

Power sector update

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Electricity generation and consumption rose on a yearly basis in October'20, indicative of the higher levels of activity in the domestic economy. Consumption as well generation however witnessed moderation on a sequential basis (i.e. from September'20).

Coal power pushed up overall electricity generation during the month and helped offset the sharp decline in renewable energy generation viz. wind power.

The improvement in electricity consumption was not broad-based with the northern regions seeing a sharp drop in monthly consumption in October'20 which can largely be attributed to seasonal factors. Power demand in the industrialised regions i.e. the western and southern rose to a 7 months high in October'20, reflecting the unlocking led faster resumption in industrial and commercial activity here.

The short term trade volumes on the power exchanges too were higher in October'20, denoting the higher 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.

Higher electricity generation

Catering to the higher power demand, electricity generation registered a year-on-year positive growth for the second consecutive month in October'20. Electricity generation was 3% higher during the month (year-on-year) and 28% higher than the lows of April'20. Power output however was 3% lower than that in the September'20.

In the first seven months of 2020-21, domestic electricity generation was at a 3 year low and 6.5% 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 during the national lockdown in April'20 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 states.

Chart 1: All India Electricity Generation

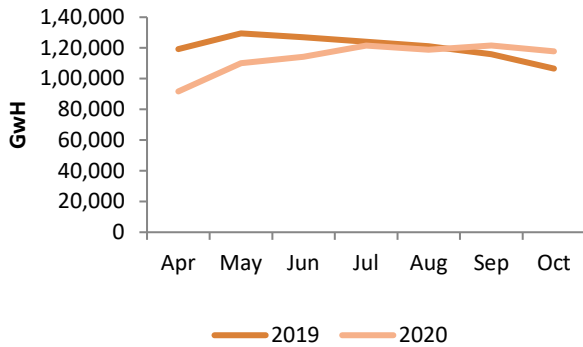
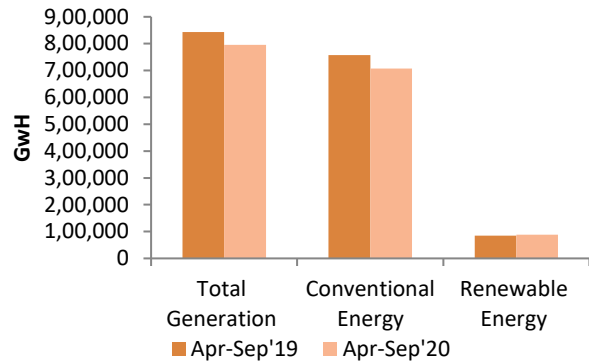


Chart 2: All India Electricity Generation (Apr-Oct)



Source: CEA (provisional)

The fall in electricity generation from conventional sources (thermal, hydro and nuclear), which accounts for 92% of the total output, has weighed down on overall generation in the current financial year. The output from conventional energy sources during April-October'20 was 7% 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 power consumption during the lockdown. Within conventional energy, thermal power generation (80% share in conventional energy) witnessed a sharp year-on-year decline of 8% in the seven months to October'20, while hydro power output (16% share in conventional energy) was 0.5% lower (y-o-y).

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 seven months of 2020-21 while conventional energy after registering a sequential increase during May-July'20 contracted in two of the subsequent three months.

Electricity generation from conventional as well as renewable sources in October'20 was higher than a year ago but lower than that in September'20. The monthly decline was sharper in the case of renewable energy at -12% as against the 2% fall in the case of conventional energy.

Power generation in October'20 was led by coal-based power (92% of thermal power output) which rose to the highest level in nine months. Generation from renewable energy sources, on the other hand, was the lowest in eleven months. Coal power output in October'20 registered a 5% month-on-month and a 15% year-on-year improvement. The capacity utilization rate or plant load factor of coal power plants at 56% in October'20 was the highest since February'20.

Chart 3 : Conventional Energy Generation

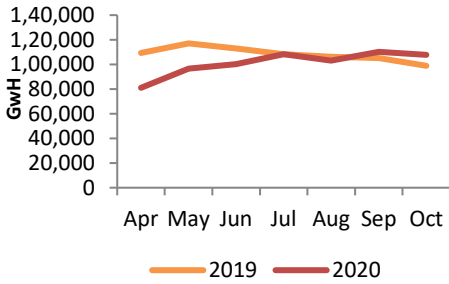


Chart 4: Thermal and Hydro Power Generation

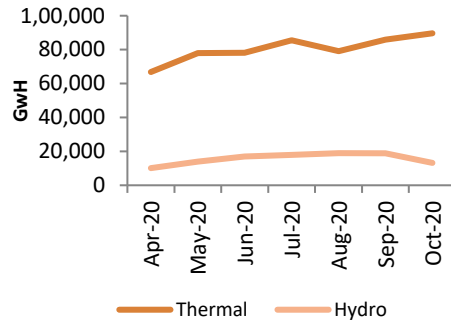


Table 1: Plant Load Factor (%)

	Coal Based Power
Apr-20	41.66
Aug-20	49.18
Sep-20	55.68
Oct-20	55.81
Apr-Oct'19	56.62
Apr-Oct'20	50.46

Source: CEA (provisional)

Generation from renewable sources in October'20 was the lowest since 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 27% as against the 1% fall of solar power generation.

Wind power generation dropped to the lowest level in six months in October'20. During April-October'20, wind power generation, which accounts for the larger share in renewable energy (nearly 50%), was 10% lower than a year ago and this decline can be attributed to the low wind speeds during the peak monsoon months.

Solar power generation during April-October'20 was 26% higher than that in April-October'19. This increase can be credited to the higher generation during the summer months (Apr-May) which was nearly 30% higher than a year ago. On a monthly basis, output declined by 1% in October'20. There has been a near sustained decline in solar power since June'20 and can be linked to seasonal factors as well as the disruptions in the input (imported) supply chains.

Chart 5: Renewable Energy Generation

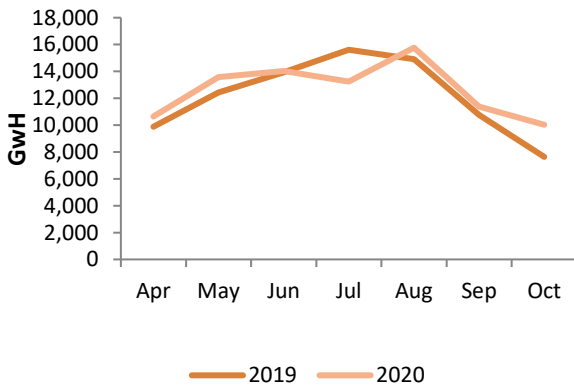
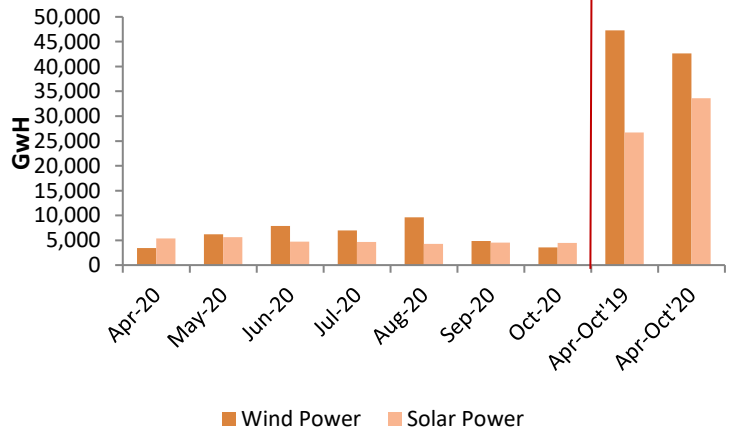


Chart 6 : Wind and Solar Power Generation



Source: CEA (provisional)

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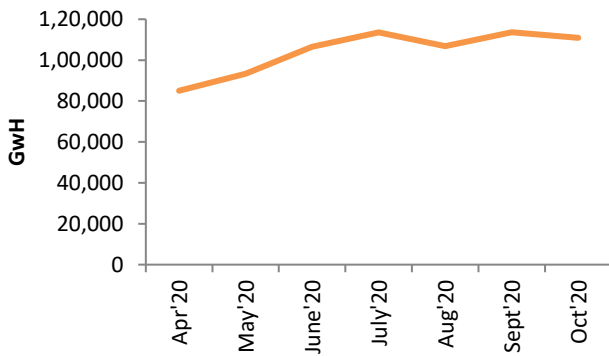
Increasing consumption

Electricity consumption in October'20 witnessed a near 13% increase year-on-year, which is indicative of the higher levels of commercial and industrial activity given that these segments account for around 50% of the power consumed. On a monthly basis, however, consumption was 2% lower in October'20 from that in September'20 and can in large part be attributed to the lower consumption by households in the northern regions with the seasonal drop in temperatures

In terms of regional demand, the western, southern and north-eastern regions saw a rise in electricity consumption in October'20 from a month ago while the northern and the eastern witnessed a decline. Electricity consumption in the western and southern region, which are the most industrialised regions of the country, witnessed a monthly increase of 12% and 4% respectively, attesting to the higher levels of industrial and commercial activity there following the easing of lockdowns. Consumption in these regions during the month was the highest in 7 months.

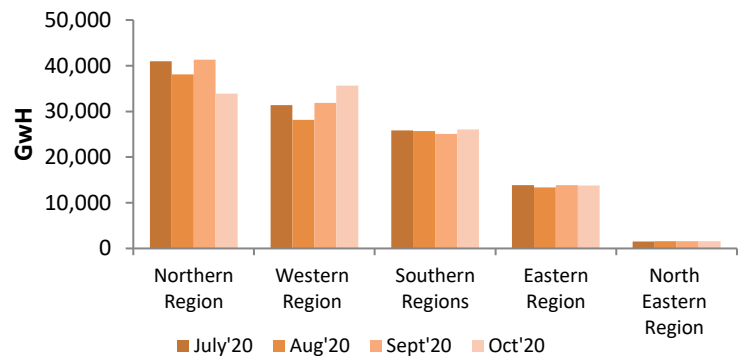
The increase in the consumption in the western and southern region was however offset by the sharp decline in the northern region - a monthly reduction of 18% which can be attributed to climatic conditions (cooler weather).

Chart 7: Electricity Consumption



Source: POSOCO

Chart 8: Region-wise electricity consumption



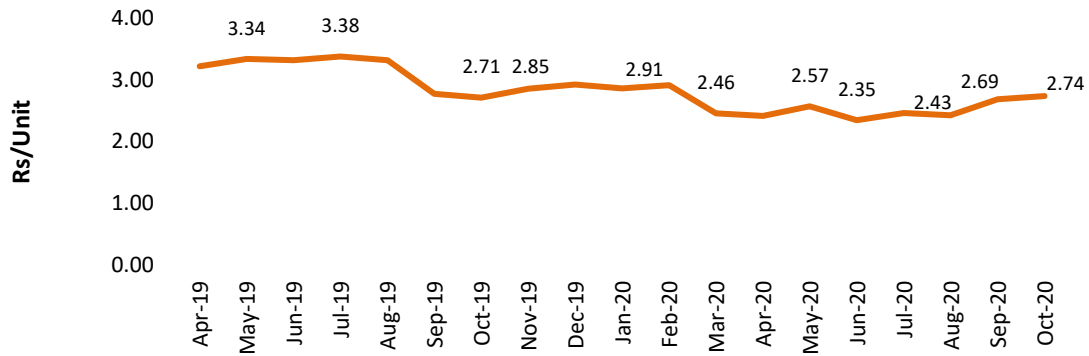
Source: POSOCO

Short term electricity trades and prices on the rise

The short term electricity trade volumes on the power exchanges in October'20 was the highest in the last 5 months and attests to the higher domestic power consumption. The traded volumes in the day-ahead market on the Indian Energy Exchange in October'20 at 5501 MU was 15% higher than month ago and 62% more than year ago (October'19).

Prices in the day ahead market (DAM) rose to 8-month highs in October'20. The average prices of electricity in the DAM Rs.2.74 per unit in October'20 was 2% higher than that in September'20 and 1% higher than year ago (October'19).

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



Source: IEX

Slowdown in Generation Capacity Addition

Capacity addition in both conventional, as well as renewable power generation, has slowed in the current financial year. This can be attributed to the pandemic led disruptions in the supply chain, operations as well as the constrained finances and liquidity pressures faced by the developers, all of which has led to an extension of project timelines.

In the first seven months of 2020-21, the total new power generation capacity additional stood at 9.3 GW which was the lowest annualised addition in 5 years and nearly half that of a year ago (Apr-Oct'19). The decline in annual capacity addition in the last seven months was higher in the case of conventional energy (71% decline y-o-y) sources than that on renewable energy (33% lower y-o-y).

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-Oct'20 versus the 2.2 GW of conventional energy. Within renewable sources, capacity addition has been led by solar power, which accounted for 75% or 5.2 GW of addition to renewable power generation capacity. Coal-based power, which is the dominant source of electricity in the country with a share of around 70% in power generation, added 1.9 GW to generation capacity in the last 7 months.

Chart 10 : Addition to Generation Capacity (yearly)

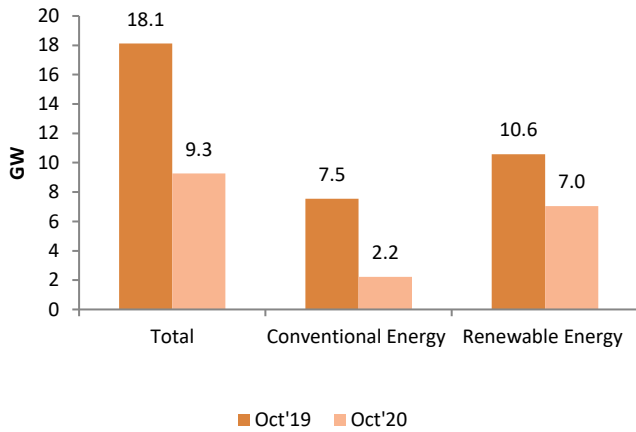
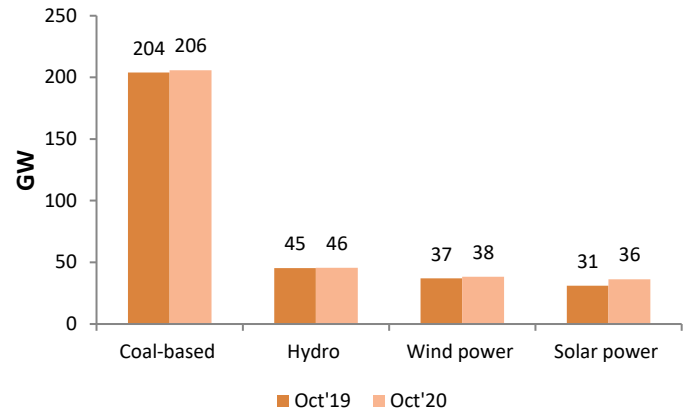


Chart 11 : Generation Capacity - Sources



Source: CEA

Outlook

With the unlocking of the economy gathering pace, business and commercial activity is expected to be higher in the remainder of the financial year. This would result in higher power demand and consequently electricity generation. However, the extent and sustainability of the same remain uncertain given the fluctuation in monthly electricity consumption and generation. Further, with the persistent high number of Covid-19 infections in the country, there is uncertainty regarding the imposition of fresh restrictions/lockdowns in the country which would impact economic activity and thereby power consumption.

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