TATA POWER

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TPTCL'S E-NEWS LETTER

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Tata Power Trading Company Limited (TPTCL)

Lighting up Lives!

Power Market News

Centre to include private sector in boosting nuclear power capacity: Report

To supplement India's green energy programme, the Centre will soon incentivise the private sector to set up small modular nuclear power plants under the public-private partnership (PPP) model. The NITI Aayog will soon start consultations with stakeholders for the same, a report in the Economic Times (ET) said.

Small modular nuclear reactors (SMRs) require less capital and space than traditional nuclear power plants. They have a power generation capacity of 300 MW per unit, one-third of regular nuclear plants. It generally takes five years to make one SMR. NITI Aayog will also issue guidelines and regulations keeping in mind the safety standards and the impact on local communities.

The decision is in line with India's commitment to reduce carbon emissions by half by 2030 and to become a net-zero carbon emitter by 2070. By volume, it is currently the third-largest emitter of carbon dioxide. Its per capita emissions, however, are lower than the global average. In a written reply to Lok Sabha, minister of state Jitendra Singh said that India will commission 20 nuclear plants by 2031. They will generate an additional 15,000 MW.

The first of these 20 nuclear power plants, a 700 MW unit, is expected to be commissioned in 2023 at Kakrapar in Gujarat, which already has three atomic power generating units operational. The 500 MW Prototype Fast Breeder Reactor at Kalpakkam is likely to be operational in 2024, followed by two 1,000 MW units at Kudankulam in 2025.

Two 700 MW units at Rawatbhata in Rajasthan are likely to be completed by 2026, while another two 1,000 MW units are likely to be completed at Kudankulam by 2027. Two 700 MW units are expected to be completed at Gorakhpur in Haryana by 2029, Singh said. ***Source***

Power regulator retains price cap at electricity exchanges

India's power regulator retained a price cap of 12 rupees per unit on electricity traded on its spot power exchanges ahead of expected record energy demand in the coming summer months. The Central Electricity Regulatory Commission (CERC) issued the order for extended retention of the ceiling "until further orders", citing consumer interests. The move could effectively keep costlier imported coal and gas-based power generation out of the spot market.

The CERC had lowered the price ceiling on power exchanges in April, from 20 rupees a unit, in light of desperate buying by state electricity companies to meet surging summer demand. The order was extended twice and was to expire on December 31. The Indian Energy Exchange and unlisted PXIL are the two main power exchanges in India.

"Energy requirement and peak demand remained higher in 2022-23 and the trend is likely to continue in the coming months," the CERC order said, adding that peak hour demand for 2023-24 is projected to be 230 GW, against 215 GW so far in 2022-23. Industry sources expect the cap to remain in place indefinitely because there will be a separate market segment without a price cap. That new segment of the country's power markets would include costlier electricity from imported gas and coal-based power stations. ***Source***

IEX Forms Wholly Owned Subsidiary to Explore Business Opportunities in Carbon Market

Indian Energy Exchange (IEX), India's leading and premier energy market platform, incorporated a wholly owned subsidiary company "International Carbon Exchange Private Limited" ("ICX") today to explore business opportunities in the voluntary Carbon Market.

ICX will enable participants to buy and sell voluntary carbon credits at competitive prices through its transparent & reliable platform and facilitate reduction of global GHG emission by 45% by 2030 to get on track to limit global warming to 1.5 degrees. The recently concluded COP 27 reiterated the need to ramp-down GHG emissions. In the national context, India has set a target to Net Zero emissions by 2070.

Additionally, ICX will facilitate corporates to meet their climate commitments goals. The Exchange platform will provide a robust market signal for attracting further investments in the sustainable projects and help corporates to allocate capex towards energy transition in most optimum manner. As per industry estimates, the annual demand for voluntary carbon credit globally is expected to reach around 1.5 Gigatons, with India contributing around 200 Million tonnes by 2030.

Shri. SN Goel, Chairman & Managing Director, IEX said, "It gives me immense pleasure to announce the incorporation of our wholly-owned subsidiary, International Carbon Exchange, which will be India's first voluntary Carbon Exchange platform. This is aligned to our vision of architecting next-generation solutions for sustainable energy to ensure competitive, transparent and reliable access. With our earlier diversification initiative, Indian Gas Exchange, transforming the Gas market in the country, we continue to sustainably transition India's energy market through efficient and asset-light businesses. Establishing a transparent and reliable carbon trading platform is an important step towards achieving global as well as national sustainability aspirations." This initiative is yet another effort by IEX to harness technology and innovation to facilitate the nation's energy transition towards carbon neutrality. Earlier this month, IEX became India's first carbon-neutral Power Exchange, using market based tradable instruments to offset its carbon emissions. ***Source***

Hindustan Power Exchange crosses 1 BUs of power trading

Hindustan Power Exchange Ltd. (HPX), India's fastest power exchange promoted by PTC India Ltd, Bombay Stock Exchange, and ICICI Bank, has reached the milestone of 1 Billion unites of power traded within six months of its launch. With more than 360 market participants, HPX has also raced to register participants comprising 80% buy volume of overall Day Ahead Market (DAM); 90% sell volume of Green DAM and 70% buy of Real Time Market (RTM).

HPX is now the number two exchange of the country in the Contingency segment, and the total settlement registered on its platform was Rs 1250 crore. Though eastern entities have contributed about 51% in this amount since commencement of operations of the exchange, the participation from Southern entities have increased in last two months and they contributed 41% in the month of December. It is pertinent to note that all the southern states are registered on the exchange and the foreseen potential of these states basis their past record would be 28% buy side on DAM, 24% buy on RTM, 12% sell on DAM, 14% sell on RTM.

Backed by the latest technology and a series of innovative features, the fastest power exchange of India promises to offer speed, transparency, and better price discovery in the execution of trades. The exchange is presently offering trading in Contingency contracts, Green Contingency contracts, Term Ahead Market (TAM), Renewable Energy Certificates (REC), Day Ahead Market (DAM), Green Day Ahead Market (G-DAM) & Real Time Market (RTM). It is steadily increasing its product portfolio and is

set to provide a wide range of contracts to address the demand of different segments of the electricity market. ***Source***

Late Payment Surcharge Rules Help Cut Receivables of Power Producers: India Ratings

Late Payment Surcharge 2022 Rules is facilitating receivables reduction for independent power producers, according to India Ratings and Research. India Ratings and Research said the implementation of the LPS Rules 2022 issued by the Ministry of Power on June 3, 2022, has brought in greater discipline from state electricity distribution companies in making timely payments to independent power producers in the renewable and thermal power sectors.

Ind-Ra's portfolio has witnessed reductions across most states, significant in some—such as Telangana, Andhra Pradesh and Madhya Pradesh (receivables on October 2022 at 30-90 days compared to 120-450 days in May 2022)—and an improving trajectory in others, namely Maharashtra, Tamil Nadu and Karnataka, the statement said.

The scheme encourages payment discipline from discoms, given the risk of losing short and eventually medium- or long-term access to the power supply through the interstate transmission system, it added. Along with the reduction, a greater alignment across IPPs and a level playing field with central utilities for payment security provide for greater stability in cash flows and mitigate liquidity pressures in the stressed project, the agency said.

Ind-Ra expects ratings in its portfolio in the investment grade to remain resilient. On the other hand, the rules will limit downside risks to stressed projects in the non-investment grade. However, the equated monthly installments payments for realising the accumulated dues up to June 3, 2022, through the scheme are primarily facilitated by funding from Power Finance Corp. Ltd. and/or REC Ltd. (IND AAA/Stable), adding to the debt liability of discoms, the agency said.

A structural shift in the viability of the entire value chain would necessitate addressing issues of chronic revenue deficits through an operational improvement of discoms, it suggested. In Ind-Ra’s opinion, while these are being addressed through various schemes and may take time, strict implementation of LPS may provide the bridge to ensure that the sector continues to draw investments in the interim. ***Source***

Delhi's peak power demand clocks 4,906 MW season's highest, surpasses last two years' record

Delhi's peak power demand clocked to 4,906 MW, which according to State Load Dispatch Centre (SLDC) data, is the highest this season. Delhi's peak power demand this year is more than the peak power demand clocked in December of both 2021 and 2020. To meet the power challenges, the BSES uses a mix of advanced forecasting models, including Artificial Intelligence and Machine Learning and state-of-the-art weather forecasting solutions. Moreover, Green power plays a vital role in meeting power demand in these areas

In December of 2021, Delhi's peak power demand had clocked 4723 MW and in 2020, 4671 MW. However, in the areas catered to by BRPL (BSES Rajdhani Power Limited) and BYPL(BSES Yamuna Power Limited (BYPL), the peak power demand clocked 2074 MW and 967 MW respectively.

According to the SLDC data, Delhi's peak power demand this winter can go up to 5500 MW, surpassing the peak winter demand of the last couple of years. Last year, it peaked at 5104 MW and 5021 in 2020. The peak winter power demand in BRPL and BYPL areas had reached 2140 MW and 1122 MW

respectively during last winter. This year, it is expected to reach 2289 MW and 1159 MW for BRPL and BYPL respectively.

According to BSES officials, green power will be playing an important role in meeting the power demand in BSES areas in winter months. Apart from the long-term agreements with power plants including Hydro and Delhi-based gas-fuelled generating stations, BSES is also receiving 840 MW of solar power from SECI, 439 MW of wind power and 25 MWs of Waste-to-Energy power. 127 MW of roof-top solar power installed on roof-tops in South, West, East and Central Delhi are also being used by the BSES in meeting the power demand. BSES discoms are using methods like 'Banking' and 'Power Exchange' to ensure sufficient 'Spinning Reserves' to dispose off surplus power as well as ensure reliable power supply apart from making arrangements of sufficient power supply during summer. ***Source***

'Zero bill' beneficiaries in Punjab touch 90%; power demand surges

The number of ‘zero bill’ domestic consumers continue to rise with each passing day and has touched 90.07 per cent in December with total subsidised domestic consumers, under various categories, reaching 97.9 percent. Further, the maximum power demand in December 2022 has also increased by 1,000 MW as compared to the corresponding period last year.

As per data collected by Punjab State Power Corporation Limited (PSPCL), the number of zero bill domestic consumers for the month of December, collected till December 24, has gone up to 90.07 per cent. The records show that till December 22, there were 27.52 lakh billed consumers in Punjab out of which 26.94 lakh fell in the subsidised category. Out of them, a total of 24.79 lakh consumers availed zero bill facility, accounting for 90.07 per cent of the total domestic consumers in the state.

Various other categories of subsidised domestic consumers, including below poverty line, freedom fighters and SC/STs has reached 97.9 per cent. “If one looks at the actual monthly subsidy for the past four months from August to November it’s somewhere between Rs 522 to 732 crore. The average monthly bill works out to be Rs 645 crore. This clearly indicates that the domestic power subsidy bill is going to increase by about Rs 1,000 crore by this fiscal,” said a top PSPCL official.

Preferring anonymity, PSPCL officials said the daily supply has also increased by 150 lakh units as compared to the last year. “Both the state sector thermal plants at Lehra Mohabatt and Ropar are running even during peak winter season whereas these used to be under forced shutdown during the lean period in 2021,” they said. The maximum demand from December 22 to 25 was between 7,100 and 8,000 MW, while the same during the corresponding period last year was 6,700 to 7,100 MW.

“Everyone wants to make the full use of 300 units. Therefore, thousands of consumers have two meters at their houses and keep consumption around 250 to 280 units per meter to avail zero bill scheme,” said a senior PSPCL official. “Good politics always make bad economics. How can the state government justify ‘zero bills’ for electricity supply when financial health of PSPCL is draining?” said VK Gupta, spokesperson, All India Power Engineers Federation.

“The scheme for every domestic consumer regardless of their economic status does not make any sense. Consumers are trying to get more than one connection,” claimed Gupta. Even the PSEB Engineers’ Association, the largest body representing PSPCL engineers, has demanded that the government releases timely subsidy and stops freebies to improve financial health of PSPCL. When contacted, Baldev Singh Sran, CMD, PSPCL, refused to comment. ***Source***

Will Indian power sector shines in 2023?

The Indian power sector is undergoing a significant change that has redefined the industry outlook. The power industry's future in India is bright, and sustained economic growth continues to drive electricity demand in the country.

India is the third-largest producer and consumer of electricity worldwide, with an installed power capacity of 408.71 GW as of October 31, 2022. The private sector in the power industry in India generates 49% of the country's thermal power, whereas States and the Centre generate 25% and 26.0%, respectively. On the installed capacity generation basis Fossil Fuel based generation forms 58% & non-fossil fuel-based generation forms 42%. India's National Grid is synchronously interconnected to Bhutan and importing excess electricity from Bhutan.

Few problems faced:

A large part of the Indian coal reserve is of low calorific value and high ash content, with poor fuel value. On average, Indian coal has a gross calorific value (GCV) of about 4500 Kcal/kg, whereas in Australia, for example, the GCV is about 6500 Kcal/kg.

The result is that Indian power plants using India's coal supply consume a much higher amounts of coal as compared to imported coal. India's Ministry of Forests & Environment has therefore mandated the use of coals whose ash content has been reduced to 34% (or lower) in power plants in urban, ecologically sensitive, and other critically polluted areas. As a signatory to the Paris Agreement, India is also reducing power generation from coal to control the emission of greenhouse gases. The solar energy sector in India offers potentially enormous capacity, though little of this potential has so far been exploited.

Government's thrust:

As per National Infrastructure Pipeline 2019 -25, energy sector projects accounted for the highest share of approximately 24% out of the total expected capital expenditure of Rs.111 lakh crore. The government of India has identified the power sector as a key sector to promote sustained industrial growth. Some initiatives by the Government to boost the Indian power sector are as below:

- In the Union Budget 2022-23, the government allocated Rs 19,500 crore for a PLI scheme to boost manufacturing of high-efficiency solar modules.
- Under the Union Budget 2022-23, the government announced the issuance of sovereign green bonds, as well as conferring infrastructure status to energy storage systems, including grid-scale battery systems.
- Electrification in the country is increasing with support from schemes like Deen Dayal Upadhyay Gram Jyoti Yojana (DDUGJY), Ujwal DISCOM Assurance Yojana (UDAY), and Integrated Power Development Scheme (IPDS).
- In order to meet India's 500 GW renewable energy target and tackle the annual issue of coal demand-supply mismatch, the Ministry of Power has identified 81 thermal units which will replace coal with renewable energy generation by 2026.
- The government announced future plans to increase the funding under the PLI scheme for domestic solar cells and module manufacturing to Rs 24,000 crore from earlier Rs 4,500 crore to make India an exporting nation.
- The Pradhan Mantri Sahaj Bijli Har Ghar Yojana, "Saubhagya", was launched by the government of India with an aim of achieving universal household electrification. ***Source***

Power scenario today and tomorrow: India

At the recent World Sustainable Development Summit (WSDS), Indian Prime Minister Narendra Modi said, “Energy requirements of Indians are expected to nearly double in the next twenty years. Denying this energy would be denying life itself to millions.” The PM’s assertion holds great relevance even globally. However, while global leaders are committed to achieving net-zero emissions and carbon neutrality, the fact remains that fossil fuels like coal, oil and natural gas fulfill majority of world’s energy usage.

India is not an exception to the averages, meeting around 77% of annual electricity generation from thermal plants (including 3% nuclear), owing to the abundance and affordability of coal compared to other energy sources. At present, India has a total Thermal capacity of 236.1 GW, and Renewable (including hydro) capacity of balance 165.9 GW. The highest peak demand in the country touched 215 GW in the current year and the same is expected to increase by 9% in the next year. This peak demand generally comes in the evening hours of summer season and since renewable capacity has limited contribution in meeting such peaks, a prominent valley in the exchange price can be seen during the afternoon hours. The gap between pricing at crest and trough is continuously increasing if the typical annual average daily curves of exchange price are compared for last few years.

The gap is expected to increase further as we move forward with our ambitious plan of attaining 500 GW renewable capacity by 2030 which converts to addition of 35-40 GWs of renewable energy (RE) capacity annually. To absorb this additional renewable capacity, the need of the hour is to have a plan for an overall integration of the capacity into the grid, without compromising on the grid security and avoiding price variations.

Therefore, to meet the growing peak demand and to achieve a smooth integration of RE power into the grid, we need to take firm steps on flattening the daily demand curve through Supply Side as well as Demand side management:

Supply Side Management initiatives:
Promoting the pump hydro storage. Considering that the battery storage system might take few more years to become viable in India, focussing upon pump storage hydro projects is going to yield a better solution in terms of supplying peak power by storing the RE power during off-peak hours

Promoting distributed generation. India must ramp up its rooftop solar energy production capacity, which currently stands at a mere 7.5 GW installed so far, compared to the planned 40 GWs by the end of this financial year. Similarly captive generation should further be streamlined.

Promote Flexi generation scheme, either through retro-fitting as well as through bundling solar capacity within existing Thermal Power plants. Retro-fitting improves the flexibility of a Thermal power plant in varying (ramp up and ramp downs) generation levels at a faster pace, to meet despatch schedules as required by the Grid. At the same time, we need to study the impact of operating thermal assets on reduced capacity, on continuous basis, over the life cycle. In promoting the Renewables, we need to safeguard our base load assets since retrofitting has been adopted for the first time in India and we need to be cautious while implementing such schemes for any irreversible adverse impact.

Policy interventions to enable re-commissioning of 25 GW of Gas based power plants, not operating on account of limited gas supplies allocated to power sector and abnormally high international prices of LNG. This may include initiatives towards Strategic acquisition of gas assets abroad.

Demand Side Management initiatives:

- Shifting Agriculture load to day time
- Promoting 'Time of the Day' metering

Continuing on the net-zero emissions path, Government of India is taking aggressive actions in the following areas:

- Promoting Bio-fuels/ Ethanol blending
- Electric Vehicle solution in the mobility sector
- Green Hydrogen as another emerging renewable power source that can play a significant role in fast-tracking India's climate targets

The above initiatives are being taken in the appropriate spirit and have the potential to decarbonize mobility, industries such as fertilizer plants, oil refineries and steel mills. This requires sector specific solution for faster adoption, without missing the very purpose of implementing such schemes. For example we should plan for transmission grid integration for the EV and should make sure through policy formulation that such charging should take place only during off-peak hours and that too from renewable sources. Such adoption needs precise matching of the load and source of supply without impacting the peak power demand of the country.

Conclusion

There is no doubt that India's growing economy needs energy to fuel its ongoing development and advancements. And by switching to green sources, we not only meet carbon emission goals but also bring new livelihood opportunities and health benefits to people. However we should also remain focussed on balancing the grid integration by flatting the daily demand curve and augmenting the new transmission plan to accommodate not only our planned RE capacity addition but also the new initiatives taken in the field of Green Hydrogen and Electric Vehicles. ***Source***

Discoms' outstanding dues reduced by Rs 29,857 cr to Rs 1,08,092 cr, says Power Minister

Power distribution utilities or discoms' total outstanding dues reduced by Rs 29,857 crore to Rs 1,08,092 crore, which were Rs 1,37,949 crore on June 3, 2022, Parliament was informed . One of the key indicators of financial distress of discoms is mounting power purchase dues towards the generation companies (gencos). With the implementation of Electricity (LPS and Related Matters) Rules, 2022, a remarkable improvement has been seen in recovery of outstanding dues, power minister R K Singh said in a written reply to Rajya Sabha.

Outstanding dues of states

The minister informed the House that the total outstanding dues of the states, which were at Rs 1,37,949 crore as on June 3, 2022, have been reduced by Rs 29,857 crore to Rs 1,08,092 crore, with timely payment of just five monthly instalments.

Distribution companies dues

Distribution companies are also paying their current dues in time to avoid regulations under the rule and have paid almost Rs 1,68,000 crore of current dues in last five months, he stated.

Late Payment Surcharge

Based on the results achieved so far, it is expected that strict implementation of the LPS (late payment surcharge) Rules will bring back financial viability of the power sector in the country and would attract

investment to ensure reliable 24x7 electricity to the consumers. This rule have not only ensured that the outstanding dues are liquidated but also ensured that the current dues are paid in time. It may be seen that the rule has played a vital role towards ensuring the financial discipline in discoms, the minister added.

In another written reply to the House, Singh stated that there is no proposal for privatisation of any existing state-owned distribution licensee and they shall continue to function as earlier.

Impact of Electricity Amendment Bill 2022 on poor

About fears of impact of Electricity Amendment Bill 2022 on the poor, he explained that the provision of multiple licensees already exists in the present Electricity Act 2003 and no new concept has been introduced. The amendments propose removal of some bottlenecks so that the existing provisions can be implemented, he further explained.

There is no proposal to change ownership of any asset or network (of power distribution), he stated. The licensee owning the network will get revenue in the form of wheeling charges, as determined by the state commission, for its investment in network. Accordingly, the distribution licensee which uses the network shall pay the charges as determined by the state commission, he said.

The minister said that there is no possibility of cherry picking, as the law provides for universal service obligation and minimum area of supply, as well as minimum tariff to be decided by the state commission, and a cross-subsidy balancing fund and sharing of cost of existing PPAs (power purchased agreement). Thus the distribution licensee, who has industrial and commercial consumers, will have to deposit the cross subsidy in the cross-subsidy balancing fund which shall be used by other licensees who have deficit of cross subsidy, he told the House. The provision for multiple licensees in the same area of supply already exists in the Electricity Act, 2003. The proposed amendment will ensure better services to the consumers and electricity at competitive rates. State Regulatory Commission will also lay down a ceiling tariff and state governments will continue to have right to give subsidy as per their discretion, Singh said. ***Source***

Govt may extend coal cess for green mission

The compensation cess on sin goods and luxury items such as liquor, automobiles, aerated water, cigarettes and other tobacco products, is scheduled to end by March 31, 2026, but cess on coal may continue in some form beyond that deadline to fund government's environment protection mission, three people aware of the development said.

The coal cess, which was initially introduced on the "polluter pays" principle to mitigate growing climate crisis risks, saw a change in its purpose in 2017 when it was merged into the GST system to compensate states for their revenue shortfall for five years up to June 30, 2022.

The GST compensation cess is expected to continue till March 31, 2026, only to retire debts taken on behalf of states to meet their revenue shortfall. After that the GST compensation cess will end, but the coal cess may be restored in its older form to create a fund for environment protection, the people added. At the time of launching the GST regime, the law assured states a 14% increase in their annual revenue for five years of the transition period from July 1, 2017 to June 30, 2022, and also guaranteed that their revenue shortfall, if any, would be made good through a compensation cess levied on luxury goods and sin products such as liquor, cigarettes, other tobacco products, aerated water, automobiles, and coal.

While states have no claim on compensation from July 1, 2022, the cess continues till March 31, 2026 to service the back-to-back loans availed by states when compensation cess collection fell in 2020 and 2021 because of a slump in economic activities due to the Covid-19 pandemic.

“It is not yet decided what would be the new form of coal cess -- whether to continue the previous system or new funding arrangements would be made to fund India’s commitment of protecting the environment,” one of the three people said. India, in its updated National Determined Contribution under the Paris Agreement has committed to reducing the emissions intensity of its GDP by 45% in 2030, from the 2005 level, and achieve about 50% of cumulative electric power generation capacity from non-fuel based sources, also by 2030.

As coal is likely to remain one of the key energy sources, mitigating its adverse environmental impact will also require funds, the second person said. “The template was made in the 2010 Budget,” he added.
The third person said this matter is of “tremendous importance but it was too early to conclude” what would be the contours of the cess in future. “A dedicated fund for mitigating environment and climate change risks is required urgently on the principle of polluter pays,” he said, adding that Budget 2023-24 may provide some details in this direction.

“In fact, the government need not wait until 2026 for the imposition of the coal cess as addressing the environmental ramifications of coal mining requires immediate attention,” DK Srivastava, chief policy adviser, EY India, said. With the inception of GST, the coal cess was merged into the GST compensation fund. With the discontinuation of compensation fund, the coal cess may be resumed according to the original objective so that the environmental impact of coal mining can be mitigated in the coal rich states, he added, citing an EY India report.

“Since the continuation of the GST compensation cess up to 2026 is only for the purpose of repayment of loans taken by the central government for compensating the states, it may now be possible to rationalise some of the cesses that were subsumed in the GST compensation cess. This would also be facilitated by the high buoyancy shown by GST revenues in FY22 and in the first seven months of FY23. The benefit of this high buoyancy would also percolate to the GST compensation cess collections,” Srivastava said.

While introducing the coal cess in the 2010-11 Budget, the then finance minister Pranab Mukherjee said, “Harnessing renewable energy sources to reduce dependence on fossil fuels is now recognised as a credible strategy for combating global warming and climate change. To build the corpus of the National Clean Energy Fund [NCEF] announced earlier, I propose to levy a clean energy cess on coal produced in India at a nominal rate of ₹50 per tonne. This cess will also apply to imported coal.”

In 2016, when the scope of the fund was enhanced to also include clean environment initiatives, it was renamed as National Clean Energy and Environment Fund (NCEEF). Initially, the cess was collected at ₹50 per tonne of coal since June 22, 2010. It was raised to ₹100 per tonne effective from July 11, 2014 and then to ₹200 per tonne from March 1, 2015. Later, the cess amount was increased to ₹400 per tonne in the Union Budget 2016-17 and renamed NCEEF. ***Source***

Who gets to govern virtual power purchase agreements?

A virtual power purchase agreement may be viewed as a ‘contract for differences’ A virtual power purchase agreement may be viewed as a ‘contract for differences’ | Photo Credit: moxumbic An estimated 80 per cent of corporate power purchase agreements (PPAs) in the US are ‘virtual’. In India, virtual PPAs (VPPAs) are absent.

What is a VPPA?

A VPPA is a financial instrument: while the buyer agrees to pay a fixed price for a notional quantity of electricity, the power generator sells actual electricity in the spot market to someone else at a floating rate. If the market price exceeds the fixed price, the buyer is paid the difference, and vice versa. Accordingly, a VPPA may be characterised as a 'contract for differences' (CFD) or as a fixed-for-floating swap. CFDs are legal in India.

In the US, a buyer under a VPPA is not required to obtain authorisation from the Federal Energy Regulatory Commission (FERC) — the equivalent of India's Central Electricity Regulatory Commission (CERC). Instead, VPPA transactions are typically structured as 'swaps' — a type of over-the-counter (OTC) derivative — and is subject to the Dodd-Frank Act with reporting, record-keeping, and registration requirements.

Since a VPPA may involve transfer of renewable energy certificates (REC), such transactions can also be structured as commodity forward contracts where RECs are priced at the difference between floating and fixed prices. When an eligible entity produces/purchases RE in excess of compliance requirement, it may be issued an REC from a designated agency for each (additional) MWh of electricity generated/purchased. If such RECs are included in a VPPA ('bundled RECs'), the seller might be contractually required to transfer them to the buyer. In turn, the transferor can be compensated for such RECs through the fixed price it receives.

Erstwhile regulations related to RECs allowed dealing in unbundled RECs only, via CERC-approved power exchanges. In May, the CERC issued new regulations, which allow trading of RECs through traders as well as on exchanges; but they do not clearly provide for the sale of bundled RECs through bespoke bilateral arrangements that might make VPPAs effective.

Turf battle

After the Multi Commodity Exchange of India (MCX) began trading in electricity derivatives in 2009, a war broke out between the securities market regulator, SEBI, and the electricity regulator, CERC, over jurisdiction. It was settled by the Supreme Court in October 2021. Accordingly, non-transferable specific delivery contracts (NTSDs) — as defined in the Securities Contracts (Regulation) Act, 1956 (SCRA) — will be regulated by CERC, while commodity derivatives in electricity other than NTSDs will be regulated by SEBI.

The SCRA defines a 'derivative' to include commodity derivatives, which, in turn, includes CFDs that derive value from the price of underlying goods. On the other hand, NTSDs are defined as commodity derivatives that provide for the actual delivery of specific goods.

Since VPPAs do not involve actual delivery of electricity, it appears that if and when VPPAs are interpreted to be non-NTSD commodity derivatives, SEBI, rather than CERC, might be the appropriate regulatory body. However, since VPPAs are neither intended for trading on exchanges nor meant to be transferred to third parties, it may be argued that they are untraded OTC contracts and hence outside SEBI's ambit. Further, the 2021 power market regulations and the 2022 REC regulations appear to indicate CERC jurisdiction. ***Source***

Year end 2022: When the power sector fired on all cylinders

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The year 2022 has been significant for India's electricity sector, with the government introducing policy reforms to ensure timely payment to generating companies (gencos) amid a record surge in the country's peak power demand, resulting in a renewed push for thermal power generation.

The year, though sluggish for renewable energy (RE), especially in the solar segment, saw the ground being laid to create storage and transmission infrastructure to support a future boom in green energy, which is expected to be further accelerated by India's Green Hydrogen Mission. This is also in line with India's target of having 500 gigawatt (GW) of RE generation capacity by 2030.

We look at the major highlights (including crises) of India's power sector in 2022.

Power crisis in April-May

In April-May this year, many states faced long hours of power outages because of an unrelenting surge in power demand due to a sudden heatwave, rapid economic recovery after two years of COVID-19-induced lockdowns, and shortage of coal to generate power. Almost a fourth of India's power generation capacity was shut in April, mainly due to lack of coal. The government then ordered all generating companies to import coal to meet the gap.

India's electricity demand touched a record high of 211.856 GW on June 10 this year, an increase of 5.6 percent from the peak demand of 200.570 GW recorded on July 7, 2021. To avert a similar crisis in 2023, the government is preparing to meet a projected peak electricity demand of 230.144 GW, Power Secretary Alok Kumar had told Moneycontrol on November 22.

Thrust on coal-fired electricity

Year 2022 was ironical. On the one hand, India notified its Nationally Determined Contribution (NDC) target to achieve about 50 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030, while on the other, the Indian government declared at several forums that coal will remain the mainstay of the country's power generation till about 2030-35. Through the NDCs, India has also pledged to shift away from coal and curb emissions to hit net-zero by 2070.

As of now, during summers and monsoons, nearly 70 percent of the country's peak demand is met through thermal power generation. According to the draft National Electricity Plan published in 2022 by the Central Electricity Authority (CEA), the projected new coal capacity addition requirement during the period 2022-32 is 35,014 MW, which includes under construction coal-based capacity totalling 25,580 MW.

A spokesperson of NTPC Ltd, the largest power generating company in India, said the state-run group has successfully added 1,762 MW this fiscal (2022-23). "This includes 1,142 MW of renewable capacity and remaining capacity 600 MW and 20 MW of Jhabua Power and NSPCL respectively. NTPC has also registered the best-ever performance in coal mining at a growth rate of 48 percent year-on-year (YoY), with coal production of 12.24 million metric tonnes (MMT) till November 2022," the spokesperson told.

The total installed capacity of the company is now 70,824 MW. Recently, NTPC crossed 3 GW operational renewable capacity as well.

Reforms to ensure financial health of power utilities

A major highlight of 2022 in terms of bringing financial discipline among power utilities is the Electricity (Late Payment Surcharge and Related Matters) Rules, 2022, issued by the Ministry of Power on June 3. The purpose of these rules is to provide a mechanism for settlement of outstanding dues of gencos, inter-state transmission licensees and electricity trading licensees. Discoms have to pay a late payment surcharge (LPS) on the outstanding amount if they do not pay before the due date. Subsequently, the rate of LPS will increase by 0.5 percent for every month of delay, and if the delay is beyond 75 days, the state can be penalised.

"With the implementation of Electricity (LPS and Related Matters) Rules, 2022, a remarkable improvement has been seen in the recovery of outstanding dues. The total outstanding dues of states, which were at Rs 1,37,949 crore, as of June 3, 2022, have been reduced by Rs 29,857 crore to Rs 1,08,092 crore, with timely payment of just five monthly instalments," Union Power Minister R K Singh informed Parliament on December 21.

On August 18, as many as 13 states — Tamil Nadu, Telangana, MP, Mizoram, Jharkhand, Bihar, Rajasthan, Andhra, Maharashtra, Karnataka, and Chhattisgarh — were barred from buying and selling on power exchange platforms for non-payment of dues to power gencos.

In July, Prime Minister Narendra Modi formally launched the Revamped Distribution Sector Scheme (RDSS) with an outlay of over ₹3 lakh crore for a period of five years from FY2021-22 to FY2025-26. The scheme aims at providing financial assistance to discoms for modernisation and strengthening of distribution infrastructure, with focus on improving the reliability and quality of supply to end-consumers.
Modi on subsidies, dues and AT&C losses

On July 30, PM Modi for the first time spoke at length on the financial health of power utilities in India, and raised concerns about the high Aggregate Technical & Commercial (AT&C) losses in the country.
Addressing the closing ceremony of the 'Ujjwal Bharat Ujjwal Bhavishya - Power @2047' programme in virtual mode, the Prime Minister asked if the common man could pay his electricity dues regularly, why was it that some states failed to paying their dues. "I request the states whose dues are pending to clear them as soon as possible. I want to remind all the stakeholders that the health of the electricity sector is everyone's responsibility," Modi said.

Referring to the trend of offering subsidies on electricity bills, the PM said, "With the passage of time, a serious disorder has come into our politics... This strategy may sound like good politics in the short term. But it is like postponing today's challenges for tomorrow, for our future generations. This thought process has pushed the power sector in many states into huge problems."

The Prime Minister said losses in India's power distribution sector are in double digits, whereas in developed countries across the world, it is in single digit. "This means we have a lot of wastage of electricity, and therefore, we have to generate more electricity than we actually need to meet the demand. There is a lack of investment in reducing distribution and transmission losses in many states," he said.
Push for renewable energy continues

Much ground was covered in the renewable energy sector in 2022. Till October, India added 14.21 GW of renewable energy and is now the world's fourth-largest in terms of installed capacity. The government released the second tranche of Productivity-Linked Incentive (PLI) scheme worth Rs 19,500 crore for manufacturing high-efficiency solar photovoltaic (PV) modules and also released new renewable purchase obligation (RPO) targets by creating an exclusive category of wind energy to boost the segment. On December 7, the government unveiled a transmission system plan to achieve the country's goal of 500 GW of non-fossil fuel-based installed capacity by 2030.

According to the plan, the transmission system includes 8,120 circuit kilometre (ckm) of High Voltage Direct Current Transmission corridors (+800 kV and +350 kV), 25,960 ckm of 765 kV ac lines, 15,758 ckm of 400 kV lines, and 1,052 ckm of 220 kV cable at an estimated cost of Rs 2.44 lakh crore.

It also envisages a battery energy storage capacity of 51.5 GW by 2030 to provide round-the-clock power to end-consumers.

However, in 2022, engineering, procurement and construction (EPC) in the solar energy sector was hit by rising commodity prices, which resulted in increased cost of solar manufacturing in the past few months forcing firms to put projects on hold or delay the upcoming ones. Apart from the Russia-Ukraine war, this was also because from April, the government had imposed a basic customs duty of 25 percent on solar cells and 40 percent on modules.

Later, in October, the government excluded solar power projects from the list of goods that can avail a concessional 7.5 percent duty under the project imports scheme, much to the disappointment of power developers. The government said the exclusion plugged a loophole that allowed developers to bypass the 40 percent import duty imposed on solar projects to encourage local manufacturing.
2023 and the power sector: An outlook

Experts say, 2023 will be about PLIs for green hydrogen manufacturing, getting about 76.37 GW of under-construction RE capacity implemented, creating an open market for carbon credits, and focusing on a more robust transmission and distribution (T&D) network, while further reducing AT&C losses which have declined to 17 percent in 2021-22 from 22 percent in 2020-21.

While delayed solar projects are likely to gain momentum, a number of tenders and bidding will also be witnessed in the wind energy sector with the government making it mandatory under RPO obligations. According to Sumant Sinha, Chairman and CEO, ReNew Power, India's largest RE company, the Indian RE sector braved the effects of the lockdowns and supply chain disruptions and has emerged more resilient than ever before.

"By 2026-27, India's power generation capacity will be close to 620 GW, out of which 38 percent will be from coal and 44 percent from renewable energy sources. Looking at the increased demand in the sector, wind energy too will see its fair share of growth, apart from solar," Sinha told Moneycontrol.

"Our manufacturing systems are strong, and aided by government initiatives, we can produce components for solar power, batteries, electric vehicles (EVs) and green hydrogen and compete with the world. With regard to green hydrogen, India is at a great advantage with availability of round-the-clock power solutions. Moving ahead, green hydrogen will be the space where companies will focus their efforts and install larger plants to achieve benefits of economies of scale," he said.

Not to forget, the Electricity (Amendment) Bill, 2022 which was referred to the Parliamentary Standing Committee on Energy in August this year will also be taken up in 2023. ***Source***

Transmission charges payable by DICs for the billing month of January'2023

The Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses), Regulations 2020 came into force with effect from 1.11.2020. In these New Regulations, STOA charges will be determined based on monthly state transmission charges and there shall not be any separate injection and drawl PoC charges, for STOA. Further, DISCOMs having long term Access are not required to make any payment against POC charges for STOA transaction.

Transmission Charges for Short Term Open Access (STOA)			
Sl. No.	**State**	**Region**	**STOA rate (paise/kWh)**
1	Delhi	NR	45.50
2	UP	NR	51.21
3	Punjab	NR	42.74
4	Haryana	NR	55.05
5	Chandigarh	NR	40.97
6	Rajasthan	NR	69.19
7	HP	NR	41.32
8	J&K	NR	42.80
9	Uttarakhand	NR	54.28
10	Gujarat	WR	49.77
11	Madhya Pradesh	WR	50.66
12	Maharashtra	WR	53.11
13	Chhattisgarh	WR	36.47
14	Goa	WR	46.51
15	Daman Diu	WR	50.74
16	Dadra Nagar Haveli	WR	50.74
17	Andhra Pradesh	SR	63.42
18	Telangana	SR	48.22
19	Tamil Nadu	SR	48.48
20	Kerala	SR	51.05
21	Karnataka	SR	52.30
22	Pondicherry	SR	43.38
23	Goa-SR	SR	41.57
24	West Bengal	ER	40.33
25	Odisha	ER	49.19
26	Bihar	ER	42.20
27	Jharkhand	ER	47.21
28	Sikkim	ER	38.96
29	DVC	ER	45.04
30	Bangladesh	ER	34.55

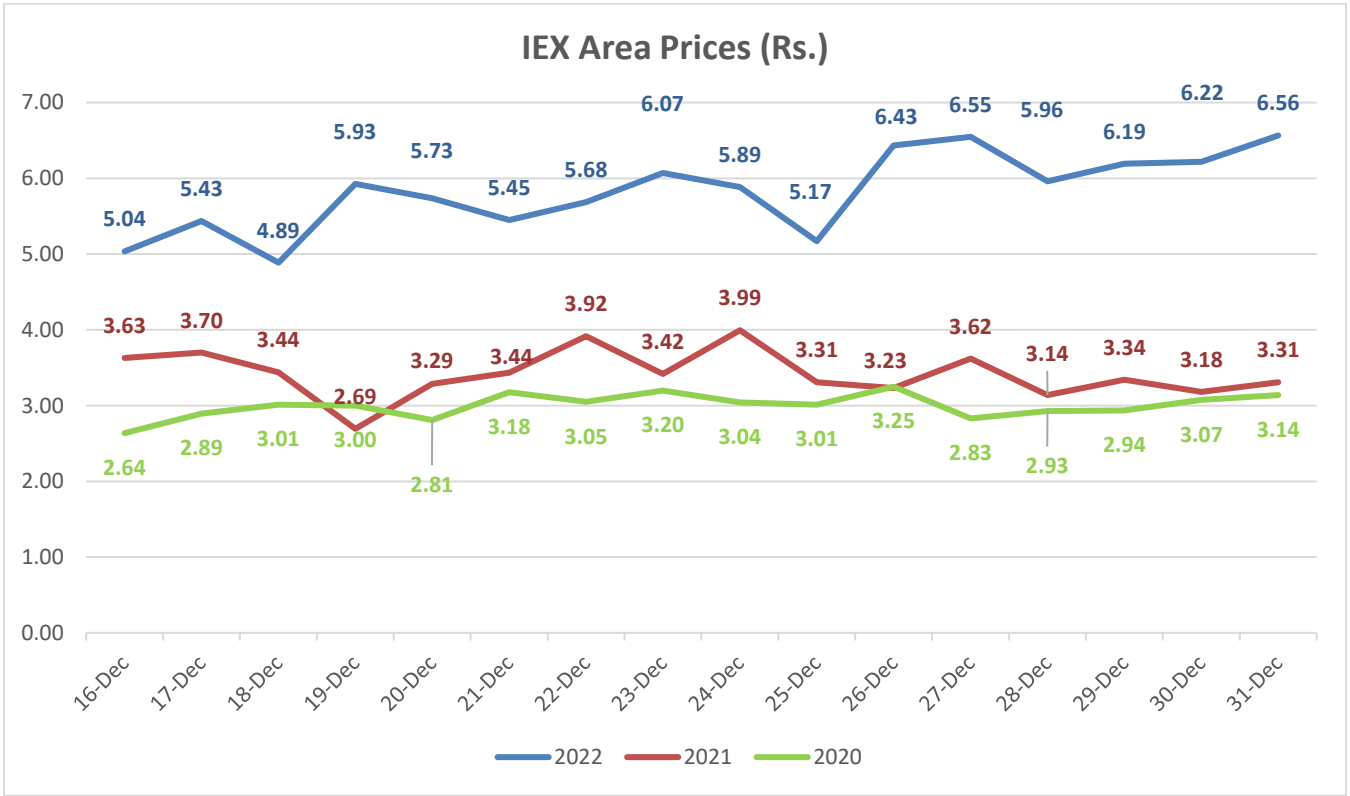
31	Arunachal Pradesh	NER	39.68
32	Assam	NER	38.85
33	Manipur	NER	41.35
34	Meghalaya	NER	41.51
35	Mizoram	NER	40.50
36	Nagaland	NER	52.74
37	Tripura	NER	45.37

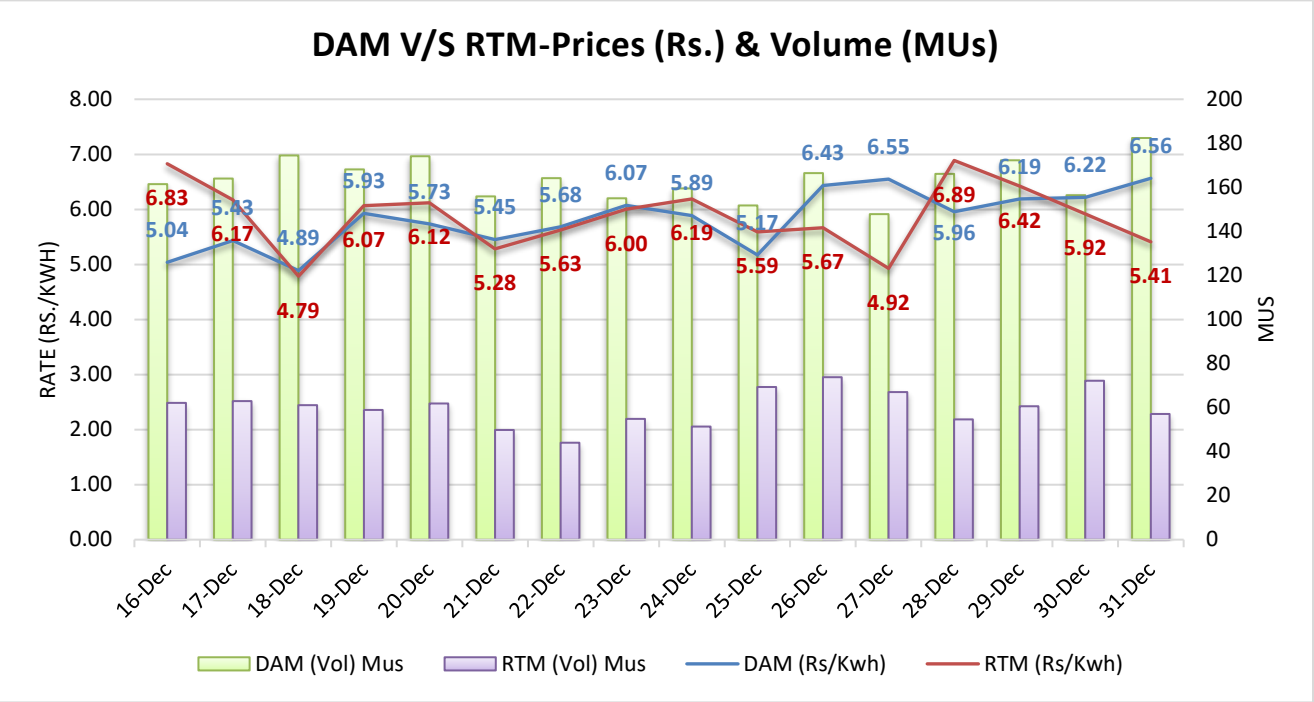
Bilateral Tender Results: -

Sl. No.	Tender Quantum (MW)	Supply Period	Time Blocks (Hrs.)	Price (Rs./kWh)	LOI Status
LBSCML/Short/22-23/RA/190					
1	1	01.02.2023 to 31.01.2024	00:00 to 24:00	5.4	Awaited
EON KHARADI INFRASTRUCTURE PVT LTD/Short/22-23/RA/197					
1	4	01.02.2023 to 31.03.2023	00:00 to 24:00	6.74	Awaited
2	4	01.04.2023 to 30.06.2023	00:00 to 24:00	6.76	
3	4	01.07.2023 to 30.09.2023	00:00 to 24:00	6.76	
4	4	01.10.2023 to 31.01.2024	00:00 to 24:00	6.47	
5	3	01.02.2023 to 31.03.2023	09:00 to 19:00	-	
6	3	01.04.2023 to 30.06.2023	09:00 to 19:00	-	
7	3	01.07.2023 to 30.09.2023	09:00 to 19:00	-	
8	3	01.10.2023 to 31.01.2024	09:00 to 19:00	-	
9	3	01.03.2023 to 31.03.2023	00:00 to 24:00	7.5	
10	3	01.04.2023 to 30.06.2023	00:00 to 24:00	-	
11	3	01.07.2023 to 30.09.2023	00:00 to 24:00	-	
12	3	01.10.2023 to 31.01.2024	00:00 to 24:00	-	
13	3	01.03.2023 to 31.03.2023	09:00 to 19:00	-	
14	3	01.04.2023 to 30.06.2023	09:00 to 19:00	-	
15	3	01.07.2023 to 30.09.2023	09:00 to 19:00	-	
16	3	01.10.2023 to 31.01.2024	09:00 to 19:00	-	
BSES/Short/22-23/RA/198					
1	200	01.04.2023 to 15.04.2023	00:00 to 24:00	8.4-8.751	Awaited
2	200	16.04.2023 to 30.04.2023	00:00 to 24:00	8.4-8.751	
3	300	01.05.2023 to 15.05.2023	00:00 to 24:00	8.4-8.5	
4	350	15.05.2023 to 31.05.2023	00:00 to 24:00	8.4-8.751	

5	500	01.06.2023 to 15.06.2023	00:00 to 24:00	7.38-7.8	
6	500	16.06.2023 to 30.06.2023	00:00 to 24:00	7.53-7.8	
7	500	01.07.2023 to 15.07.2023	00:00 to 24:00	6.92-7.3	
8	350	16.07.2023 to 31.07.2023	00:00 to 24:00	6.99-6.994	
9	300	01.08.2023 to 15.08.2023	00:00 to 24:00	6.98-6.984	
10	300	16.08.2023 to 31.08.2023	00:00 to 24:00	6.82-6.824	
11	350	01.09.2023 to 15.09.2023	00:00 to 24:00	6.93-6.934	
12	150	16.09.2023 to 30.09.2023	00:00 to 24:00	6.99	
CSPDL/Short/22-23/RA/195					
1	300	01.04.2023 to 30.04.2023	00:00 to 07:00	11.36	Awaited
2	300	01.04.2023 to 30.04.2023	15:00 to 24:00	11.2	
3	100	01.04.2023 to 30.04.2023	00:00 to 24:00	8.34	
4	100	01.05.2023 to 31.05.2023	00:00 to 05:00	8.76	
5	100	01.05.2023 to 31.05.2023	23:00 to 24:00	9.8	

IEX Price Trends





Weather (Estimated for next fortnight)

City	Max Temp	Min Temp	Precipitation (Probability)
DELHI	22	7	1%
MUMBAI	32	21	2%
KOLKATA	26	13	5%
CHENNAI	30	21	7%

(Source - Accuweather)

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