Rs.1.20 lakh crores, a 28% increase from April'20.

### Increase in electricity generation

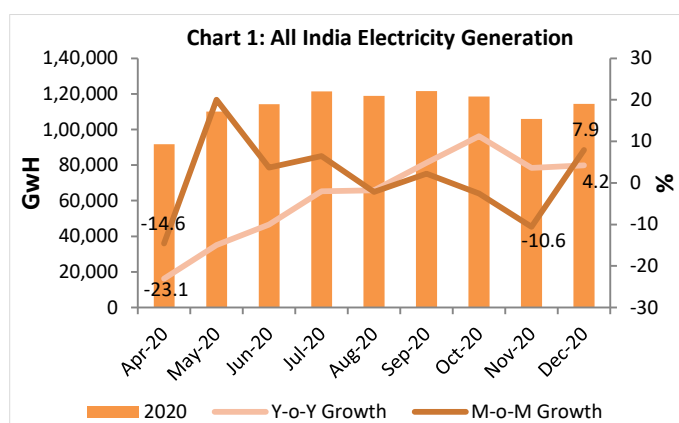
India's power generation in December'20 rose, reversing the decline of the preceding two months. Electricity generation during December was 8% higher than the preceding month as well as 4% greater than the year ago period. It was nevertheless lower than the output during July-October'20.

Generation from both conventional as well as renewable energy sources rose during the month with the increase (m-o-m) being sharper in the case of the former at 8% v/s 1% in the latter.

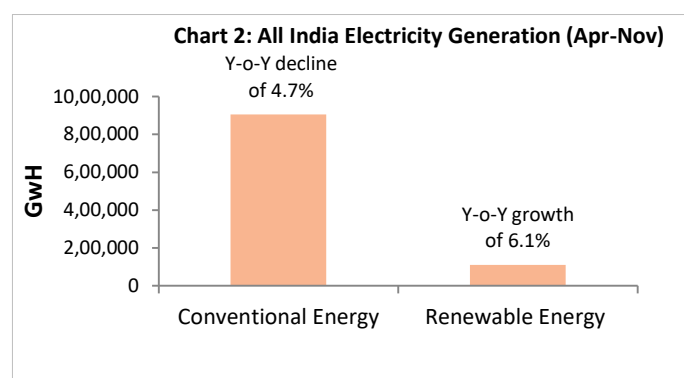
In the first nine months of 2020-21, domestic electricity generation was at a three year low and 4% less than that in the corresponding period of 2019-20. This decline can in large part be attributed to the sharp fall in electricity demand from the industrial and commercial sectors consequent to the nation-wide lockdown during end March-May'21 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 governments across regions.

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-December'20 was 5% lower than that in the corresponding months of 2019-20 while that from renewable energy sources has seen a year-on-year increase of 6%, 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 sharp fall in power consumption during the lockdown (by over 20% year –on-year basis). The monthly output from conventional as well as renewable sources has been prone to fluctuations in the current financial year.



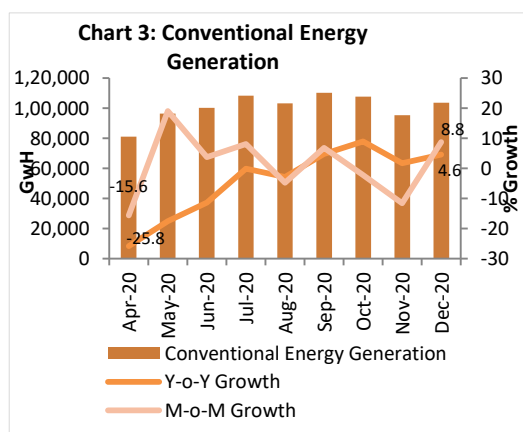
Source: CEA (provisional)



Source: CEA (provisional)

Coal- based power generation (74% of total power output) in December'20 rose to the highest level in eighteen months and registered a 12% month-on-month increase and a 7% year-on-year improvement.

Higher generation saw the capacity utilization rate or plant load factor of coal power plants rise to 57.2%, the highest level in ten months. Higher coal power output helped offset the lower generation of hydro power (7% of total output) and gas power (3% share) during December'20. Hydro power generation in December contracted by 3% from month ago and was 8% lower than a year earlier. Similarly, gas power output was 9% lower (month-on-month) and 1 lesser on a year-on-year basis.

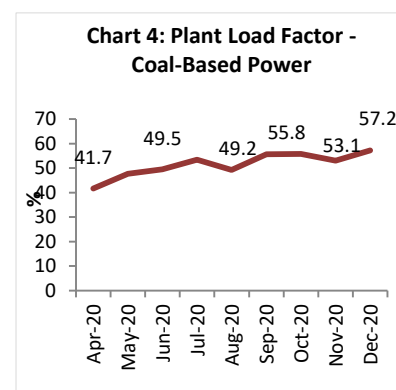


Source: CEA (provisional)

Table 1: Generation from Conventional Sources

	Generation: December 2020 (GWh)	M-o-M Growth (%)	Y-o-Y Growth (%)
Therm	91,369	10.5	5.8
Coal	85,468	11.9	7.0
Gas	3,508	-8.6	-1.2
Lignit	2,380	-1.9	-17.4
Hydro	8,193	-2.6	-8.2
Nucle	3,846	2.5	4.6

Source: CEA (provisional)



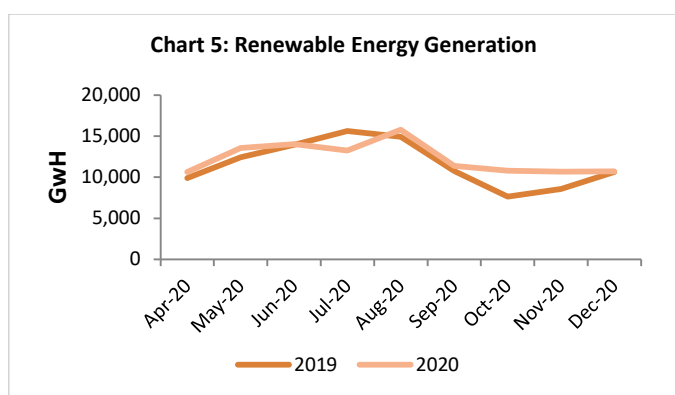
Source: CEA (provisional)

Generation from renewable energy sources too witnessed an improvement in December'20, albeit a marginal increase of 1% on a month and yearly basis. The monthly gains were led by wind power which saw output increase

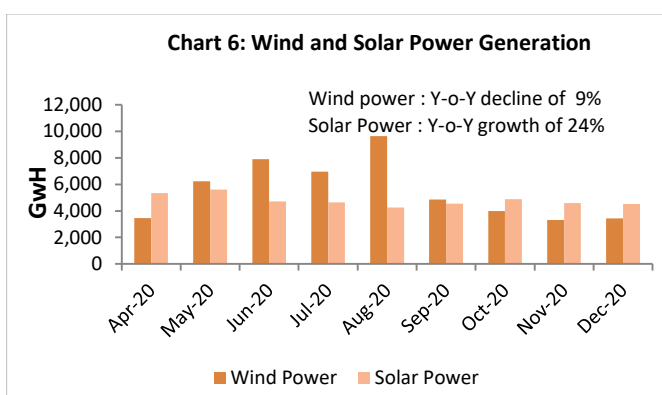
by 4% to 3,422 GwH. Solar power generation on the other hand contracted for the second consecutive month in December'20 with generation falling to 4,529 GwH (decline of 1.2% m-o-m)

During April-December'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.

The cumulative solar power generation in the nine months to December'20 was 24% 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 which can be linked to seasonal factors as well as the disruptions in the input (imported) supply chains.



Source: CEA (provisional)



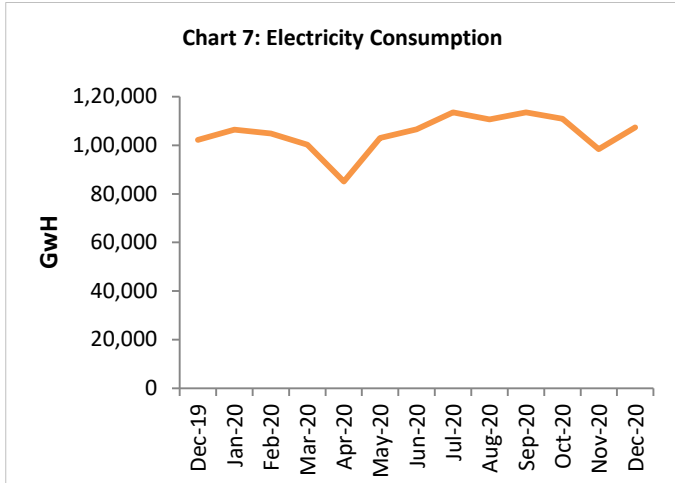
Source: CEA (provisional)

### Higher Power Consumption

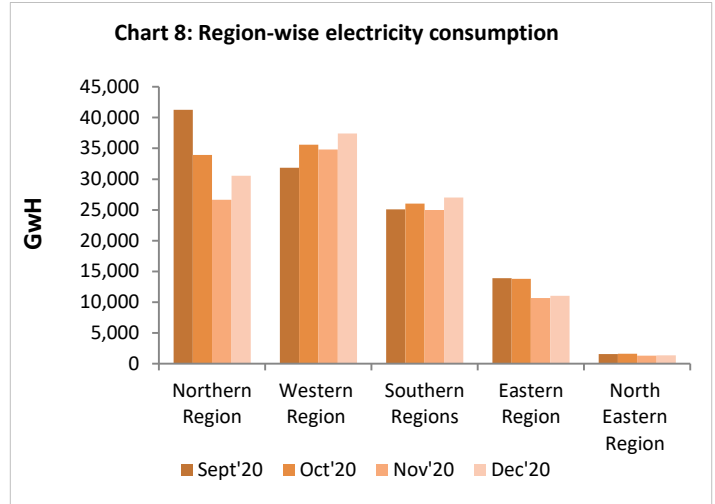
Domestic electricity consumption rose in December'20, rebounding from the sharp decline witnessed in the previous month, and registered a 9% month-on-month increase. The consumption of electricity in December'20 was 5% higher than a year ago (December'19) and even surpassed the consumption of the pre-lockdown period (February'20).

The increase in power consumption in December can be taken as being indicative of the higher levels of economic activity during the month, given that nearly 50% of domestic electricity consumption is accounted for by the industrial and commercial sectors. However, despite the improvement, electricity consumption in December was lower than that during July-October'20, suggestive of the cooling of the initial rebound in industrial and commercial activity seen with the unlocking of the economy (since June).

The monthly improvement in power consumption in December was broad-based across regions. The rise in electricity consumption was the highest in the northern region (15% m-o-m), followed by the southern and western region which witnessed a month-on-month increase of 8% and 7% respectively.



Source: POSOCO (prov)

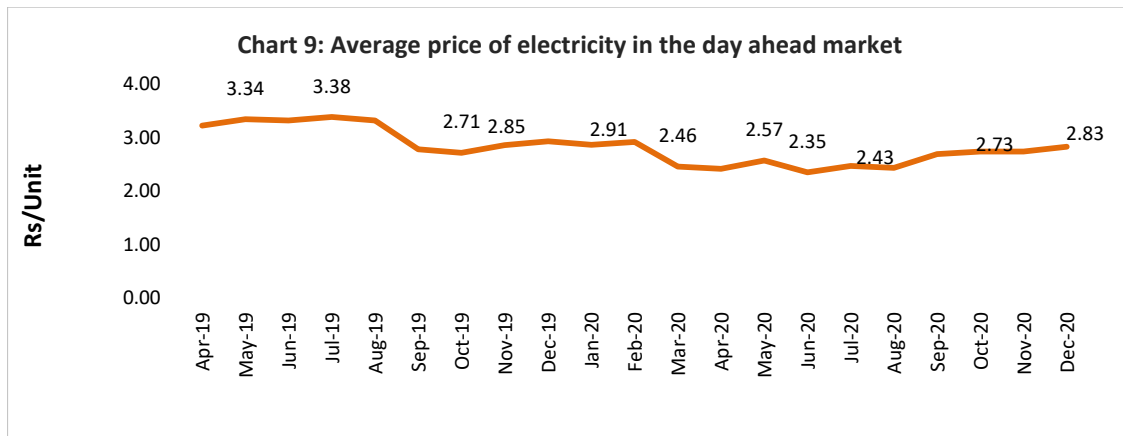


Source: POSOCO (prov)

**Higher volumes were accompanied by a rise in prices in the short term electricity market**

The short term transactions of electricity on the power exchange rose in December'20, reflecting the increase in power consumption. The trade volumes in the day ahead market (DAM) at 5606 MU was 19% higher than in November'20. Transactions on the power exchanges have seen sustained growth with DISCOMS and industrial consumers increasingly procuring power from this platform given the cost advantage of relatively lower prices. The DAM trade volumes registered a 29% year-on-year increase in December'20.

The average price of electricity in the DAM in December'20 rose to Rs. 2.83 per unit from Rs.2.73 per unit in the previous month. It was nevertheless 3% lower than a year ago levels (Rs.2.93/ unit in December'19).



Source: IEX

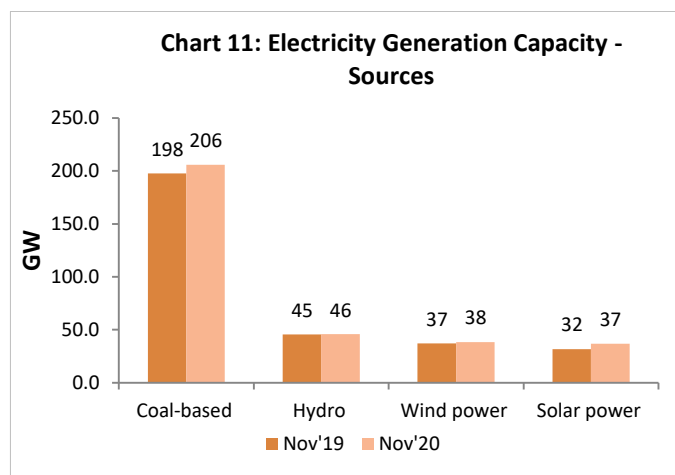
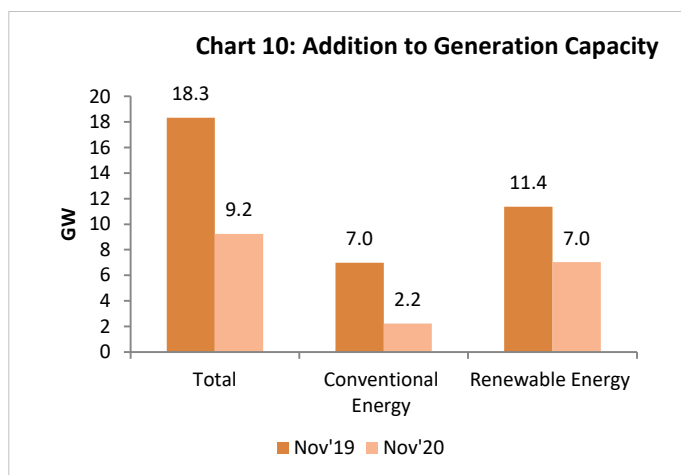
### Lower Addition to Power Generation Capacity in 2020-21

Capacity addition to both conventional, as well as renewable power generation, has slowed in the current financial year. During April –November’20, 9.2 GW of new generation capacity was added to the installed domestic power generation capacity. This has been 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 in 2020-21 has been led by renewable energy. 7 GW of renewable energy generation capacity has been added during April-November’20 versus 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 stands at 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 eight months to November’20.

Of the total domestic electricity generation capacity of 374 GW, renewable energy generation capacity stands at 90 GW (24% of the total) while that of conventional energy is 284 GW.



Source: CMIE and CEA (provisional)

## DISCOMs dues

The outstanding dues owed by DISCOMs to power generators as of November 2020 amounted to Rs.1.31 lakh crores, which is a 28% increase from April 2020.

The outstanding dues were the highest for the DISCOMS of Rajasthan (Rs.40,229 crs), followed by Tamil Nadu (Rs.21,825 crs) and Uttar Pradesh (Rs.14,329 crs). These three states 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 Harayana. Table 2 details the outstanding dues of the 10 states who account for 92% of the total outstanding dues.

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 in the current financial year has further aggravated their financial stress

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

Statewise Dues	Nov'2020
Rajasthan	<b>40229</b>
Tamil Nadu	<b>21825</b>
Uttar Pradesh	<b>14329</b>
Maharashtra	<b>7709</b>
Karnataka	<b>7563</b>
Telangana	<b>6312</b>
Jammu & Kashmir	<b>6086</b>
Jharkhand	<b>5331</b>
Madhya Pradesh	<b>4114</b>
Andhra Pradesh	<b>3699</b>
Haryana	<b>3469</b>
<b>Total</b>	<b>1,30,676</b>

Source: PRAAPTI

## Liquidity support to DISCOMS

As of part of the special economic package (Atma Nirbhar Bharat Abhiyan) announced by the central government in mid-May'20, Rs.0.90 lakh crores (subsequently increased to 1.20 lakh crores) liquidity support was to be extended to DISCOMS through PFC and REC Ltd by way of special long term loans (10 year tenure) for liquidating outstanding dues of Central Public Sector Undertaking (CPSU) Generation (Genco) & Transmission Companies (Transcos), Independent Power Producers (IPPs) and Renewable Energy (RE) generators as existing on 30.06.2020.

As per the Ministry of Power's year end review, loans worth Rs.1,18,508 crores has been sanctioned and Rs.45,083 crores or 38% of the proposed liquidity support to DISCOMS has been disbursed.

## Concluding remarks

Power generation would largely be contingent on the level of domestic economic activity. Business and commercial activity is expected to be higher in the remainder of the financial year with the faster than anticipated resumption of economic activity, optimism associated with the rollout of the vaccine and the fall in the number of coronavirus case count in the country. The sustainability of economic revival however is fraught with uncertainty given the underlying weakness in the domestic and global economy.

For the 2020-21 financial year as a whole electricity demand and the consequently generation is likely to contract given the lower levels of industrial and commercial activity during the year. Moreover, even with the unlock process, activity levels in most segments is not expected to attain pre-lock levels in the current financial year.