

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
91-22-6837 4424

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The impact of the lockdown since end March'20 is discernible on the power sector. There has been a decline in electricity consumption, generation and addition to generation capacity in the current financial year. The financial stress of the state DISCOMs has been aggravated resulting in cash flow problems for the entire power sector.

Following the overall sharp contraction in electricity consumption and generation earlier in the ongoing financial year, there are signs of an easing in the pace of decline in power demand and generation. Although still lower than year ago, electricity demand rose by 6.5% and generation by 5% in July'20 from that in June'20.

Also, the power generation mix changed in July'20 from previous month. Electricity generation from thermal power sources increased by 10% while that from renewable sources declined by 16%. There has also been an improvement in the capacity utilization rate or plant load factor of thermal power plants –to 53% in July'20, a 3% increase from June'20

The weakness in electricity generation capacity addition however prevails with a decline in addition to capacity of both conventional and renewable sources. Solar power however is leading the way in generation capacity addition.

The outstanding dues of state power distributions companies to generators has risen by 22% during Feb- June'20 to Rs. 1.19 lakh crores with the disruptions in the billing and collections amidst lower demand impacting their cash-flows.

DISCOMs are to receive some relief in their cash-flows with PFC and REC as of end July'20 sanctioning 67% of the loans as part of the Rs.90,000 crs liquidity injection under the special economic package announced by the central government in May'20.

Slowing pace of electricity generation capacity addition

The rate of addition to India’s electricity generation capacity has slowed down further in the current financial year with a decline in capacity build-up of both renewable energy and conventional energy sources. The country’s installed power generation capacity as of end July’20 at 372 GW saw cumulative addition of 11.5 GW versus the 15 GW addition in each of the previous 2 years.

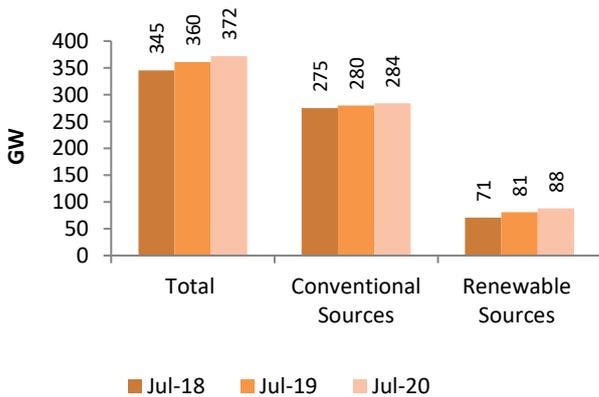
Although lower than year ago, renewable energy accounted for the major share of generation capacity addition during April-July’20 at 7 GW (v/s 10 GW in April-July’19), while conventional energy capacity addition was 4 GW. The addition to generation capacity in the current financial year has been led by solar power. During Apr-July’20, 5 GW of solar power generation capacity was added which amounted to 44% of the total electricity generation capacity addition.

There has been a notable slowdown in domestic electricity generation capacity addition since the last 3 years. The annualized capacity addition as of end July’20 at 11.5 GW was 14 GW less than that of July’17. The lower capacity addition of thermal energy sources; which accounts for over 60% of the country’s electricity generation capacity, has led to the overall decline in expansion of generation capacity in recent years. Thermal power generation capacity addition has declined from an annual 9 GW in July’17 to 4 GW in July’20.

Even as conventional energy dominates electricity generation capacity in the country with a share of 76% (totalling 284 GW), there has been a sustained increase in the share of renewable energy sources, which has come to account for nearly 24% (or 88 GW) of the overall installed capacity, a 2% increase from a last year. 30 GW of renewable energy generation capacity has been added in the last 3 years while the capacity addition of conventional sources in this period has been 12 GW.

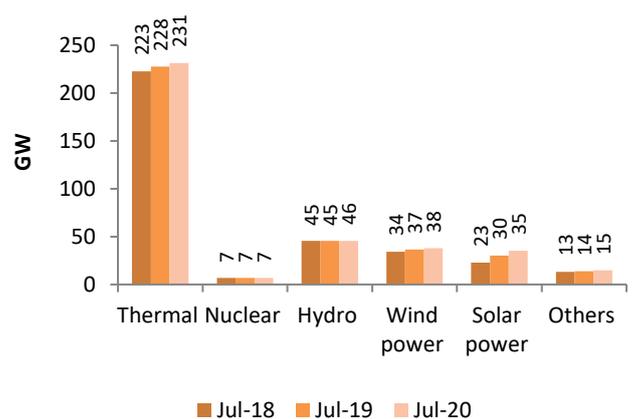
The increase in generation capacity of renewable energy is being driven by solar power which has witnessed a year-on-year growth of 17% in July’20, taking the solar power generation capacity to 35 GW. Wind power, which accounts for the largest share in renewable energy generation capacity at 38 GW has added 1 GW to capacity in the last 1 year.

Chart 1: All India Electricity Generation Installed Capacity



Source: CEA (provisional)

Chart 2: Installed Generation Capacity - Sources



Source: CEA (provisional)

Easing rate of decline of conventional energy generation

Electricity generation in the country during April-July'20 was at a 4 year low, attributable to the lockdown led lower demand from the industrial and commercial sector as well as the disruptions in the supply of inputs/raw materials. On a year-on-year basis, generation declined by 13% to 436 billion units during the first 4 months of 2020-21 when compared with the same period of 2019-20.

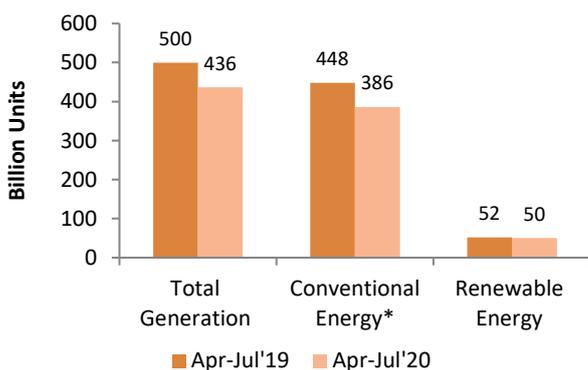
The fall in electricity generation during Apr-July'20 is due to the decline in thermal power generation viz. coal based power to 5 year lows. Coal power, which has the dominant share of 64% in total domestic electricity generation, witnessed a 20% decline (year-on-year) in output during the first 4 months of 2020-21.

Renewable energy sources too have seen a decline of 3.5% in generation in the first 4 months of 2020-21 from that in the same period last year. This is due to the 20% 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. Solar power generation during Apr-July'20 was 27% more than that in the same months of year ago. Hydro power generation too has seen an increase of 7% during this period.

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.

On a month-on-month basis, there has been an increase of 5% in power generation in July'20. There has been a notable change in power generation mix from the various sources in July'20 from month ago. While generation from thermal power sources increased by 10% that from renewable sources declined by 16%. There has been a broad-based decline in generation from the various renewable energy sources in July'20 from month ago. Wind power generation was 18% lower and is being attributed to lower wind speed, while the 8% decline in solar power generation has been on account of the imported input supply shortfalls and seasonal factors.

Chart 3: All India Electricity Generation



Source: CEA (provisional). *includes imports from Bhutan

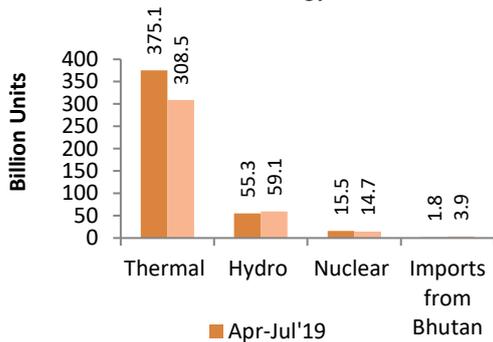
Table 1: Electricity Generation by Renewable Energy Sources (Billion Units)

	Apr-Jul'19	Apr-Jul'20	% change
Wind Power	30.0	24.1	-19.8
Solar Power	15.8	20.0	26.7
Others	6.1	6.0	-1.7
Renewable Energy Total	51.9	50.0	-3.5

Source: CEA (provisional)

With lower demand and generation, the capacity utilization rate or plant load factor of thermal power plants during Apr-July'20 dropped to multi-year lows of 48.3%, which was 13% lower than a year ago. With an increase in generation, the capacity utilization improved in July'20 from the lows of Apr'20 (42%).

Chart 4: Electricity Generation from Conventional Energy Sources



Source: CEA (provisional)

Table 2: Electricity Generation from Thermal Sources (Billion Units)

	Apr-Jul'19	Apr-Jul'20	% change
Coal	347.3	277.0	-20.2
Diesel	0.0438	0.0439	0.2
Gas	17.1	20.5	19.4
Lignite	10.6	11.0	3.3
Total	375.1	308.5	-17.7

Source: CEA (Provisional)

Table 3: Plant Load Factor (%)

	Apr-Jul'19	Apr-Jul'20
Thermal Total	61.2	48.3
Coal Based	61.3	48.1
Gas Based	23.5	28.1
Lignite Based	58	55.2
Nuclear	78	74

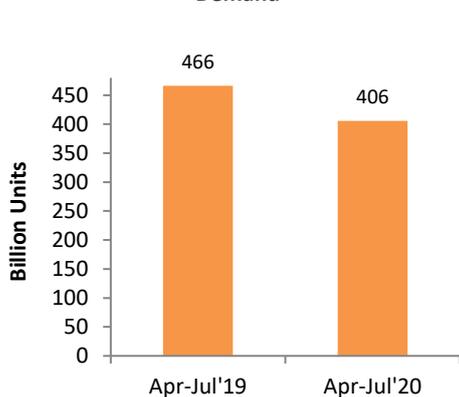
Source: CEA (Provisional)

Improving demand scenario

There has been a pickup in domestic electricity demand from the lows of April'20 (86 billion units) with the easing of lockdowns and the consequent gradual resumption of economic activity in various regions. Electricity demand in July'20 was 6.5% higher (at 112 billion units) than in June and was 8% higher than the pre-lockdown levels of February'20. Demand however, was 4% lower than year ago levels (July'19).

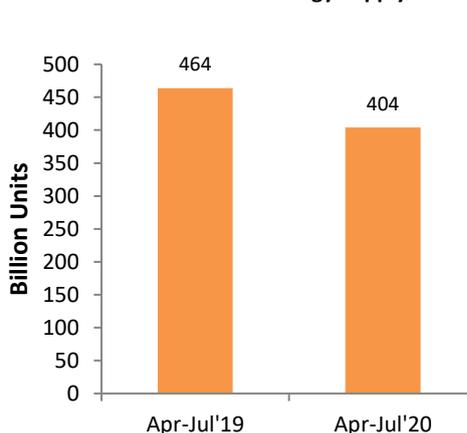
The country's energy demand during Apr – July'20 was 13% lower on an annualized basis. Similarly, the peak power demand during these 4 months at 171 GW was 7% lower year-on-year. The energy deficit however has been lower at 0.17% v/s 0.24% a year ago.

Chart 5 : All India Electricity Demand



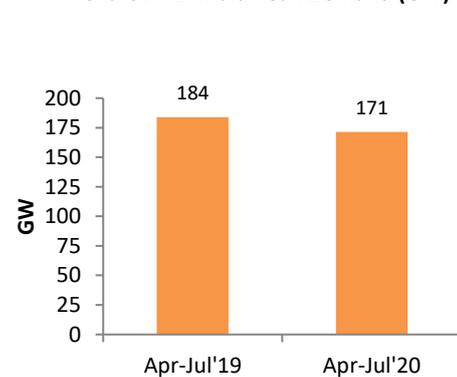
Source: CEA (provisional)

Chart 6: All India Energy Supply



Source: CEA (provisional)

Chart 7: All India Peak Demand (GW)



Source : CEA (provisional)

In terms of regional demand, consumption during July'20 was led by the northern region followed by the western and southern regions. All 3 regions saw demand increase by 13% during the course of the month. The lower consumption in the industrial regions of western and southern India is reflective of the lower levels of industrial and economic activity there.

DISCOM dues to power generator mounting

The fall in power demand and disruptions in the billing and collections consequent to the pandemic led lockdown since March'20 has led to cash flow problems for DISCOMS that has further aggravated their financial stress. The outstanding dues owed by DISCOMS to power generators rose to Rs. 1.19 lakh crores in June'20 (as per data from PRAAPTI), which is a 22% increase from Feb'20 and a 63% from June'19.

As of June'20, the outstanding dues were the highest for the DISCOMS of Rajasthan (Rs.34,971 crs), Tamil Nadu (Rs.18,077 crs), Uttar Pradesh (Rs.13,694 crs), Maharashtra (Rs.11,399 crs), Telangana (Rs.7,180 crs), Karnataka (Rs.6,393 crs) and Jammu & Kashmir (Rs.5,865 crs). The DISCOMS of these 7 states accounted for 82% of the total outstanding dues owed to the power generators.

The absence of cost reflective tariffs, rising operational expenditure, high AT & C losses and delays in receipt of subsidy from the government has been pressuring the finances of state distribution utilities over time. The AT&C losses (aggregate technical and commercial loss) of DISCOMS at the all India level at 20.22% is significantly higher than the UDAY (Ujjwal DISCOM Assurance Yojana) target of limiting the losses to 15% by FY19. The ACS-ARR gap (average cost of supply and average revenue realised) at the national level is Rs.0.44/unit against the target of elimination of the gap by FY19.

DISCOMS Liquidity Relief

As of end July'20, 67% of loans were sanctioned to various state DISCOMS by PFC (Power Finance Corporation) and REC (Rural Electrification Corporation) as a part of the Rs.90,000 crs liquidity injection to state DISCOMS in the form of state guaranteed loans (to be equally funded by PFC and REC) under the special economic package announced by the central government in May'20. These loans would provide some relief to the stressed state DISCOMS and enable them to clear their outstanding dues to power generators and transmission companies and help to an extent restart the cash-flow cycle of the power sector.

PFC in its Q1 2020-21 results announcement has stated that it has sanctioned Rs.30,607.21 crs out of its share of Rs.45,000 crs till 31 Jul'20 as part of the liquidity package to DISCOMS. Similarly, REC has announced that it has sanctioned amounts of more than Rs 30,000 crore till July 31, 2020.

Among the states that are availing state guaranteed loans under the liquidity infusion package, Uttar Pradesh's DISCOMS have sought the highest quantum of loans from PFC and REC at around Rs.21,000 crs. The other major borrower is Telangana which has reportedly sought loans of Rs.12,000 crs. Karnataka, Andhra Pradesh, Maharashtra, Punjab, Rajasthan and Jammu & Kashmir are some other state DISCOMS that have reportedly sought loans under the liquidity package

The liquidity infusion to DISCOMS is a part of the Covid-19 relief and reforms measures announced by the government for the power sector. The other measures included flexibility in debt servicing and clearance of dues, time extension in completing projects (5 months extensions for renewable energy projects under implementation on date of lockdown) extended, opening up of commercial coal mining and privatization of DISCOMS of Union Territories. Some of measures announced by the central government (including enabling provision for commercial coal mining) would be positive for the thermal power sector in the long term; the effective implementation of the same however would be the key factor.

Recent Policy Measures

The government has extended by a year (till 30 July'21) the imposition of safe guard duty on solar cell and module imports from China, Thailand and Vietnam at the rate of 14.90% for the first 6 months (till 29 January'21) and 14.50% for the remainder period.

Import of power equipment's from China and Pakistan would require prior permission from the Government of India.

Outlook

India's power sector performance is likely to be subdued in 2020-21 due to the expected gradual and prolonged revival of domestic economic activity.

Although there has been an improvement in electricity consumption and generation, the sustainability of the same would be contingent on the easing of the restrictions and resumption of economic activity. With industrial and commercial activity 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.

Addition to generation capacity would slow down further in this fiscal year.

CORPORATE OFFICE: 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

E-mail: care@careratings.com | Website: www.careratings.com

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