

Power sector update

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The easing of the lockdown and the partial resumption of economic and business activity has not led to a notable pickup in electricity consumption.

The rebound in electricity demand and generation in June-July'20 has not been sustained. Electricity generation in August'20 was 2.5% lower than July. This indicates that economic and business activity continues to be limited despite the lifting of the lockdown in various regions.

The decline in domestic electricity generation in Aug'20 was led by thermal sources, which was 8% lower than month ago. Lower generation from thermal sources was partly offset by higher output from renewable sources viz. wind power which rose by 37% during the month.

Although power generation continues to be lower than year ago, there has been an easing in the pace of contraction from the lows of Apr-May'20. The decline in electricity generation on an annual basis has moderated from an average (-)16% during Apr-Jun'20 to (-)3% in Jul-Aug'20. This improvement has been aided by the higher output of conventional and renewable energy.

Electricity consumption dropped to 3 month lows in Aug'20, drawing back on the increase seen in the previous 2 months. The decline in consumption although broad-based across regions has been higher in the western and northern regions of the country.

Reversal in improvement in generation

Domestic electricity generation during the 5 months of Apr-Aug'20 has been at a 4 year low and 11% lower than the generation in the corresponding months of last year. This decline has been due to the lower power demand from the industrial and commercial sector consequent to the lockdown along with the disruptions in the supply of inputs and raw materials.

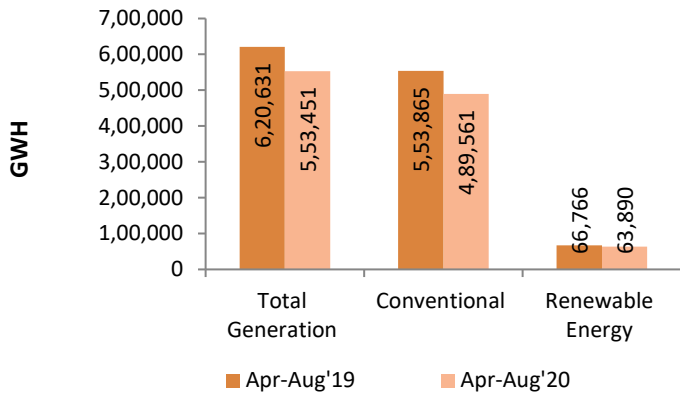
The decline in generation from conventional sources (thermal, hydro and nuclear) has been higher than that from renewable sources. Output from conventional energy sources during Apr-Aug'20 was 11.6% lower than that in Apr-Aug'19 while that from renewable sources was 4.3% lower. The monthly output from both conventional and renewable sources has been prone to fluctuations in the current financial year (2020-21).

There has been a notable easing in the pace of decline in power generation since Jul'20 aided by the higher output of conventional and renewable energy. The contraction in electricity generation on a year-on-year basis eased from an average (-)16% during Apr-Jun'20 to (-)3% in Jul-Aug'20.

The pace of improvement in generation seen during Jul'20 however has not been sustained. Electricity generation in Aug'20 was 2.5% lower than month ago and 3.2% lower than that in Aug'19. This decline can be attributed to the lower generation from thermal sources which in Aug'20 was 8% lower than month ago. At the same time limiting the overall decline in power

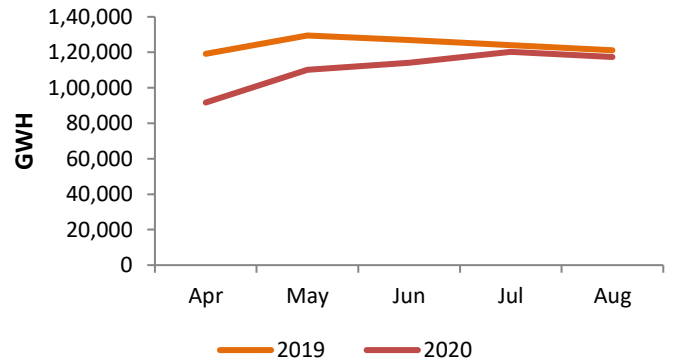
generation during the month was the higher generation from renewable energy sources – 18% month-on-month increase in Aug’20.

Chart 1: All India Electricity Generation (Apr-Aug)



Source: CEA (provisional)

Chart 2: All India Electricity Generation



Source: CEA (provisional)

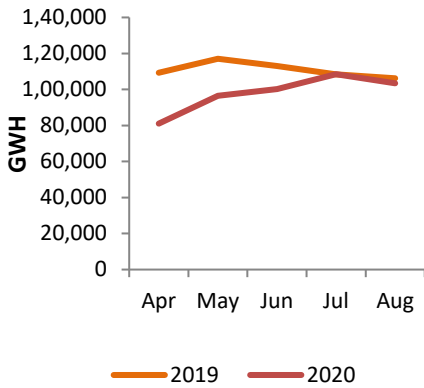
Generation from conventional energy sources have risen from the lows of Apr-May’20 when output has declined by an average 22% (y-o-y). There was a notable improvement in generation in July’20 (8% month-on-month growth) with output during the month attaining year ago levels. This increase was however not carried forward to Aug’20. Generation from conventional sources declined by 5% from month ago mainly on account of lower thermal power output (8% month-on-month decline in Aug’20).

The sharp decline in thermal power generation has pulled down overall electricity generation in the last 5 months given that thermal power accounts for 70% of total generation. Thermal power generation viz. coal based power (90% share of thermal power) during Apr-Aug’20 has been the lowest in the last 5 years and has witnessed a 17% decline (year-on-year) in output during the first 5 months of 2020-21.

On account of lower generation the capacity utilization rate or plant load factor of thermal power plants during Apr-Aug’20 dropped to multi-year lows of 48.5%, which was 11% lower than a year ago. With a decline in generation, the capacity utilization rate fell from 52.9% in Jul’20 to 49.0% in Aug’20.

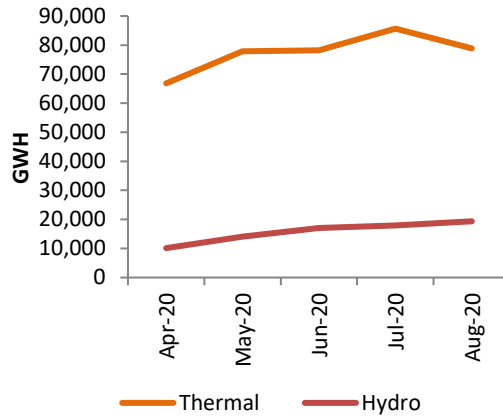
Hydro –power which accounts for 16% of conventional power generation has seen a sustained increase in generation in the last 5 months. For the period Apr-Aug’20, hydro power generation has been 4.3% higher than that in the same months of Apr-Aug’19.

Chart 3: Conventional Energy Generation



Source: CEA (provisional)

Chart 4: Thermal and Hydro Power Generation



Source: CEA (provisional)

Table 1: Plant Load Factor (%)

	Apr-Aug'19	Apr-Aug'20
Thermal Total	59.2	48.5
Coal Based	59.2	48.3
Gas Based	23.5	26.6
Lignite Based	57.2	52.8

Source: CEA (provisional)

Renewable energy sources too have seen a decline of 4.3% in generation in the first 5 months of 2020-21 from that in the same period last year. This is due to the 17% contraction in wind power generation in this period. Wind power accounts for 55% of renewable power generation. The higher solar power generation (37% share in renewable power generation) during the summer months of Apr-May has to an extent offset the lower generation from wind power during Apr-Jul'20. Solar power generation during Apr-Aug'20 was 23% more than that in the same months of year ago. Following the higher generation during the summer months (Apr-May), solar power generation has declined by an average 12% in the subsequent 3 months and this can be attributed to seasonal factors (monsoons) as well imported input supply shortfalls.

On a month-on-month basis, there has been an increase of 18% in power generation from renewable sources in Aug'20. This increase is due to higher wind power generation which increased by 37% following the 18% contraction in July'20.

The 'must run status' of renewable and hydro power plants that mandates uninterrupted power procurement by utilities has supported the higher generation by these power sources despite the fall in power consumption during the lockdown. The higher capacity addition in recent years has also been a factor that has aided higher output.

Chart 5: Renewable Energy Generation

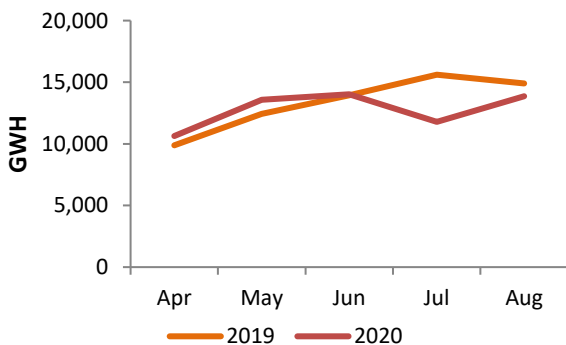
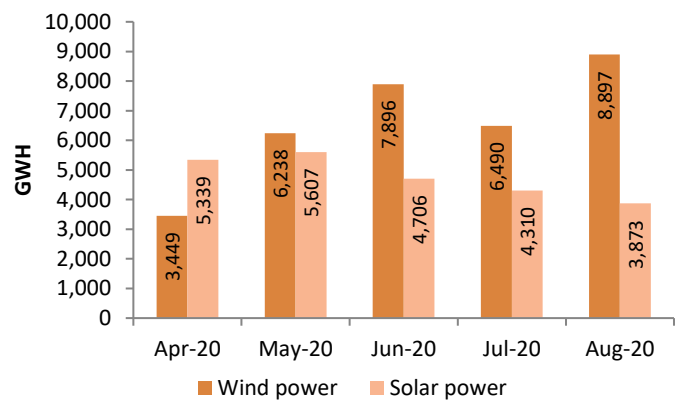


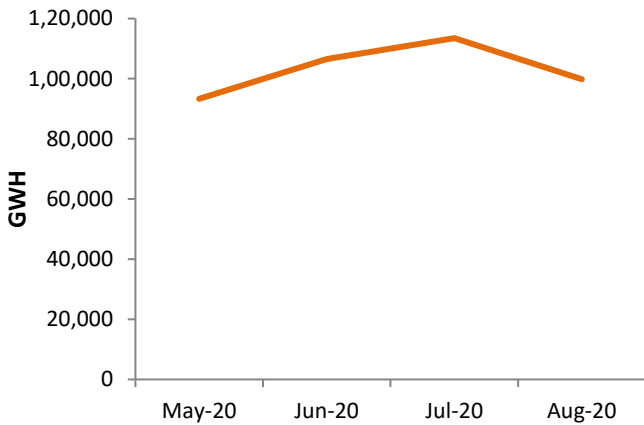
Chart 6 : Wind and Solar Power Generation



Subdued demand scenario

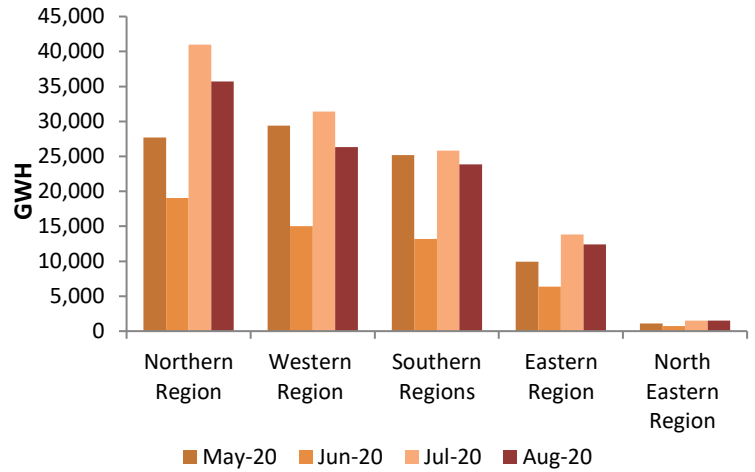
Contrary to expectations, the easing of lockdown and resumption of economic activity in various regions has not resulted in a sustained increase in power consumption. Following an average monthly growth of 10% during Jun-Jul'20, domestic electricity consumption in Aug'20 contracted by 12% from month ago. Consumption however was 7% higher than the lows of Apr'20.

Chart 7: Electricity Consumption



Source: POSOCO

Chart 8: Regionwise Electricity Consumption



Source: POSOCO

In terms of regional demand, there has been a decline in consumption across regions in Aug'20 from that in Jul'20. The month-on-month fall in demand at 16% was the highest in case of the western region that includes the industrial states such as Maharashtra and Gujarat. The lower power consumption in these states indicates that industrial activity here has been lacklustre despite the easing of the lockdown and restrictions. The northern region saw the second highest monthly drop in electricity consumption of 13% followed by the eastern region by 10% and southern regions by 8%.

Going forward

The improvement in electricity consumption and generation would be contingent on the pace of economic revival. With industrial and commercial activity likely to be subdued even with the easing of the lockdown and unlikely to attain pre-lockdown level of activity in the current financial year, electricity demand and the consequently generation would contract for the financial year as a whole.