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Tata Power Trading Company Limited (TPTCL)

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Power News

India added 2,105 MW grid-connected solar capacity in Q1 2021: Bridge to India

India added 2,105 megawatt (MW) of grid-connected solar power generation capacity in the first quarter (Q1) of 2021, as the first wave of COVID-19 subsided and construction pace picked up gradually. This took the total installed capacity to 44,241 MW by 31 March 2021, according to a recent report.

It added that utility-scale solar installations increased by more than 33 per cent quarter-on-quarter (q-o-q) in Q1 2021. According to the report by renewable energy Consultancy Bridge to India, the new capacity addition was split between utility-scale solar and rooftop solar, at 1,735 MW and 370 MW, respectively. "We expect construction progress to slow down considerably in Q2 2021 due to lockdown across states following the second wave of COVID-19. We have revised our projection for Q2 2021 from 2,350 MW to 1,350 MW," added the consultancy. Construction activity is expected to pick up pace in Q3 2021, with capacity addition expected at 2,470 MW.

It added that the total commissioned utility-scale, rooftop solar and off-grid solar capacity stood at 35,939 MW, 7,162 MW and 1,140 MW respectively. The total project pipeline stood at 52,392 MW as on 31 March 2021. Tender issuance was up 40 per cent in Q1 2021 in comparison to the previous quarter. 24 utility-scale solar tenders, including three floating solar tenders, with a total of 10,801 MW capacity were issued in the quarter. Auction activity shot up to 8,560 MW in Q1 2021, up 163 per cent q-o-q, however, reluctance of discoms to sign power purchase agreements continue to be a major concern. [Source](#)

Solar companies seek Uttar Pradesh CM's intervention for LOI award

Private solar power companies have sought the intervention of Uttar Pradesh chief minister Yogi Adityanath in securing the award of contracts they won in February last year. NV Vogt Singapore Private Limited, Al-Jomaih-Jakson Power Private Limited, Vijay Printing Press Private Limited, and Talettutayi Solar Projects Eight have been waiting to sign the contracts after they emerged as lowest bidders for supplying about 184 MW solar capacity in reverse auctions held February last year.

As per bid documents, the letters of intent (LOI) was expected to be issued within 94 days of the e-reverse result but the companies have been thrice asked to extend the validity of bank guarantee. "Since the completion of the reverse auction process, our members have been keenly waiting for the issuance of LOI from UPNEDA and Power Purchase Agreement (PPA) execution with Uttar Pradesh DISCOM so they could start the construction of their projects in full swing. Our members have been approaching UPERC, UPPCL, UPNEDA to raise this issue and requesting for the early issuance of the LoI but never received concrete response," the National Solar Energy Federation of India (NSEFI) has said in its letter to Adityanath.

The federation said that since the completion of the auction, there has been instability in the prices of the raw materials and an abrupt increase in the prices of PV modules. The capital costs will increase due to delayed LOI issuance and PPA execution for these cash strapped developers during this pandemic time, the letter said. The federation said further delay will pose a grave threat to the current and future investments in the state and will also leave Uttar Pradesh without the benefits of low electricity tariffs from these investors.

At the backdrop of this delay in issuing LOIs, in some of the tenders that were conducted consequently a reduced participation of international private players was observed. These tenders were

undersubscribed and the capacity was only secured by the PSUs. Additionally, there was no significant drop in the tariff discovered from previous bids too, which was not the case in tenders conducted across the country.

“With delayed issuance of LoI and lack in ease of doing business in the state, private players who earlier had big plans to invest in the state are refraining from bidding in projects, considering the challenges being faced with respect to difficulty in statute clearances are already planning to move to other states, reducing government’s revenue from GST,” NSEFI letter said. [Source](#)

Haryana Releases Draft Solar Power Policy, Invites Suggestions

The New and Renewable Energy Department, Haryana, has issued the draft ‘Haryana Solar Power Policy, 2021,’ and requested government stakeholders to send their comments within 15 days from the date of the notification on April 22, 2021. The new policy will supersede the Haryana Solar Power Policy, 2016.

The draft notification identifies Haryana as an agrarian state with several geographical constraints such as high cost and paucity of barren land within its borders, with low potential for wind or hydropower. It adds that the state must focus mainly on rooftop solar projects and small-scale distributed solar systems besides exploring the potential of megawatt-scale solar projects and parks.

The notification adds that efforts are being made to promote the usage of solar energy with suitable incentives and policy frameworks for the agriculture sector and the solarization of electrical vehicle (EV) charging stations. The solar power systems installed and commissioned during the operative period will be eligible for the benefits and incentives declared under this policy, for 25 years from their date of commissioning or for the life span, whichever is earlier, until otherwise notified by the state government. Only new plants and machinery will be eligible for installation under this policy. In the case of solar thermal power projects, fossil fuel beyond the ceiling allowed under the Ministry of New and Renewable Energy (MNRE) will not be used. No fossil fuel will be allowed.

Renewable Purchase Obligation

The capacity installation targets for the distribution companies (DISCOMs) will be based on the Renewable Power Purchase Obligation (RPO) defined by Haryana Electricity Regulatory Commission (HERC) from time to time. To achieve the solar RPO, the government plans to install large-scale solar projects by the Haryana Power Generation Corporation on its land or government land or solar parks. Solar installations on canal top, canal banks, waterworks and reservoirs, rooftop solar systems under net metering, and gross metering on government buildings, among others.

The regulators have to estimate the entire cost incurred towards purchasing solar power in the Annual recurring revenue (ARR) order issued from time to time. Consumers will be allowed to set up projects to fulfill their RPO regardless of their contract demand.

Projects for sale of power to the DISCOMs below 2 MW

DISCOMs may procure power from distributed solar projects up to 2 MW capacity, at pre-fixed levelized tariff as determined by HERC, subject to the spare capacity available at the nearest substation. As per the RPO, 20% of the targeted solar power purchased by DISCOMs will be reserved for such small generators below 2 MW capacity. Individuals and micro, small & medium enterprises (MSME) with land

will be allowed to sell power from only one such project with a maximum of 2 MW capacity to the DISCOMs.

Large-scale solar projects for captive/third-party sale

The state will also provide transmission and banking facilities for setting up solar projects for captive consumption or third-party sale within Haryana. For third-party sale outside the state, the transmission facility will be provided under open access by the state power utilities, while banking facility may be provided by the state in which power is being consumed as per their regulations. Any industrial or commercial unit in the state will be allowed to consume 90% of its annual consumption from the solar project.

Panchayat land on lease or rent

The state government may facilitate the lease or sub-lease of panchayat land at reasonable rates through any government agency or directly through the panchayat for setting up solar projects for a minimum period of 30 years.

Land Ceiling Act for setting up solar projects

The land area where solar projects are set up will be out of the scope of the Land Ceiling Act of the government.

Preference to solar projects with storage

Ground-mounted solar project installation with storage will be promoted and given preference in granting approvals. The preference will also be given in the tariff if purchased by the Haryana Power Purchase Centre (HPPC). The state will also promote solar projects with storage systems for captive use and third-party sale.

Rooftop grid-connected solar projects

Installation of rooftop solar systems of capacities in the range of 1 kW to 2 MW at industries, public and private institutes, schools, colleges, commercial and social institutions, charitable trust buildings, hospitals, and residential buildings will be promoted for their captive use with or without net metering facility as per the HERC Regulations. The rooftop solar systems may be installed either on CAPEX mode or the RESCO model.

Virtual Net Metering

Virtual Net Metering (VNM), including Group Virtual Net Metering, may be promoted in the urban areas. These would be encouraged, and eligible consumers would be facilitated, especially those located in the urban centers of Haryana who have constraints like access to adequate rooftop areas or inaccessible rooftops. With virtual net metering, consumers can own a part of a collectively-owned solar power generating system. All energy produced by such a solar system will be fed into the grid through an energy meter, and the exported energy, as recorded by that meter, will be credited to the electricity bill of each participating consumer based on beneficial ownership.

Power evacuation facility

All expenses for power evacuation, transmission, distribution, and synchronizing equipment required for installation will be as per the orders of the HERC on renewable energy.

DISCOMs will bear the cost of extra-high voltage and high voltage transmission lines up to 10 km. If the distance between the interconnection point and point of grid connectivity is more than 10 km, then the cost of the transmission line for the distance beyond the 10 km will be borne equally between the project developers and the licensee, only if the power is to be supplied to DISCOMs under approved power purchase agreements.

Banking

Banking facility will be allowed for captive and third-party solar generation projects for six months from the date of power banked by the licensee, and the developer will pay the difference of unscheduled interchange charges at the time of injection and at the time of withdrawal. The banking facility will be allowed for the grid-connected rooftop solar systems to be installed for captive use and third-party sale on the same lines as ground-mounted solar projects.

Manufacturing units

A 10% tax exemption on total applicable tax will be provided by the Industry & Commerce Department, Haryana, for setting up manufacturing units of devices and equipment related to solar power, for a limited period. Land for setting up such units will be allotted on priority.

Solar Energy-Based EV-Charging Stations

New & Renewable Energy Department will implement the program per MNRE guidelines and invite the bids. The grid connection to the EV-charging stations will be provided by the DISCOMs. The total power produced will be counted towards the solar RPO of the DISCOMs.

The DISCOMs and Haryana Power Purchase Centre (HPPC) will get a separate tariff category approval from HERC, for drawl of additional power from the grid by such charging stations, apart from generating solar power. Per unit charges to be levied for charging of EVs will not be more than ₹5 (~\$0.068)/kWh in addition to per unit charges of DISCOMs.

Exemption of wheeling, transmission, cross-subsidy charges, and additional surcharges

Wheeling and Transmission Charges will be exempted for all captive solar projects which have already been approved, in March 2019, by HAREDA. The cross-subsidy surcharges and additional surcharges are not applicable for captive solar projects. In case projects are set up for third-party sale, cross-subsidy surcharge and additional surcharge will be similar to normal open access consumers as determined by HERC from time to time.

Solar cities

The notice also says that the state will promote the concept of solar cities and solar villages. In solar cities and solar villages, 20% of the energy requirement will be met from solar energy. HERC had earlier announced that open access solar consumers in the state would not have the net metering facility. [Source](#)

States must start planning for utility-scale battery storage

State-level efforts will be crucial for India to make rapid progress in the uptake of utility-scale battery storage. Specifically, states with large load centers, such as Maharashtra and Rajasthan, will need to lead the way by making plans for utility-scale battery storage systems, according to a new report by the Institute for Energy Economics and Financial Analysis (IEEFA).

State-owned Solar Energy Corp. of India (SECI) has led the way by introducing multiple renewable energy plus battery storage auctions that mandate round-the-clock renewable power supplies. However, SECI's efforts alone will not be enough to build the battery storage capacity needed for the Indian grid to handle large amounts of variable renewables, IEEFA said.

Time-of-day pricing mechanisms that differentiate between peak and off-peak power supplies will be critical to incentivize investment into such capital-intensive assets, IEEFA said. Additionally, states could offer viability gap funding (VGF) for battery storage, just as they did to support the growth of large solar parks a few years ago.

Grid integration will be one of India's biggest challenges as it targets the deployment of 450 GW of large-scale variable renewables by 2030. Reaching this target from a current installed renewables capacity of 93 GW will require average annual capacity additions of 35 GW. India could double its renewables capacity to 900 GW by 2040, according to the International Energy Agency's (IEA) India Energy Outlook 2021. Currently, renewables account for about 10% of India's total power generation, but this will increase to 31% by 2030 with 450 GW coming online.

Popular content

As the share of variable renewables increases, India's power system will have to evolve and modernize to respond to grid stability challenges, IEEFA said. There is a need for the accelerated deployment of utility-scale battery storage to accommodate this, it added. The IEA said that India could have 140 GW to 200 GW of battery storage capacity by 2040. Success stories from Germany, Australia, and the United States show the way for India to integrate large-scale variable renewables into its power grid.

The cost of standalone lithium-ion battery storage systems globally has plummeted from \$1,100/kWh in 2010 to \$137/kWh in 2020. According to BloombergNEF (BNEF), costs will decline about 55% to \$58/kWh by 2030. In contrast to Australia, which is predominantly driven by market economics, the accelerated uptake of batteries in the U.S. market is being driven by state-level enforcement of battery storage requirements as well as subsidy support through tax credit incentives, IEEFA added. The states of California, Oregon, Massachusetts, New York, New Jersey, and Virginia have all set battery-storage capacity targets for state utilities. [Source](#)

Solar power: Levy of basic customs duty may hit tariff trajectory

A question mark has arisen over the trajectory of falling solar tariffs in India since the Centre announced its decision to levy from FY23 basic customs duty (BCD) of 40% and 25%, on import of solar modules and cells, respectively. Given that modules account for about 60% of the total project expenditure in solar plants, the use of Indian products in place of the cheaper Chinese modules by project developers is expected to lead to a rise in solar tariffs, experts say.

While domestic modules are currently priced in the range of 29-30 cents per watt-peak (c/wp), modules imported from China come for 23-24 c/wp. In fact, the substantial solar capacity addition India has seen in recent years has materialised through the use of foreign products, especially from China. The government has now ruled that all projects bid out after April 10 under central government schemes will have to source solar equipment from entities that are a part of the approved list of models and manufacturers (ALMM). No foreign module manufacturers have made it to ALMM for now. "With prices of commodities rising globally, and the impending basic customs duty on solar imports, solar power tariffs are set to rise by around 20%," says Amit Kumar, partner and leader, energy at PWC India. "This is the

first time a price rise for solar equipment is on the horizon and it will be interesting to see how solar developers in the country cope with it," Kumar adds.

Significantly, at the first auction, held in March, after the Ministry of New and Renewable Energy (MNRE) announced the levy of BCD on solar equipment from FY23, Gujarat discovered a solar tariff of Rs 2.20/unit. In December, 2020, the same state had discovered a record-low solar tariff of Rs 1.99/unit.

The role of imports in solar capacity addition is evident from the numbers for the April-January period of the last fiscal. Capacity addition in this period was down 45% y-o-y to 4.8 GW. These months also saw, on account of Covid-19 restrictions, a steep 75.4% y-o-y fall in import of solar equipment to \$392.8 million. There is also a view that Indian equipment makers have not been passing on all the benefits of technological advancement to project developers. "We have to see what price benefits Indian manufacturers are able to offer vis-a-vis Chinese suppliers when the basic customs duty (BCD) comes into effect. Until now, they have been adjusting their prices to the landed equipment price from China, rather than basing it on their production costs," Naveen Arora, AVP, procurement at Amplus Solar tells FE. On a more positive note, the government has decided to end the 15% safeguard duty regime and its lapse in July will open an eight-month barrier-free window for import of solar equipment, before the BCD comes into effect on April 1, 2022. This is expected to lead to a surge in procurement of modules and cells from China, helping projects that are underway.

About 34 GW of renewable energy (RE) projects are under various stages of implementation and 30 GW under various stages of bidding. In its latest report, the International Energy Agency (IEA) has said the country should set new records for RE capacity addition in 2021 and 2022 by clearing the pipeline of projects that have been bid out but could not be commissioned due to coronavirus disruptions. However, the IEA cautioned that the "current (April 2021) surge in Covid-19 cases has created short-term forecast uncertainty for this year". [Source](#)

Renewables evolution or revolution? Pace of tech investments will decide

Global investment in energy transition technologies needs to more than double over the next few decades to significantly reduce the cost of renewables, which are set to provide around 60% of the world's energy needs by 2030, industry officials say. A breakthrough in commercial technology to decarbonise projects could reduce both project time and costs, policy advisors and company executives told the Reuters Global Markets Forum, during sessions held last week.

"The 2020s have to be a decade of innovation and early deployment - of low-carbon hydrogen - to get costs down," said Tim Gould, head of division for energy supply outlooks and investment at the International Energy Agency (IEA). Energy consultancy Wood Mackenzie forecast that renewables are set to provide 60% of world energy demand by 2030.

Scaling up and commercializing hydrogen produced from renewable energy for carbon capture and storage (CCS) will help many heavy industries such as green steel, fertiliser and cement, as well as heating, to decarbonise, said Wood Mackenzie's chairman and chief analyst Simon Flowers. "The tech is oven-ready," he said.

However, attracting investments to fund this transition is a key issue. Gauri Singh, deputy director-general at the International Renewable Energy Agency (IRENA), said global investments in energy transition technologies need to more than double to \$4 trillion annually until 2050, from \$1.8 trillion in 2019, to achieve goals set under the Paris climate accord.

"The total energy investment required is \$131 trillion... \$98 trillion is already planned, but not aligned with the transition," she said. David Holmes, chief technology officer-energy at Dell Technologies, said the world needs a broad range of technologies across the entire energy ecosystem to meet its aggressive climate goals. "There is no silver bullet solution," he said, but the returns from investing in artificial intelligence (AI) - to help companies integrate disparate systems and interpret vast amounts of data - can "often be very fast."

John Markus Lervik, co-founder and chief executive at Cognite, said digital technologies can help new renewables projects reduce time-to-market and cut capital expenditure costs by 8%-12%. Industrial businesses that are transitioning can save even more, Lervik said. "For existing assets, we readily see improvements of 15%-18%." (Graphic: Global renewable energy capacity, An IRENA analysis shows that annual capacity deployment of renewables needs to increase four-fold by 2030 from its current pace of around 200 gigawatts (GW) if the renewables industry is to be on track to meet 2050 Paris climate accord goals. An acceleration is expected to begin showing in the next 24 months, said Assaad Razzouk, chief executive at Sindicatum Sustainable Resources.

POWERING THE FUTURE

COVID-19 has changed patterns of electricity consumption and e-commerce, and the recovery from the pandemic is likely to be "greener, exemplified by 'build back better'," said Philip Lowe, executive chair of the World Energy Council's Energy Trilemma initiative. IRENA's Singh predicted electricity will become the main carrier of energy by 2050, with the share of renewables within it increasing to 90%, from around 25% currently.

As grids become increasingly powered by renewables, they will need to be modernised, made more secure and reliable. For this to succeed, governments need to start setting up regulations and frameworks to deal with issues like frequency control, said Gero Farruggio, head of global renewables at Rystad Energy. (Graphic: IRENA forecasts solar photovoltaic and wind power will dominate the future energy system with a combined 63% share by 2050, with an additional 6% coming from nuclear power.

Along with a negative public perception, nuclear energy is seen as less economical and slower to reverse carbon emissions, even as existing fossil-fuelled plants continue to emit CO₂ while awaiting substitution. "Nuclear has to be part of the solution... it's super-dependable and (has) zero emissions," Wood Mackenzie's Flowers said. He predicted a 10% share for nuclear within the renewables pie despite social and political opposition.

Nuclear energy has a role to play, but it won't be "leading the charge in the near term," IEA's Gould said, adding that investments in nuclear energy by advanced economies had reduced considerably, with China being the only major growth area. Farruggio said the power mix of the future will be clean. "What we don't know is whether this transition will be a soft evolution - or indeed a revolution over the next five to 10 years." [Source](#)

COVID-19: MNRE grants time extension in commissioning of renewable energy projects

The Ministry of New and Renewable Energy (MNRE) on Wednesday announced a timeline extension in the scheduled commissioning date (SCD) of renewable energy projects considering disruption due to the second wave of COVID-19 cases. The ministry in its order said that RE projects being implemented through implementing agencies designated by the MNRE having their SCD on or after 1 April 2021 would be eligible to claim time-extension for completion of their project activities.

“The actual quantum of time-extension shall be decided in due course depending on the COVID-19 related developments that take place in the coming weeks,” it added. The ministry, however, added that such time-extensions were not to be used as a ground for claiming termination of power purchase agreement (PPA) or for claiming any increase in the project cost.

While there were no instructions from the central government for a countrywide lockdown, several states have taken various measures such as night curfew and weekend lockdown to contain the spread. The ministry had received several representations for seeking time-extension on the grounds that there had been resurgence of COVID-19, leading to several states and union territories issuing instructions restricting mobility of people.

Last year, the ministry had provided a blanket time-extension of five months for RE projects on account of COVID-19 and the associated lockdown. In March this year, it said that further time-extension beyond five months could be granted by implementing agencies in exceptional cases. However, for any time-extension totalling beyond six months, a reference had to be made to the ministry. [Source](#)

Renewable energy in India: Capacity addition halved in 2020

India's renewable energy capacity addition in 2020 declined by more than 50 per cent since 2019, primarily due to construction delays brought on by the novel coronavirus disease (COVID-19) pandemic, according to International Energy Agency's (IEA) Renewable Energy Market Update. The challenges of integrating renewable energy into the grid also acted as an impediment. The country, however, may set new records for renewable energy capacity expansion in 2021 and 2022, since the delayed projects from previous competitive auctions have been commissioned.

Photovoltaic (PV) capacity addition is expected to be three times in 2021 compared with 2020, as delayed large-scale utility projects become operational, the report said. Globally, annual renewable capacity additions increased 45 per cent in 2020 to almost 280 gigawatt (GW). It is the highest year-on-year rise since 1999, according to IEA. This has been attributed mainly to capacity expansion for solar and wind energy, which amounted to 135GW and 115GW respectively. A 20GW capacity of hydropower and about 10GW of other renewable energy, led by bioenergy, also contributed to the growth, the report noted.

[Source](#)

Renewables accounted for 64 per cent of generation capacity addition in FY21: Report

Renewable energy (RE) dominated power generation capacity addition in financial year 2020-21 (FY21) and accounted for 7.7 gigawatt (GW), about 64 per cent, of the 12.1 GW added, according to a latest report. The report, however, added that coal capacity addition fell only by a marginal 6 per cent in FY21 compared to the previous fiscal year.

“Rooftop solar contributed 1.8 GW of added capacity till February 2021, powered by favourable policies in states such as Gujarat. The total solar capacity added in FY21, including grid-scale projects, was 5.5 GW,” said the report by CEEW Centre for Energy Finance (CEEW-CEF). It added that the announcement of basic customs duties on solar cells and modules drove up auction tariffs by 11 per cent in the fourth quarter (Q4) of FY21. While tariffs discovered in solar auctions held in Gujarat rose from a historic low of Rs 1.99 per unit in December 2020 to Rs 2.20 per unit in March 2021.

A basic customs duty of 45 per cent on solar modules and 20 percent on solar cells will take effect in April 2022. “India's RE sector, particularly solar, has shown resilience in FY21 despite supply chain disruptions caused by the COVID-19 pandemic... India must now accelerate its RE sector's development

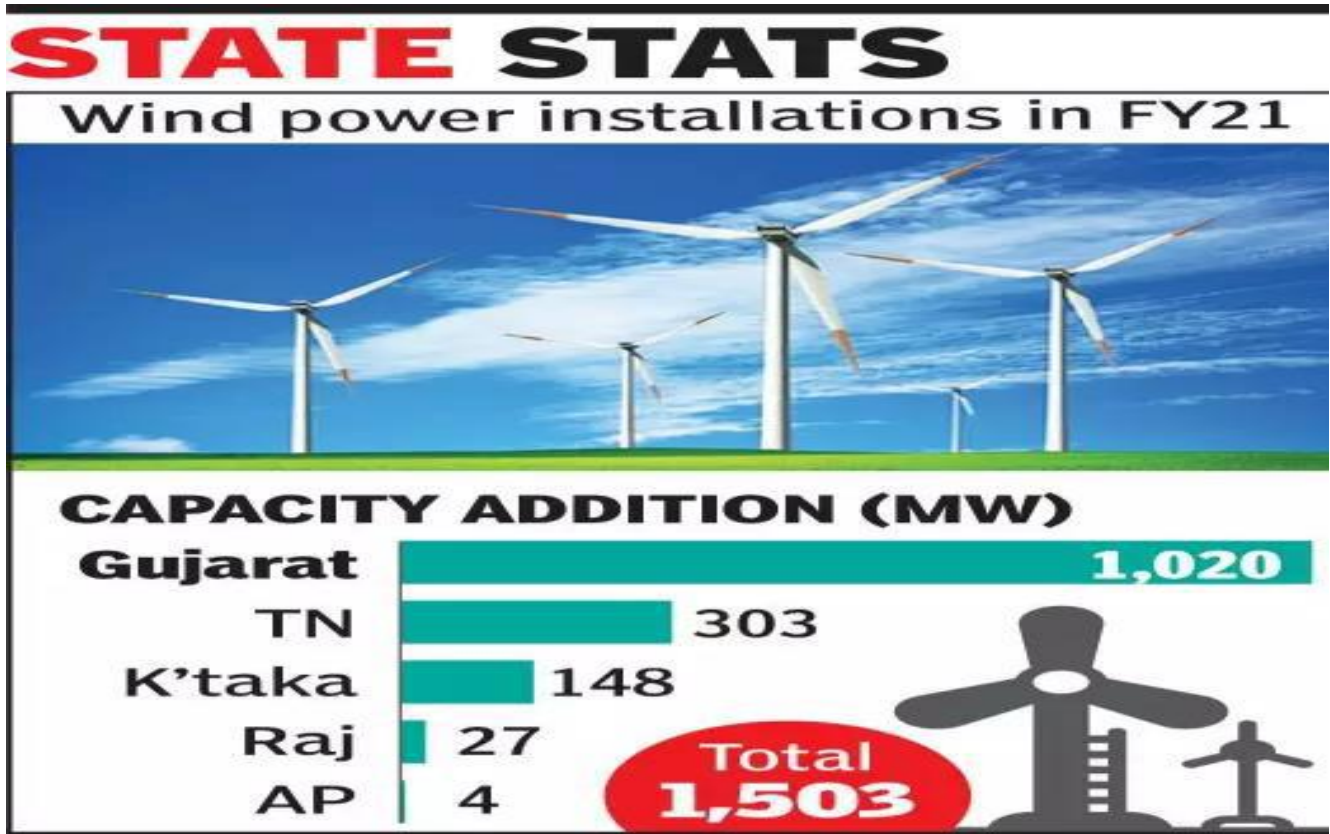
by subsidising credit enhancement for projects, developing the corporate bond market, and improving liquidity in the power market,” said Gagan Sidhu, director, CEEW-CEF.

The report further said that the total power generation increased by 1.3 per cent in FY21 despite pandemic restrictions, driven by a post-lockdown surge in electricity demand. While the share of RE in the energy mix was 10.1 per cent, up from 9.4 per cent in FY20. On the discom payables front, the report added that the funds disbursed under a government liquidity infusion scheme contributed to a 32 per cent decline in the dues owed by discoms to power generators in Q4. Dues fell from Rs 1.09 lakh crore in March 2020 to Rs 0.97 lakh crore in March 2021. [Source](#)

Gujarat again tops new wind power capacity

AHMEDABAD: Gujarat continues to be the preferred destination for setting up wind power projects in India. Despite the challenges posed by the Covid-19 pandemic, Gujarat witnessed the highest addition of wind power generation capacity in the country in 2020-21.

Wind power projects with the cumulative generation capacity of 1,020.3MW were installed and commissioned in Gujarat from April 2020 to March 21. That was the highest capacity addition by any state in India during the period, shows data compiled by Indian Wind Turbine Manufacturers Association (IWTMA).



was followed by Tamil Nadu (303.7MW) and Karnataka (148MW). In fact, Gujarat grabbed the lion’s share of 68% in the new wind power capacity addition across the country in 2020-21. About 1,503.3MW of new wind power generation capacity was installed in India in fiscal 2021, IWTMA data shows.

With these new installations, Gujarat's current operational capacity for generation of power from wind energy sources stands at 8,561.8MW as against 7541.5MW in 2019-20. At 1,468.4MW, Gujarat created the highest wind power capacity in the previous fiscal as well. "The majority of the projects — with the capacity of 700MW — that came up in Gujarat during the last financial year were projects auctioned by the Solar Energy Corporation of India (SECI) before the outbreak of the pandemic," said a market player, who wished to remain anonymous. "About 200MW capacity was added via tenders floated by state-run power utilities."

Renewable energy companies such as Adani Green and ReNew Power were among the prominent players that commissioned their power projects. Adani Green and ReNew Power commissioned 100MW and 300MW wind power projects in Kutch in March 2021. The state government sources, however, pegged the capacity of new wind projects commissioned in Gujarat at 890MW for the fiscal 2021. Gujarat currently stands second after Tamil Nadu in terms of the total installed wind power generation capacity in the country. [Source](#)

India Announces \$600 Million Incentives Scheme For Solar Manufacturing

The Indian government has announced a new incentive scheme to boost manufacturing in the solar power sector. Through this scheme, the government plans to disburse more than \$600 million in incentives over the next five years. India's Ministry for New and Renewable Energy recently announced the guidelines for a production-linked incentives scheme for the solar equipment manufacturing sector. Incentives will be offered to manufacturers of polysilicon, wafers, cells, and modules. The Ministry will call for bids from manufacturers in order to allocate the earmarked incentive.

The Ministry plans to award incentives to at least three different companies and, therefore, the manufacturing capacity eligible for incentives will be limited to 50% of the bid capacity quoted or 2 gigawatts, whichever is lower. However, to be eligible for incentives, a company must set up at least 1 gigawatt of the production line. The scheme is open to companies looking to set up new production lines as well as those looking to expand existing lines.

Selection, as well as disbursement of incentives, shall be based on the capacity bid by companies, the efficiency of modules produced, and the extent of integration across the polysilicon-to-module value chain. Companies will be required to commission their production lines within 1.5–3 years of winning the bids.

Rating agency ICRA noted that the scheme could support the development of 21 gigawatts of cell-to-module production capacity over the next five years. This new capacity would be able to meet around 50% of India's annual demand for modules during this period. The production-linked scheme is the latest in a series of efforts by the Indian government to support domestic solar equipment manufacturing. India currently levies a safeguard duty of 14.8% on imported solar cells and modules. In March, the government decided to levy customs duty of 40% on modules and 25% on solar cells.

India touches 100-GW solar goal

- The approved domestic solar capacity now stands at 101.39 GW

India's installed solar power generation capacity added with projects under auction and installation has crossed 100GW, the Ministry of Power said on Thursday. At the end of April, the installed solar generation capacity in the country was 40.5GW, the Ministry said on Twitter. Projects under construction and under

bid add up to 36.48GW and 24.42GW, respectively. In total, the approved domestic solar capacity now stands at 101.39GW.

“This is despite losing one year because of Covid. The progress made by India in the sphere of energy transition and renewable expansion is being acknowledged world-wide, and our country has emerged as the most favoured investment destination,” the Ministry said. In June 2015, the central government had increased the national solar mission capacity from 22GW to 100GW by 2022. [Source](#)

Renewables set to grow far faster than oil sector

OSLO: Renewable energy will account for a far larger share of global supply in 2050 than major oil companies or the International Energy Agency (IEA) expect, Oslo-based consultancy Rystad Energy said on Thursday. Its updated models show renewables meeting 74 percent of total energy demand by 2050, compared to 43 percent, 45 percent and 69 percent in the most aggressive scenarios from energy firms Equinor, Shell and BP. The IEA expects renewables to account for 35 percent of the market by 2040.

The renewed commitment to the Paris climate agreement by the US this year, the growing number of countries with net zero carbon emissions targets for 2050 and renewable technology development have changed the energy landscape, Rystad CEO Jarand Rystad told an online conference on Thursday. “All previous assessments have to be scrapped and we need to look at it with completely new eyes,” he said. Rystad Energy sees the sales of battery electric vehicles (BEVs) rising to 64 million by 2030, compared with oil company scenarios ranging from 22 million to 38 million and an IEA estimate of 30 million. Rising renewable energy output amid falling costs and increasing efficiency of solar panels and wind turbines, as well as sales of electric vehicles have also hastened predictions for peak demand for oil and gas.

Rystad Energy said last month it expected global oil demand to peak at 101.6 million barrels per day (bpd) in 2026, versus a forecast made in November for a peak in 2028 at 102.2 million bpd. With an increasing share of energy being produced by solar and wind power, the global energy trade, dominated by the fossil fuels today, is going to shrink significantly, it predicts. “We are going to de-globalize the energy market with the new technologies,” Rystad said at Thursday’s conference. [Source](#)

DISCOM Dues to Renewable Generators Slide to ₹120.25 Billion in March 2021

Distribution companies (DISCOMs) owed ₹120.25 billion (~\$1.62 billion) to renewable energy generators (excluding disputed amounts) in overdue payments across 283 pending invoices at the end of March 2021, according to data released by the Ministry of Power (MoP). The figures were slightly lower than those reported for February 2021, when the DISCOMs owed ₹123.45 billion (~\$1.68 billion) to renewable energy generators (excluding disputed amounts) in overdue payments across 206 pending invoices.

According to the Ministry of Power’s payment ratification and analysis portal (PRAAPTI), outstanding payments (excluding disputed amounts) to renewable generators stood at ₹6.14 billion (~\$82.88 million). The DISCOMs paid nearly ₹43.75 billion (~\$590.56 million) towards their outstanding dues and ₹304.38 billion (~\$4.11 billion) towards overdue amounts in March, an increase of 120% and 149% compared to February 2021.

DISCOMs' Dues to Power Generators					
Particulars	Upto Month Of Mar 2021		Upto Month Of Feb 2021		% of Change
No. of DISCOMs	66		67		-1%
No. of participating power generators	245		232		6%
No. of overdue* invoices	23,143		22,978		1%
Overdue and Outstanding	₹ in Billion	~\$ Billion	₹ in Billion	~\$ Billion	% of Change
Overdue amount at the beginning of the month	910.07	12.23	920.82	12.37	-1.2%
Total amount billed to DISCOMs	173.98	2.34	136.92	1.84	27%
Amount paid by DISCOMs against overdue	304.38	4.09	122.4	1.64	149%
Amount paid by DISCOMs against outstanding	43.75	0.59	19.92	0.27	120%
Overdue amount at the end of the month	824.02	11.07	915.32	12.30	-10%
Outstanding amount at the end of the month	103.95	1.40	111.34	1.50	-7%
<i>Overdue* invoices are those which remain fully or partly unpaid past the due date</i>					
Source: PRAAPTI			Mercom India Research		

The outstanding amounts are the payments that have been delayed by more than six months. As per the released data, 66 DISCOMs owed 245 power generators ₹824.02 billion (~\$11.12 billion) against 23,143 overdue invoices in March 2021. Outstanding payments at the end of the month stood at ₹103.95 billion (~\$1.41 billion), a decrease of 7% compared to February 2021.

Among the states, Tamil Nadu had the highest backlog with an overdue amount of ₹162.09 billion (~\$2.19 billion). Out of the total, ₹144.42 billion (~\$1.95 billion) has been overdue for more than 60 days. Rajasthan followed closely with overdue payments of nearly ₹103.56 billion (~\$1.39 billion). Out of the total overdue amount, ₹96.16 billion (~\$1.29 billion) has been overdue for more than 60 days.

Punjab, Haryana, and Delhi remained at the bottom rung in terms of ease of payments by DISCOMs. Some of the best-performing states included Uttar Pradesh, Maharashtra, Telangana, Chhattisgarh, Odisha, and Andhra Pradesh, among others. Non-conventional energy generators whom the DISCOMs owed most included Tata Power Company, Adani Green Energy, NLC India, and Hero Future Energies with ₹24.47 billion (~\$330.31 million), ₹15.89 billion (~\$214.49 million), ₹10.12 billion (~\$136.61 million), and ₹9.42 billion (~\$127.16 million), respectively.

Earlier this year, the Ministry of Power issued new regulations regarding the late payment surcharge, which will be applicable for power purchase agreements and transmission service agreements in which the tariffs have been determined through competitive bidding. A DISCOM with a late payment surcharge outstanding against a bill after the expiry of seven months from the due date will be debarred from procuring power from a power exchange or being granted short-term open access until they meet the dues.

Last year, many states like Punjab, Bihar, and Karnataka had reduced the late payment surcharge in the wake of the Covid-19 pandemic. [Source](#)

Solar industry crimped by supply chain and logistical challenges

Supply chain headaches for everything from glass to shipping capacity are pinching the solar industry. SolarEdge Technologies Inc. tumbled as much as 16%, the most in almost four months, after warning that margins will shrink slightly in coming months amid logistics-related cost pressures.

The solar industry is facing a constellation of issues this year including higher prices for steel and aluminum, as well as elevated freight costs. SolarEdge's disclosure came a week after rival solar-parts

maker Enphase Energy Inc. said there's no sign the worldwide shortage of semiconductor components will abate any time soon.

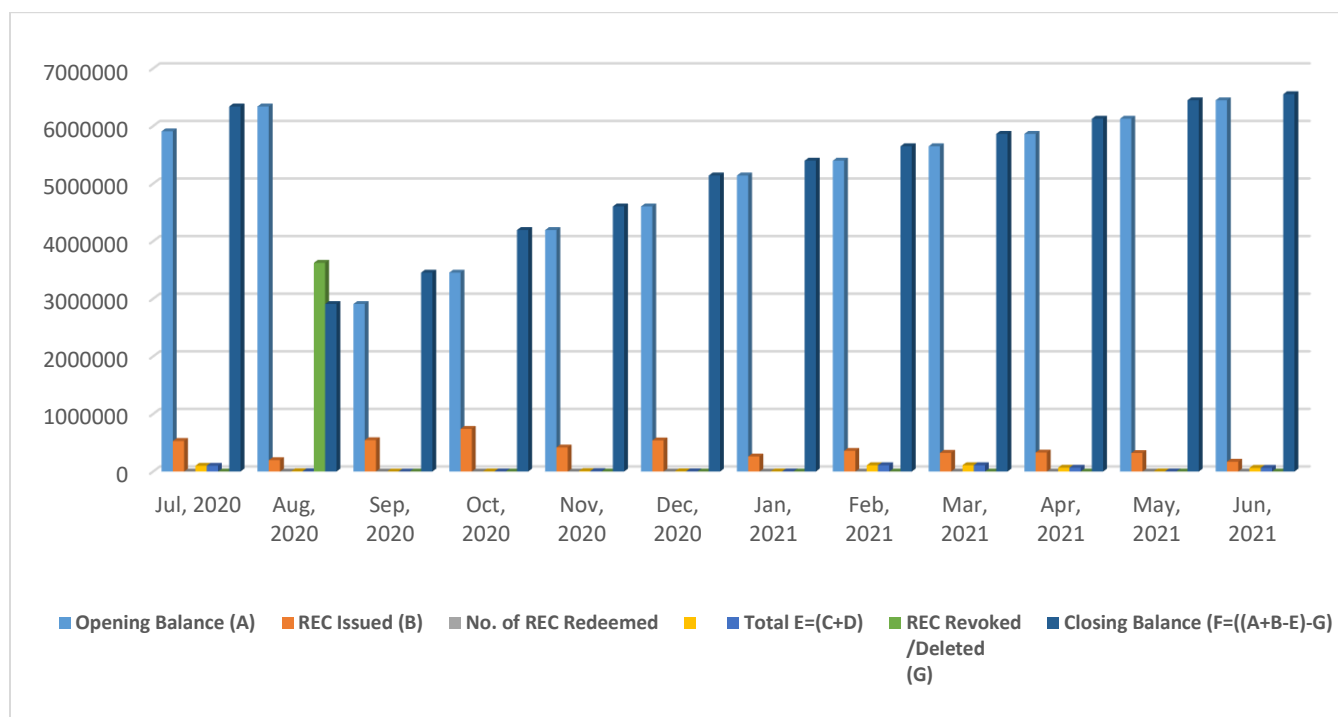
"Boiling the bevy of issues down, they all impact gross margins -- and gross-margin trends historically have been leading indicators of how the stocks trade," Jeff Osborne, an analyst at Cowen & Co., said in an email. In early April, Moxon Solar Technologies Ltd. said "the solar industry faces pervasive upstream supply chain cost challenges." The panel manufacturer said then that elevated costs for glass, solar cells and freight "may persist well into the second half of 2021." [Source](#)

Source wise REC break up:-

S N	Source	Accredited		Registered		RECs Issued	RECs Redeemed Through Power Exchanges	RECs Redeeme d Through Self Retention	Closin g Balan ce
		As on date		As on date		Since Inceptio n	Since Inception	Revoked/ Deleted RECs	As on date
		Capaci ty	No. of Proje ct	Capaci ty	No. of Proje ct				
1	Wind	2710	531	2663	523	27673469	21953273	2487236	0
2	Urban or Municipal Waste	0	0	0	0	72892	72892	0	0
3	Solar Thermal	0	0	0	0	0	0	0	0
4	Solar PV	962	424	937	413	10470918	9561111	120103	0
5	Small Hydro	192	30	196	31	5499038	4765341	6899	0
6	Others	4	2	3	1	27580	12755	5010	0
7	Geotherm al	0	0	0	0	0	0	0	0
8	DISCOM	NA	NA	NA	NA	8513006	4628199	0	3623895
9	Biomass	434	40	401	37	10909821	9896423	156549	0
10	Bio-fuel cogenerati on	820	90	385	55	9291610	8610583	5001	0
	Total	5122	1117	4585	1060	72458334	59500577	2780798	3623895

REC Inventory position

Month Year	Opening Balance (A)	REC Issued (B)	No. of REC Redeemed		Total E=(C+D)	REC Revoked/ Deleted (G)	Closing Balance (F=((A+B-E)-G))
			RECs Redeemed through Power Exchanges ©	RECs retained by RE Generators (D)			
Jul, 2020	5908672	530935	0	100471	100471	0	6339136
Aug, 2020	6339136	198726	0	4744	4744	3623895	2909223
Sep, 2020	2909223	544955	0	207	207	0	3453971
Oct, 2020	3453971	740650	0	1086	1086	0	4193535
Nov, 2020	4193535	417810	0	7833	7833	0	4603512
Dec, 2020	4603512	540794	0	3171	3171	0	5141135
Jan, 2021	5141135	260411	0	2612	2612	0	5398934
Feb, 2021	5398934	359001	0	109394	109394	0	5648541
Mar, 2021	5648541	324035	0	109141	109141	0	5863435
Apr, 2021	5863435	330267	0	66899	66899	0	6126803
May, 2021	6126803	321455	0	1206	1206	0	6447052
Jun, 2021	6447052	169616	0	63604	63604	0	6553064
Total:		72458334	59500577	2780798	62281375	3623895	



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