

Power Sector Update

March 12, 2021 | Economics

Electricity consumption and generation held on to the improvements of recent months in February'21 and was only marginally lower than the pre-lockdown period of February'20. The firming up of prices in the short-term electricity market during the month is also indicative of the strengthening of electricity demand.

The addition to domestic power generation capacity in the first eleven months of FY21 at 9.7 GW has been the lowest annualised addition in twelve years and is around half of that a year ago. 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 February'21, the outstanding dues amounted to Rs.1.27 lakh crores, a 25% increase from April'20.

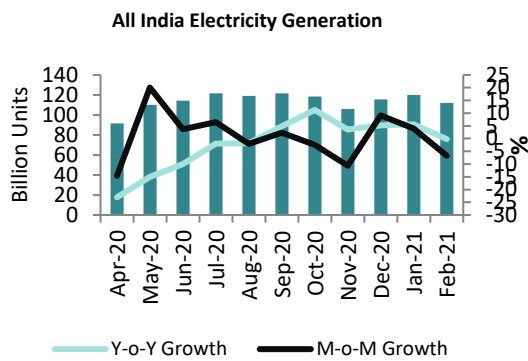
Electricity generation

India's power generation in February'21 was lower than the preceding two months and nearly stable from the year-ago period (based on provisional data). Electricity generation during February at 112 billion units (BU) was 7% lower than the previous month and 0.2% less than February'20. It was also lower than the output during July-October'20 (average generation of 120 BU) .

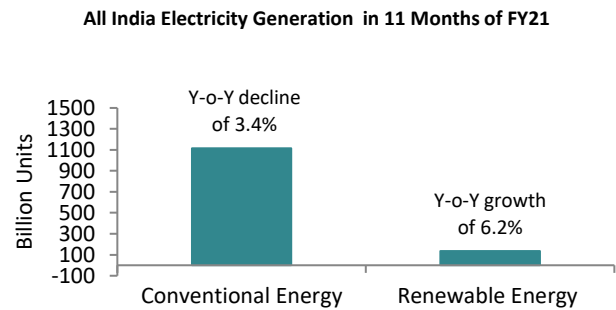
Generation from renewable energy sources moderated in February'21 (by 3%), while that from conventional sources increased, albeit marginally (by 0.1%), on a year-on-year basis.

In the first eleven months of FY21, domestic electricity generation declined to a three-year low and was 2.4% less than that in the corresponding period of FY20. This fall was mainly on account of the lower output from conventional sources (thermal, hydro, and nuclear), which accounts for around 90% of the total generation. The output from conventional energy sources during April-February of FY21 was 3% lower than that in the corresponding months of FY20, 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).

Lower power generation in FY21 has been the consequence of a sharp fall in electricity demand from the industrial and commercial sectors consequent to the nationwide lockdown during the end of March-May'20 as well as the disruptions in the supply of inputs, raw materials, and labour shortages consequent to the pandemic led restrictions across regions.



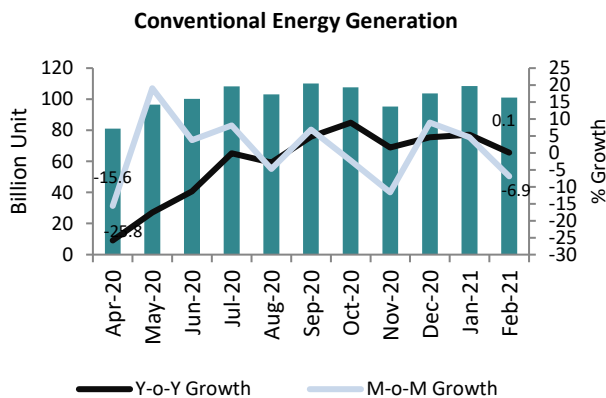
Source: CEA (prov)



Source: CEA (prov)

Conventional energy sources have recorded consecutive six months of growth on a year-on-year basis since September'20. There has however been a decline on a sequential basis in February'21. Coal-based power generation (76% of total power output and 84% of conventional energy output) in February'21 registered a 3% year-on-year improvement.

The higher generation saw the capacity utilization rate or plant load factor of coal power plants rise to 63%, the highest level in twenty-one months. Higher coal power output helped offset the lower generation of hydro power (6% of total output) and gas power (3% share) in February'21. Both hydro-power and gas generation in February'21 was 14% lower than a year earlier.



Source: CEA (prov)

Table 1: Generation from Conventional Sources: February'21

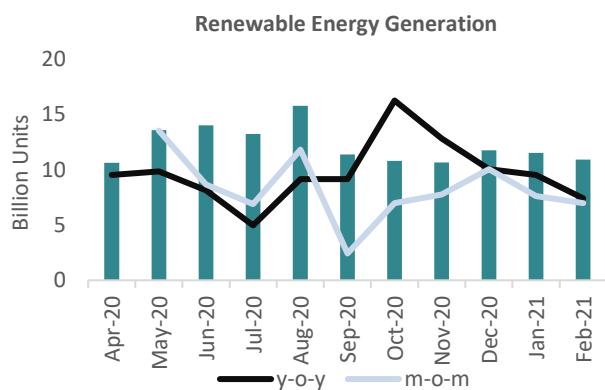
	Generation: February'21 (BU)	M-o-M Growth (%)	Y-o-Y Growth(%)
Thermal	91.0	-6.3	1.9
Coal	85.3	-7.0	3.3
Gas	3.1	3.6	-14.8
Lignite	2.6	7.1	-15.3
Hydro	7.3	-8.9	-14.0
Nuclear	2.6	-17.6	-16.5

Source: CEA

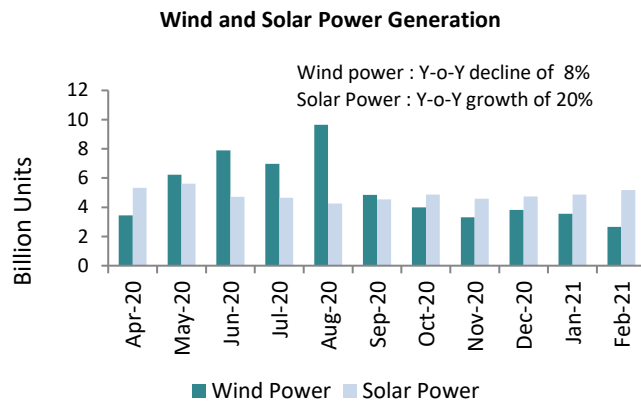
Generation from renewable energy sources declined on a monthly (by 5%) and annual (by 3%) basis in February'21. This decline is primarily on account of lower wind power generation during the month. Wind power output fell by around 25% on a sequential and annual basis in February. Solar power generation on the other hand rose by 7% on a month-on-month basis and by 2% on a year-on-year basis in February'21.

During April-February of FY21, wind power generation, which accounts for the larger share in renewable energy (nearly 50%), was 8% 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 eleven months to February'21 was 20% 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 (prov)



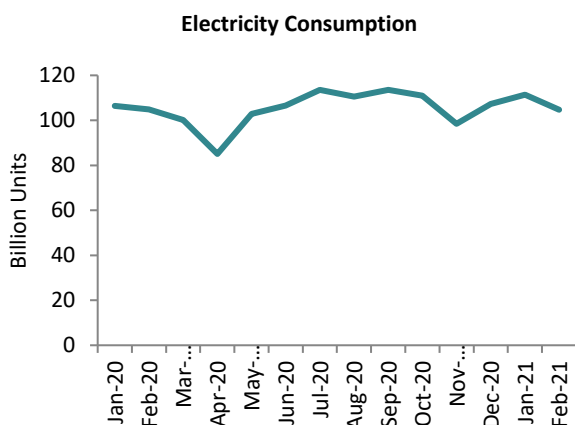
Source: CEA (prov)

Power Consumption

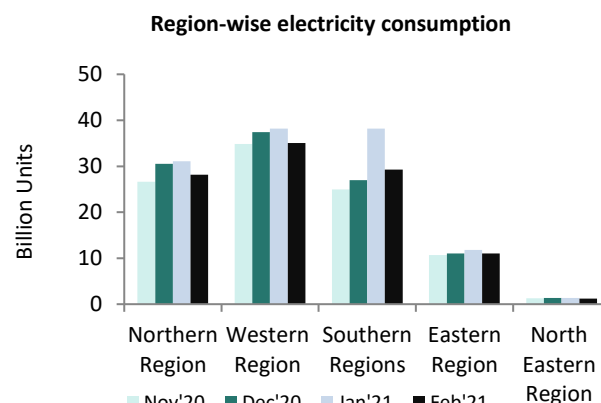
Electricity consumption in the country declined on a sequential as well as an annual basis in February'21, following an increase in the previous two months. Electricity consumption in February'21 at 104.7 BU was 6% lower than that in January'21 and 0.1% less than the pre-lockdown February'20. The fall in consumption was despite the gradual and progressive revival in domestic economic activity and can be put down to the fewer number of days during the month.

The decline in power consumption in February was broad-based across regions. The fall in electricity consumption was the highest in the southern region (23% m-o-m). The western and northern region witnessed a month-on-month decline of 8% and 9% respectively.

Electricity consumption in the country fell by 3% year-on-year during April-February of FY21. This is mainly due to lower demand from the industrial and commercial sector consequent to the lockdown and the gradual increase in demand with the unlocking of the economy since June'20. Consumption has seen an increase (year-on-year) since September'21, following six months of decline.



Source: POSOCO



Price rise in the short-term electricity market

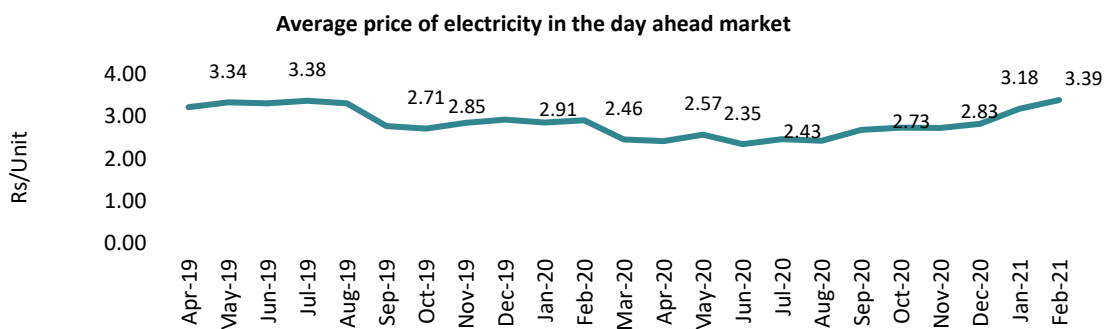
The short-term transactions of electricity in the Day Ahead Market (DAM) on the IEX power exchange declined on a sequential basis in February'21 and were accompanied by a firming up of prices.

The trade volumes in DAM at 5124 MU were 8% lower than the previous month. It was however 19% higher than a year ago. In the first eleven months of FY21, the volume of electricity traded in the DAM was 31% higher on a year-on-year basis.

The average price of electricity in the DAM in February'21 rose to Rs. 3.39/unit from Rs.3.18/unit in January'21 and Rs.2.91/unit in February'20. This translates into a 7% month-on-month increase and a 16% year-on-year rise. There has been a sustained increase in prices since December'20 and prices have risen by 20% in the

three months to February'21, reflective of the growing electricity demand.

DISCOMS and industrial consumers have been increasingly procuring power from the power exchanges given the cost advantage of relatively lower prices when compared with their long-term power purchase agreements as well as the ease and efficiency of these transactions.



Source: IEX

Lower Addition to Power Generation Capacity in 2020-21

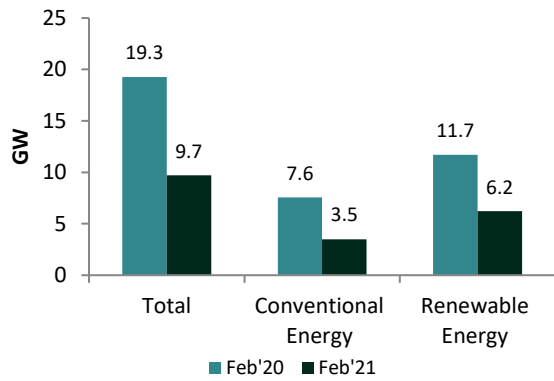
Capacity addition to conventional as well as renewable power generation slowed in FY21. During April–February of FY21, 9.7 GW of new generation capacity was installed. This has been the lowest annualised addition in twelve years and nearly half of that in the same period of FY20 (April- February). The decline in annual capacity addition was higher in the case of conventional energy sources (54% decline y-o-y) than that on renewable energy (47% lower y-o-y).

The lower capacity addition can be attributed to the lockdown led to supply side disruptions (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. Also, 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 five-month extension in the scheduled commissioning date due to the Covid-19 pandemic was provided by the Ministry of New and Renewable Energy for renewable energy projects (from 25 March'20 to 24 August'20).

New power generation capacity addition in 2020-21 has been led by renewable energy. 6.2 GW of renewable energy generation capacity has been added during April-February of FY21 versus 3.5 GW of conventional energy. Renewable energy capacity addition has been led by solar power, which accounted for 48% or 4.7 GW of new capacity. Solar power generation capacity currently stands at 39 GW. Coal-based power, which is the dominant source of electricity in the country and which accounts for 53% of the total generation capacity, added 3.1 GW to generation capacity in the eleven months to February'21, taking its total installed capacity to 201 GW.

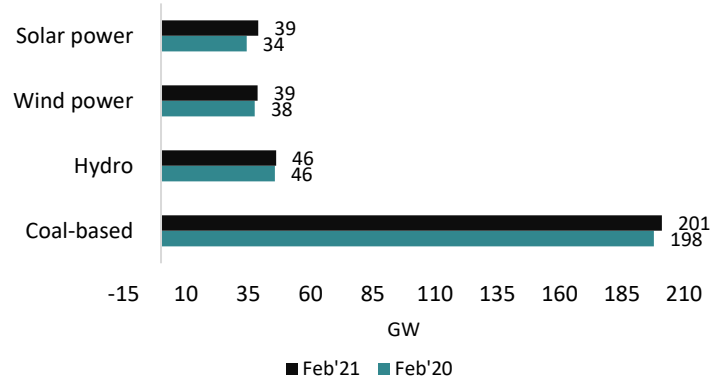
Of the total domestic electricity generation capacity of 379 GW, the installed capacity of conventional energy is 286 GW (75% share in total) and that of renewable energy is 93 GW (25% share).

Addition to Electricity Generation Capacity



Source: CEA (prov)

Installed Generation Capacity of Key Energy Sources



Source: CEA (prov)

Mounting up of DISCOMs dues

The outstanding dues owed by DISCOMs to power generators as of the end of January'21 amounted to Rs.1.27 lakh crores, a 25% increase from April 2020.

The absence of cost-reflective tariffs, high operational expenses, and AT&C losses along with huge historical outstanding dues has been pressuring the finances of state distribution utilities over time. Added to this, 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 and thereby the overall financial weakness in the power sector.

Table 2: State-wise DISCOM Dues to GenCos as of end January'21 '2021

	Jan'21 : Rs Crs
Rajasthan	41,914
Tamil Nadu	19,324
Uttar Pradesh	15,319
Telangana	7,437
Karnataka	6,162
Jharkhand	5,376
Madhya Pradesh	4,890
Jammu & Kashmir	4,824
Andhra Pradesh	4,426
Maharashtra	4,335
Haryana	3,609
Odisha	1,867
Bihar	1,834
Delhi	1,242
Dadar & Nagar Haveli	950
Punjab	801

Source: PRAAPTI

The government support to DISCOMS under the special economic package (Atmanirbhar) announced in May'20 has not helped in lowering their dues. For liquidating the dues of DISCOMS, the government had announced liquidity support to them to the tune of Rs. 1.20 lakh crores by way of special long-term loans through PFC and REC. However, only 37% of the proposed liquidity support has been disbursed to DISCOMS as of the end of January'21. The lower disbursement is mainly due to these loans being linked to DISCOMS undertaking reform measures such as installing pre-paid smart meters, stipulating trajectory for reducing AT&C losses, ACS-ARR gaps, recovery of subsidy, and government dues. Up until 19 February'21, only 7 states (Andhra Pradesh, Bihar, Goa, Karnataka, Madhya Pradesh, Rajasthan and Uttarakhand) had undertaken partial power sector reforms.

The outstanding dues were the highest for the DISCOMS of Rajasthan (Rs.41,914 crs). The other states with notable outstanding dues are Tamil Nadu (Rs.19,324 crs) and Uttar Pradesh (Rs.15,319 crs). These three states accounted for 60% of the total outstanding dues. The other states with sizeable dues (over Rs.3,500 crs) include Telangana, Karnataka, Jharkhand, Madhya Pradesh, Maharashtra, and Haryana. Table 2 details the outstanding DISCOMS dues of the states who make up for 90% of the total dues.

Recent policy announcement

- Imposition of Basic Customs Duty (BCD) on Solar PV cells & modules/panels:** The Ministry of New and Renewable Energy (MNRE) has announced that it would impose BCD of 40% on solar modules and 25% on solar cells from 1 April, 2022. Both these items currently do not carry any BCD. There is no proposal for grandfathering of projects that have been already bid. The BCD will replace the 15% safeguard duty currently imposed on imports from China and Malaysia. The imposition of BCD on solar

cells and modules comes on the heels of the government raising the BCD on solar inverters from 5% to 20% in the Union Budget for 2021-22. The increase in BCD is aimed at increasing domestic manufacturing and self-reliance by increasing the cost of imports. This announcement clears the uncertainty over the rate of BCD and could help in the capacity building and investment decision making of domestic manufacturers.

Concluding remarks

Power generation and consumption would improve further in the coming months and would be higher on a year - on-year basis with the economic recovery gathering pace and industrial and commercial activity moving towards pre-lockdown levels amid growing expectations that the vaccination programme would stimulate economic recovery. At the same time, the resurgence of Covid-19 infections and the possibility of fresh restrictions pose a risk to the sustainability in economic revival and thereby power demand.

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