

POWER MARKET CAPSULE-223rd Edition

Issue no: 223rd –20th June 2023

TPTCL'S E-NEWS LETTER



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Tata Power Trading Company Limited (TPTCL)



Power Market News

One Nation, One Grid, One Price | India set to introduce market coupling in electricity trade

The government has given its approval to introduce market coupling in the electricity sector, which will result in uniform prices for power across multiple exchanges. The Union Ministry of Power has written to the Central Electricity Regulatory Commission (CERC) asking it to initiate the process of market coupling across the country's power exchanges. Under market coupling, buy and sell bids from all power exchanges in the country will be aggregated and matched to discover a uniform market clearing price (MCP). In the long-term, the measure is likely to also help in keeping power tariffs affordable in the country, apart from ensuring quick access.

"I am directed to say that several stakeholders have approached the Ministry of Power on the subject of market coupling in the context of multiple power exchanges. The Ministry of Power has decided to go ahead with the process with the approval of the Minister of Power and New and Renewable Energy. Therefore, the process for implementation of market needs to be initiated," read the letter sent by the Power Ministry to the CERC on June 2.

The CERC will now create a paper on the matter, which will be followed by stakeholder consultations. At present, power prices or MCPs are different in the three power exchanges that India has - Indian Energy Exchange Limited (IEX), Power Exchange India Limited (PXIL) and Hindustan Power Exchange Limited (HPX). The development is seen as a setback to IEX, which currently enjoys a monopoly status with a 90 percent share in the electricity market.

Following the development, shares of IEX tumbled more than 8 percent in the last 30 minutes of trade on June 8 as the news of market coupling spread. This is because once market coupling is implemented, it will ensure liquidity across all power bourses. At present, IEX has significantly higher liquidity compared to PXIL and HPX because of which the latter two are less opted for.

The move is a step towards the government's intention to shift India's electricity trading from long-term (25 years) power purchase agreements (PPAs) to electricity markets (exchanges) and shorter PPAs of up to 12-15 years. A senior Power Ministry official said that market coupling is also a step towards implementing the Market-Based Economic Dispatch (MBED) mechanism. The MBED mechanism envisages centralised scheduling for dispatching the entire yearly consumption of electricity of around 1,400 billion units.

It proposes centralized scheduling of power dispatches both at the inter-state and intra-state levels. Besides, market coupling will also pave the way for the implementation of electricity derivatives in the market. Some states have objected to the MBED mechanism as they feel it will infringe on their autonomy over the electricity sector, which as per the Constitution is a concurrent subject.

CERC in February 2021 had issued the Power Market Regulations 2021, whose Part-5, Regulation 37 contains enabling regulations for the implementation of market coupling in power markets in India. Prabhajit Sarkar, former managing director and CEO of PXIL said market coupling would require designating an agency as the Market Coupling Operator (MCO), which in all likelihood is going to be Grid-India. He said the entire process, including any market-wide consultation, should not take more than six months.



"The MCO will put in place all processes and formats such that power exchanges (PX) obtain bids/orders from clients in similar formats and pass them to the MCO with client-specific information masked, procedure for MCO to declare results and formats and procedures for inter-PX information exchange for scheduling of power and clearing and settlement of financial dues," Sarkar said. The MCO will also have to ensure that deposits and payment securities kept with any one exchange be granted fungibility, such that they can be used as collateral for placing bids/orders on any other exchange with due emphasis on superior risk management practices.

"The participants now no longer need to be beholden to only one exchange, which hitherto due to the market structure issue had the benefit of getting all the liquidity. With greater competition amongst exchanges and market platforms, the levels of service, access and most importantly cost of access in the form of transaction fees should come down making the market efficient. The true benefit of competition would finally be available to all market participants," Sarkar said.

Naveen Singh, head, business development, HPX said the move is going to help reduce power tariffs in the long-run. "We are confident that the CERC would soon come up with the necessary regulatory framework to ensure its implementation at the earliest. This will give a fillip to the service levels in the power market, ensure better transparency and uniform price discovery across exchanges. It is also expected to bring down the power tariff in the country significantly," he said. [Source](#)

Electricity grid, rig operators race to minimize cyclone hit

As cyclone Biparjoy heads for landfall on the Gujarat coast on 15 June, power grid and oil rig operators in the region are rushing to minimize the impact on their operations. A top official with a power transmission company, who did not want to be named, said that stakeholders in the power segment are prepared and are following the standard operating procedure for such events as directed by the Central Electricity Authority (CEA) and National Disaster Management Authority (NDMA).

Power transmission companies including state-run Power Grid Corp are in touch with the Union ministry of power over the required preparedness, said people in the know. Oil producers including state-run ONGC having rigs in the Arabian Sea are also preparing for the landfall of the cyclone. "We are evacuating the non core personnel from the drill ships in Arabia sea," said an ONGC official.

The power ministry in a statement said that Power Grid is closely monitoring the weather conditions and its transmission system regularly, and 24X7 control rooms have been set up at Manesar and Vadodara. The ministry also said that the National Load Despatch Centre (NLDC) is continuously monitoring the grid supply for variations in load or generation to take timely action to ensure stable operation of the grid and also for alternative supply through other transmission lines in the best possible manner.

The Indian Coast Guard evacuated 50 personnel from an oil rig off Gujarat's coast named 'Key Singapore', which is owned by Dubai-based Shelf Drilling and is working for Cairn Oil & Gas. Acknowledging the rescue efforts, the ministry of petroleum and natural gas tweeted: "Splendid teamwork by @IndiaCoastGuard @DghIndia & @IndianOilcl in evacuating 50 personnel from Key Singapore, a Vedanta Oil Rig, off Dwarka Coast. More than 12 sorties through #CycloneBiparjoy shows commitment of @DefenceMinIndia safeguarding citizens always #CycloneBiparjoy."

The rescue efforts and preparedness gain significance after 86 workers in the Arabian Sea died during Cyclone Tauktae in May 2021, leading to suspension of three officials of ONGC. Mrutyunjay Mohapatra, director-general of India Meteorological Department (IMD) told reporter that Biparjoy may cause extensive damage and it is likely to impact Kutch, Devbhoomi Dwarka, and Jamnagar the most. The



cyclone could lead to extremely heavy rainfall (over 20 cm) at isolated places in Kutch, Devbhoomi Dwarka and Jamnagar districts.

Biparjoy is predicted to cross Saurashtra and Kutch coasts between Mandvi and Karachi near the Jakhau Port (Gujarat) on 15 June as a very severe cyclonic storm with a maximum sustained wind speed of 125-150 kmph. [Source](#)

Power outages grip states amid scorching heat

Several states, including Uttar Pradesh, Punjab, West Bengal, and Odisha, have been grappling with severe power outages because of soaring temperatures and the resulting surge in power consumption. Parts of the national capital have also seen frequent power cuts, although officials attribute it to local faults. After a relatively mild May due to unseasonal rains, temperatures have soared since the start of June, leading to a significant surge in power demand. On 9 June, the peak power demand reached a record 223GW, resulting in a peak shortage of 189MW. Last year's record stood at 216GW.

The latest data from the Grid Controller of India shows that on Monday, 13 June, the peak power demand rose to 218.67GW, with a peak shortage of 385MW. The peak demand was logged at 2.45pm, the data showed. The peak power demand is expected to hit 230GW this year. In Delhi, power demand surpassed the 7GW mark as it touched 7,098MW at 3.29pm. An official with BSES, a discom, said in the areas operated by its subsidiaries, BSES Rajdhani Pvt. Ltd (BRPL) and BSES Yamuna Pvt. Ltd (BYPL), the peak power demand clocked was 3,103MW and 1,615MW, respectively, which the units successfully met.

The discom official, who did not want to be named, said that BSES discoms are geared up to ensure reliable power supply to meet the power demand of 20 million residents in Delhi. "These arrangements include long-term power purchase agreements (PPAs) and banking arrangements with other states, including Tamil Nadu, Kerala, Meghalaya, Himachal Pradesh, and Uttarakhand. BSES discoms will get up to 630MW (BRPL up to 330 MW, BYPL up to 300 MW) of power through banking arrangements," the official said.

Further, BRPL will also procure up to 500MW through bilateral contracts. In case of any unforeseeable contingency, BSES discoms would buy short-term power from the exchange, depending on the time slot. According to the latest outage report released by BRPL for 6 June, most of the instances of power outages in the city ranging up to an hour were because of tripping, local cable and transformer faults and other issues. However, about six instances of planned shutdowns were reported for 1-3 hours on that day.

Residents of Ghaziabad and Gautam Buddh Nagar in the national capital region (NCR) are also witnessing hours-long power cuts. Residents in Delhi-NCR have been venting their anger on the outages on social media. In April, Delhi power minister Atishi directed officials to resolve every minor issue faced in electricity distribution to ensure there are absolutely no outages across the city. Experts said that the power demand in the country is likely to ease in the coming days after the arrival of the monsoon. Demand is already easing in the southern states where rains have set in, and the outages are largely an issue in the northern states currently.

"Coal availability is not an issue this year. Power plants have a stock of 13 days on average. Gencos (power generating companies) in few states may have a lower coal inventory compared to the national average," said Vikram V., vice-president and sector head of corporate ratings at Icra Ltd. The central



government has tried to ensure adequate availability of domestic and imported coal this year to avert a crisis situation as was witnessed last year.

The power ministry directed all imported coal-based power plants to operate at full capacity till September in the wake of the surging power demand. In February, the ministry invoked Section 11 of the Electricity Act with effect from 16 March for three months. The order is valid till 15 June. The extension comes against the backdrop of peak power demand in the country touching a new record. Earlier this year, the ministry had directed 6% blending of imported coal by power producers till September. [Source](#)

Delhi power demand surpasses 7,000 MW, first for this season

With the mercury rising, the power demand in Delhi surpassed the 7000 MW mark and clocked 7098 MW. IN BRPL (BSES Rajdhani Power Limited) and BYPL (BSES Yamuna Power Limited) area, the peak power demand today clocked 3103 MW and 1615 MW respectively and was met successfully.

BSES officials said that their discoms are geared-up to ensure reliable power supply to meet the power demand of about two crore residents in South, West, East and Central Delhi. These arrangements include long-term PPAs and banking arrangements with other states including Tamil Nadu, Kerala, Meghalaya, Himachal Pradesh, and Uttarakhand. BSES discoms will get up to 630 MW (BRPL up to 330 MW, BYPL up to 300 MW) of power through banking arrangements, they said. According to the data provided by the State Load Dispatch Centre (SLDC), the power demand touched 7098 MW at 3:29 pm.

This month Delhi's peak power demand has seen huge variations. It has increased from 4390 MW on June 1 to today's high, an increase of 2708 MW or 61 per cent. Last year in June, there were nine such occasions when Delhi's power demand exceeded 7000 MW, with June 29 setting an all-time high record of 7695 MW. Additionally, June 2022 saw the power demand crossing the 6000 MW mark on 11 occasions and the 5000 MW mark on eight occasions.

In 2018, the peak power demand breached the 7000 MW mark for the first time, reaching a peak of 7016 MW. The expected peak power demand of around 8100 MW in the present year represents an increase of approximately 280 per cent compared to the peak power demand of 2879 MW recorded in 2002. BSES officials said green power will play an important role in ensuring reliable power during the summer months in the BSES area.

They said this includes around 888 MW of solar power from SECI, 486 MW of wind power, and 40 MW from waste-to-energy. BSES efforts in ensuring reliable power are also being helped by 130 MW+ of rooftop solar installed on roof-tops in South, West, East and Central Delhi, they said. BRPL will also procure up to 500 MW through bilateral contracts, the officials said. They said in case of any unforeseeable contingency, BSES will buy short-term power from the exchange, depending on the time slot. There is also use of advanced loadforecasting statistical and modelling techniques, which use Artificial Intelligence and Machine Learning to help the discom accurately forecast the power demand, they added. [Source](#)

Discom losses need urgent systemic fixes

India has announced aggressive decarbonisation plans to meet Prime Minister (PM) Narendra Modi's pledge of net-zero carbon emissions by 2070; many of these plans — especially short-term actions — are tied to the power sector. While India has achieved success in expanding renewable energy supply, such as wind and solar power, a persistent challenge has been electricity distribution companies (discoms), the last leg in the chain of electricity. Most of these in India are owned by state governments, and persistently suffer from high losses, both of energy and financially.



Discoms are regulated entities in India, with almost all consumer prices set by independent state electricity regulatory commissions, in theory, they should not be loss-making, unless they fail to perform.

Because discoms are regulated entities in India, with almost all consumer prices set by independent state electricity regulatory commissions, in theory, they should not be loss-making, unless they fail to perform. And while they do have high aggregate technical and commercial (AT&C) losses, a pair of unique financial studies at the Centre for Social and Economic Progress (CSEP) shows that discom non-performance is not the root cause of their financial losses. The problem is more complex and systemic.

Even defining and measuring losses isn't straightforward. Most government (and discom corporate) accounting is accrual-basis, which measures money as booked. In contrast, we focus on cash-basis accounting, which focuses on money as received. Obviously, this paints a far direr picture of losses. Over 15 years through FY2021, public discoms were found to have suffered a cash-basis loss of ₹10 lakh crore.

If we examine the losses on a per kilowatt-hour (kWh) or per-unit basis, we get a very stark picture. In addition to cash-basis accounting, we normalise losses based on the units sold, instead of the gross units coming into the discom, like the Power Finance Corporation (PFC) does. This is the reason the government found a gap of 0.46 ₹/kWh in FY21 for public utilities, while we calculate a gap of 1.14 ₹/kWh-sold. This translates into a gap of 14.4% compared to the costs.

Regulators stipulate operational targets for discoms, and based on these, they set consumer tariffs (retail prices) to cover projected costs. So, what could be responsible for discom losses? For starters, they could operate their network inefficiently or have high theft. This leads to a "billing loss" – which compares the energy discoms buy from generators with what they sell to consumers. Second, discoms could bill the consumer, but the consumer may fail to pay. This is a collection loss. A third collection loss comes from the state government not paying promised subsidies on time, such as for agricultural or household consumers. The fourth factor is when regulators purposely set an insufficient tariff that is not cost-reflective, ostensibly to prevent a tariff shock to consumers. This creates what is known as a "regulatory asset" on the balance sheet of discoms, to be recovered in the future. Like subsidy nonpayment issues, this is also concentrated only in a few states.

Each of the four causes need different fixes. Billing losses in FY21 were 16.4% compared to an average target of 12.9%. Thus, this loss is modest. Reducing billing losses after a point (once stark theft is addressed) isn't just about political will or managerial efficiency but will require network upgrades.

Consumer collection losses need focused effort and would benefit from smart metres. A large fraction of non-payments, maybe over a third, are from governmental users. Fixing subsidy non-payment requires fiscal propriety by states, and the same goes for regulators. But even if all four problems identified were fixed, our research found that discoms would still face massive financial losses of tens of thousands of crores per year. Shockingly, adding up all the above components explains only about 40% of accumulated losses. Our research found that there is a massive residual gap of some ₹5.9 lakh crore, or around 60% of the total losses, that cannot be attributed to any specific stakeholder, i.e., discoms, state governments, or regulators. This comes from systemic failures.

The financial gap has enormous ramifications for discoms. Weak cash flows, with dues or receivables from consumers, lead to coping mechanisms such as discoms also failing to pay their own suppliers, including generators. Such payables topped ₹5 lakh crore in FY21, and are a reason most power plants cite discom risk as their biggest worry. In addition, because discoms are cash-strapped, they also have to secure extra funding in the form of both debt and equity. This problem is worsening over time, though the government has taken laudable steps in the last year to resolve generator payables by discoms.



What causes the residual gap? This is a complex issue we will cover in a companion article. However, for some discoms, the residual gap is either non-existent, meaning they have appropriate tariffs, or there is another factor out of the four listed above that dominates the losses. Thus, each discom will need to focus on a different problem. However, the larger problem of residual losses remains. Lowering AT&C losses is important as it will lower consumer costs, but its impact on discom balance sheets only applies towards any excess losses beyond the targets. With the energy transition upon us, we have to fix discoms as soon as possible. [Source](#)

Power Min asks imported coal-based plants to run at full capacity till Sept 30

The Ministry of Power extended the time period of its direction to all thermal plants using imported coal to operate at full capacity by three-and-a-half months till September 30 to avoid electricity shortage amid rising demand in the country. Peak power demand met or the highest supply in a day touched a record high of 223.23 GW on June 9, 2023. A power ministry notice shot off on Monday to 15 imported coal-based thermal power projects, stated: "It has now been decided to extend the time period for Section 11 to imported coal-based generators up to September 30, 2023."

Earlier in February, the ministry asked these imported coal-based plants to operate at full capacity from March 16, 2023, to June 15, 2023, invoking Section 11 of the Electricity Act 2003 to avoid any outage due to a sudden rise in power demand. Peak power demand was estimated to touch a record high of 229GW during this summer. However, unseasonal rains affected the demand as people used fewer cooling appliances like air conditioners which guzzle electricity.

The 15 imported coal-based (ICB) power plants include Tata Power and Adani Power's plants in Mundra in Gujarat; Essar power plant in Salaya; JSW Ratnagiri; Tata Trombay; Udupi Power; Meenakshi Energy; and JSW Torangallu. The country's peak power demand is estimated to touch 230GW in 2023. In December 2022, Union power secretary Alok Kumar had said that the government will take all possible measures to meet the 230 gigawatt (GW) single-day peak demand.

The ministry's notice issued to imported coal-based (ICB) plants in February noted that in the likely scenario of a gap in the demand and supply of domestic coal and essential requirement of maintaining coal stock at generating stations, the use of imported coal needs to be increased by way of blending with the domestic fuel in domestic coal-based plants and also by ensuring optimum generation from ICB plants.

This will ease the pressure on domestic coal supply and also ensure that all the plants are available during the peak demand period, it had noted. The ministry has provided for pass through of higher cost of imported coal as well as the provision of sale of excess power in exchanges. Besides, this year a new segment of High Price-Day Ahead Market was also launched to facilitate ICB plants, gas-based plants and battery energy storage projects to sell power at a price of up to Rs 50 per unit at exchanges. [Source](#)

India's Power Sector Transformation: A Journey Towards Sustainable Energy and Universal Access

India's power sector has undergone a remarkable transformation, aimed at providing reliable, affordable, and sustainable energy to its people. Over the last 9 years, significant strides have been made in enhancing power generation capacity, expanding access to electricity, promoting renewable energy, and implementing innovative policies. Here we explore the inspiring achievements and transformative initiatives that have propelled India's power sector to new heights.

India's journey towards a greener future has gained global recognition. With the addition of over 175 GW of generation capacity in the past nine years, India has transitioned from a power deficit to a power



surplus nation. The country's commitment to renewable energy sources has played a pivotal role in achieving this feat. The remarkable growth of solar and wind energy capacity has cemented India's position as a global leader in renewable energy adoption. Today, India stands 4th globally in Renewable Energy Installed Capacity, with 43% of its total installed electricity capacity coming from non-fossil energy sources.

India's commitment to power generation and universal electrification has been a driving force behind its transformation. The Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA) initiative stands tall as a symbol of success, achieving universal household electrification, covering every village and district in the country. This ambitious program has provided electricity connections to 2.86 crore unelectrified households since September 25, 2017, both in rural and urban areas. The International Energy Agency (IEA) has called this the fastest expansion of access anywhere in the world in the history of power. The availability of power in both rural and urban areas has significantly increased, with rural areas experiencing a rise from about 12 hours per day in 2014 to 22.5 hours per day currently, and urban areas enjoying nearly 24 hours of power availability.

To improve the quality and reliability of power supply in rural areas, DeenDayal Upadhyaya Gram Jyoti Yojana (DDUGJY) was launched in 2014. The DDUGJY program achieved 100% village electrification on April 28, 2018, by electrifying 18,374 un-electrified villages, strengthening the distribution network and ensuring electricity reaches every corner of rural India.

The government's efforts in promoting energy efficiency have also yielded remarkable results. Under the Unnat Jyoti by Affordable LEDs for All (UJALA) scheme, the procured price of LED bulbs decreased by almost 90% between 2014 and 2019, from Rs. 310 to Rs. 39.90. So far, over 36.86 crore LED bulbs have been distributed under this scheme. This initiative not only brought down electricity costs for households but also encouraged domestic manufacturing of LED bulbs, supporting the "Make in India" campaign. As a result, India has witnessed widespread adoption of energy-efficient lighting solutions, contributing to reduced energy consumption and a greener environment.

To enhance the efficiency of power distribution, the government has implemented initiatives like the Restructured Distribution Sector Scheme (RDSS). The RDSS has significantly reduced distribution losses of DISCOMs, from 21.5% in FY 2020-21 to 16.5% in FY 2021-22. These initiatives focus on reducing technical and commercial losses, improving metering and billing systems, and promoting energy efficiency. The integration of smart grids, advanced metering infrastructure, and demand response mechanisms has enhanced grid stability and allowed consumers to actively manage their energy consumption.

The transformation of India's power sector since 2014 is a remarkable story of progress and resilience. With achievements like universal electrification, rapid expansion of renewable energy, improved distribution, and enhanced energy efficiency, India has set an inspiring example for the world. The commitment of the Government of India, coupled with the participation of stakeholders, has propelled the nation towards a future powered by sustainable, affordable, and reliable energy. As the journey continues, sustained investments, innovation, and collaboration will be key to further strengthening India's power sector and ensuring a brighter, more prosperous tomorrow for all its citizens. [Source](#)

IEX achieves overall trading volume of 8,251 MU in May

Indian Energy Exchange (IEX), the country's leading energy exchange, reported significant trading volumes and declining prices during May 2023. The exchange recorded an overall volume of 8,251 MU, including green market trade of 358 MU, 1.42 lakh RECs (equivalent to 142 MU), and 2.02 lakh ESCerts (equivalent to 202 MU). Compared to the previous year, the overall volume increased by 8 percent on a year-on-year basis (YoY).



Average price in May 2023 was Rs 4.74 per unit

The average price in May 2023 was Rs 4.74 per unit, marking a 30 percent YoY decline from Rs 6.76 per unit in May 2022. The price decrease can be attributed to an improving supplyside scenario, which resulted in increased liquidity, as well as cooler weather conditions.

Supply-side liquidity is anticipated to improve further

With an expected increase in power demand in the upcoming months, supply-side liquidity is anticipated to improve further due to enhanced coal supply, reduced e-auction coal prices, and consistently declining imported coal and gas prices. These factors are expected to lead to competitive prices and higher clearance for Distribution Companies (Discoms) and Open Access consumers.

According to data published by GRID-INDIA, the country's energy met during May 2023 stood at 136.5 BU, showing a marginal one percent increase YoY. IEX recently introduced the Tertiary Reserve Ancillary Services (TRAS) Market Segment for Day-Ahead Market Ancillary Services (DAM-AS) and Real-Time Market Ancillary Services (RTM-AS) from June 1.

Day-Ahead Market

In the Day-Ahead Market (DAM), the trading volume increased to 4,066 MU in May 2023, a 26 percent YoY growth compared to 3,224 MU in May 2022. The average market clearing price during the month was Rs. 4.74 per unit, representing a 30 percent decrease from the corresponding month last year.

Real-Time Electricity Market

The Real-Time Electricity Market (RTM) achieved its highest-ever monthly volume of 2,424 MU in May 2023, recording a 13 percent on month-on-month (MoM) and 5 percent YoY growth. The segment attracted participation from 719 participants during the month, reflecting its increasing acceptance among distribution utilities and industries for real-time power demand-supply balancing.

Term-Ahead Market

The Term-Ahead Market (TAM), which includes intra-day, contingency, daily, and weekly contracts, and contracts up to three months, traded 1,058 MU in May 2023, an 11 percent YoY decline.

Green market

In the IEX Green Market, comprising the Green Day-Ahead and Green Term-Ahead Market segments, a total volume of 358 MU was achieved in May 2023, showing a 28 percent MoM growth. This market segment plays a crucial role in integrating renewable energy sources to support India's sustainability targets.

G-DAM achieved a volume of 199 MU

During May 2023, the Green Day-Ahead Market (G-DAM) achieved a volume of 199 MU, with a weighted average price of Rs 5.20 per unit. The market saw participation from 181 market participants throughout the month. Additionally, the Green Term-Ahead Market (G-TAM) traded 158 MU, with average monthly prices of Rs 3.47 per unit for Solar, Rs 5.43 per unit for Non-Solar, and Rs 5.14 per unit for Hydro.

Court's decision to lift suspension on RECs resulted in addl REC inventory

The RECs, which were cleared at a price of Rs 899 per REC, experienced an increased availability due to an order passed by the Honorable Delhi High Court on May 11. The court's decision to lift the suspension on trading RECs issued prior to October 31, 2022 resulted in the availability of additional REC inventory, boosting trading activities in the market. The successful trading session not only signifies



a positive development for the renewable energy sector but also encourages the fulfillment of India's sustainable energy goals.

Next REC trading session at the IEX is scheduled to take place on June 28

Looking ahead, the next REC trading session at the Indian Energy Exchange is scheduled to take place on Wednesday, June 28, providing further opportunities for stakeholders to participate in the renewable energy market and contribute to India's green transition.

IEX also facilitated trading of 2.02 lakh ESCerts during May

In addition to RECs, the IEX also facilitated the trading of 2.02 lakh ESCerts during May. These certificates, equivalent to 202 MU, were traded at a floor price of Rs 1,840 per ESCert. The trading of ESCerts showcases the commitment of market participants towards energy conservation and incentivises energy-saving practices across industries. [Source](#)

Power Exchange Prices Likely To Remain Competitive For Next 10 Months: IEX

The Indian Energy Exchange (IEX) claimed that with the global fuel prices coming down and other favourable conditions, the clearing prices in Indian power exchanges are likely to remain competitive for the next few months, unlike 2022-23. SN Goel, Chairman, and Managing Director of IEX, claimed that the trend would likely prevail for the next ten months.

The projections were discussed during IEX's media interaction in New Delhi. It was presided by Goel and Rohit Bajaj, Head-Business Development of IEX. Goel said that power prices at energy exchanges in India were higher last year due to escalated gas and imported coal prices, besides higher e-auction coal prices. He said it was also due to other geopolitical disruptions like the Ukraine war. He also claimed that the e-auction prices of coals in India witnessed a 300 percent rise last year.

"Last year, the average clearing price of power at IEX was Rs 5.96 paisa per unit, a 36% increase from the average price in FY 22. It was due to an increase in demand and supplyside constraints. The liquidity in the market is good now. In the first two months of May and April this year, the average clearing price at IEX was about Rs 5 per unit, 40 percent less than in the same months of 2022. If the same trend continues, the clearing prices at IEX will likely remain competitive for the next ten months. It will allow discoms and open access consumers to get a good deal during the period to trade power through IEX," Goel told reporters.

Goel also gave a report card of the growth of IEX in the last few years. "We traded 2 billion units in 2009, and last year were able to trade 100 billion units, indicating our capacity additions. Till now, IEX has witnessed trading of 700 billion units in the last 15 years with a CAGR of 30 percent since inception. We have around 90 percent share of power trading through exchanges among the three power exchanges. In addition, we have a 100% share in the collective segment, which includes the day-ahead market and Real Time Market," Goel said.

He also added that there are 7,500 participants at IEX. It included 4,500 industrial consumers, 600 registered generators, 58 discoms, and 1,500 renewable energy participants. He also said that IEX started with a single product-Day-Ahead Market in 2008, but now it has around 14 products to offer. Bajaj, meanwhile, shared more insights into the growth of IEX and power exchanges in India. He said that reports indicate that most power transactions in India happen through PPAs. Power exchanges in India have a market of 7 percent now but are on a growing chart.

He said that since 2018 its share has increased with a CAGR of 7 percent. He claimed that many renewable producers with surplus power and even several discoms are now opting for power exchanges due to lesser obligations and more flexibility in power transactions. IEX also said that it is already trade power with countries like Bhutan and Nepal and all set to start the services for Bangladesh too. [Source](#)



Number theory: Understanding the political economy of free electricity

The provision of 200 units of free electricity played an important role in the Congress's victory in Karnataka. Therefore, it is not surprising that the Congress government in Rajasthan has now announced 100 units of free power – a decision taken months before the state goes to polls. Of course, the Congress is not the only party making promises of cheap power to the electorate. This trend, a key component of successful poll campaigns by the Aam Aadmi Party in Delhi and Punjab, has been gaining ground even at a time when power sector losses continue to be a major strain on state finances in India. What is the larger political economy of this issue? Here are five charts that explain this in detail.

Analysis of data from the Union power minister's UDAY portal shows that Karnataka power distribution is also the most profitable in the country.

1. Karnataka and Rajasthan had among the highest power tariffs...

An HT analysis of data on domestic urban power tariffs for various states and Union territories (UTs) shows that these vary significantly across states. While Karnataka had the sixth highest rate, Rajasthan had the third highest tariff rate for 200 units of electricity in 2023.

Another way to look at the burden of electricity bills on voters is to look at it as a share of monthly per capita GSDP in nominal prices. This number for Karnataka was the 10th highest while Rajasthan stands at the fifth highest position among the 21 states for which both monthly state tariff data and per capita state domestic product data for 2021-22 are available.

What explains such a large variation in power tariffs across states? Ashwini Swain, fellow at the Centre for Policy Research, lists three major factors - availability of coal in the state (central and eastern regions of the country have an advantage here), cost of transporting fuel, and life cycle of existing power plants.

2. But Karnataka's power distribution is also the most profitable in the country

As is to be expected, the pricing of power plays a crucial role in the profitability, or lack of it, of power distribution within states. Analysis of data from the Union power minister's UDAY portal shows that Karnataka was the best performer on this count in 2022-23, with its average revenue realisation and average cost of supply (ARR-ACS) gap being the highest among all states and UTs.

Unless the new state government compensates power distribution companies for the cheaper electricity it has promised to provide, Karnataka is bound to witness a worsening of the fiscal health of its power sector, which will ultimately become a strain on state finances. This logic holds for all other states promising free power as well. There are no free lunches here.

3. To be sure, higher power tariffs do not guarantee profitability of power distribution

A simple comparison of power tariffs and the ARR-ACS gap across states makes it clear that there is no significant correlation between power tariffs and the fiscal health of the power sector across states. While Karnataka and Maharashtra have profitable power distribution and higher power tariffs, states such as Bihar, Rajasthan and Assam had loss-making power sectors despite high tariffs. Rajasthan ranked in 20th position in terms of profitability among the 25 states for which data is available.

4. This is why it is important to understand the reasons for power sector losses

The profitability or lack of it of a power distribution company (discom) is dependent on multiple factors. Let us look at them one by one. Billing efficiency is the share of energy that has been billed to consumers in total energy which has been supplied to an area. This number will be lower for an area which has a problem with power theft which leads to unmetered consumption of electricity. Collection



efficiency is an indicator of the proportion of the amount that has been collected from consumers with respect to the amount billed to them. This number will be lower if consumers do not pay their power bills. While collection efficiency has increased significantly over the years, billing efficiency continues to lag, emerging as a major source of discom losses. Discom losses are also rooted in factors other than billing and collection efficiency. This is why it is important to look at the aggregate technical and commercial loss (AT&C Loss) metric for discoms. AT&C Loss is a combination of energy loss (technical loss, billing inefficiency, theft during the transmission etc.) and commercial loss (collection insufficiency and default in payment). During the last decade, India has shown a considerable reduction in AT&C Losses. AT&C Losses improved to 16.5% in FY22, almost 5 percentage points lower than FY21 and 3 percentage points lower than FY20 levels. However, it still remains below the desired range of 12-15%. [Source](#)

CEA Notifies National Electricity Plan, Hints At India's Energy Transition

The Central Electricity Authority (CEA), after much deliberations over the draft National Electricity Plan (NEP), today notified the latest National Electricity Plan (Volume I Generation). The NEP represents a detailed plan for 2022-27 and a perspective plan for 2027-32.

The report gave a sneak peek at the future of India's electricity sector. The government document has projected an escalation of the share of non-fossil fuel energy in India's total energy mix in the next one decade. It also talked about a decline in the addition of new coal based electricity at par with clean energy upsurge during the period. CEA is mandated to prepare the NEP once in five years.

The latest NEP claimed that the peak electricity demand in India would rise from 203 Gigawatt (GW) in 2021-22 to 277.2 GW in 2026-27 and ultimately to 366 GW in 2031-32. It also estimated that the projected all-India electricity requirement would rise to 1907.8 Billion Units (BU) in 2026-27 and go up to 2473.8 BU in 2031-32.

The report said that India would also require additional capacity generation from different energy sources to cater to the rise of total electricity demand and the higher peak demand. The NEP document said that India would need an additional 211.8 GW of additional generation capacity during 2022-27 to meet the peak demand and electricity demand for 2026-27. The report said this could come from the projected 31.88 GW of conventional capacity (coal and nuclear) and 179.9 GW of renewable sources (including large hydro).

The NEP report said that based on the study results, India would achieve its target of 500 GW of non-fossil fuel energy by the end of 2029-30. But on the other hand, the report said that to cater to the peak demand and total energy demands for 2031-32, India would also require additional capacity addition between 2027-32.

Need for battery storage

As per the report, this is possible with 291.8 GW of additional energy from all available sources. It includes an addition of 32 GW of conventional energy and 259.72 GW of renewable energy (including hydro). "Based on generation planning studies carried out for 2027-32, the installed Capacity for the year 2031-32 is likely to be 900,422 MW comprising of 304,147 MW of Conventional capacity...and 596,275 MW of Renewable based Capacity...excluding 5856 MW of likely Hydro-based imports along with BESS capacity of 47,244MW/236,220MWh," the report said.

The report also said that Battery Energy Storage System (BESS) requirement in 2026-27 varied from 2.1 GW/8.4GWh to 22.8 GW/ 91.2 GWh across various scenarios considered. Furthermore, it is also seen that the BESS requirement in 2031-32 varies from 38.7 GW/193.55 GWh to 67 GW/335.2 GWh. [Source](#)



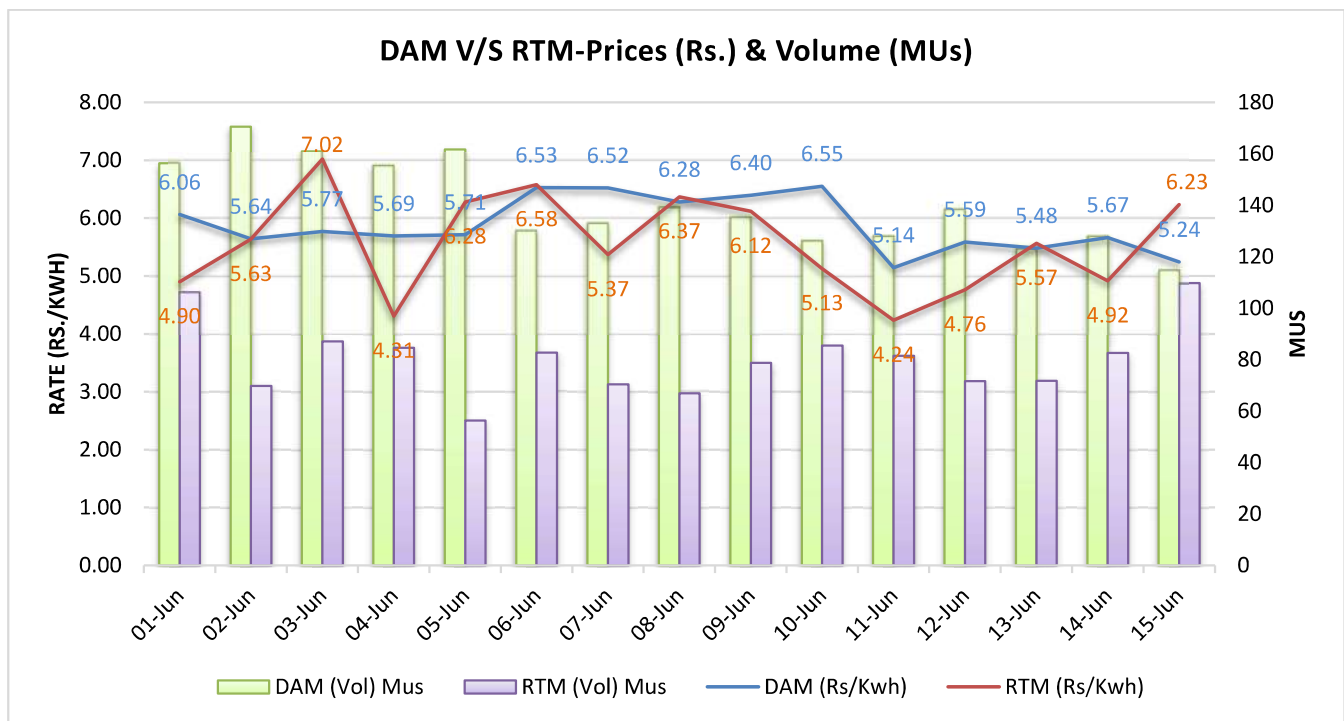
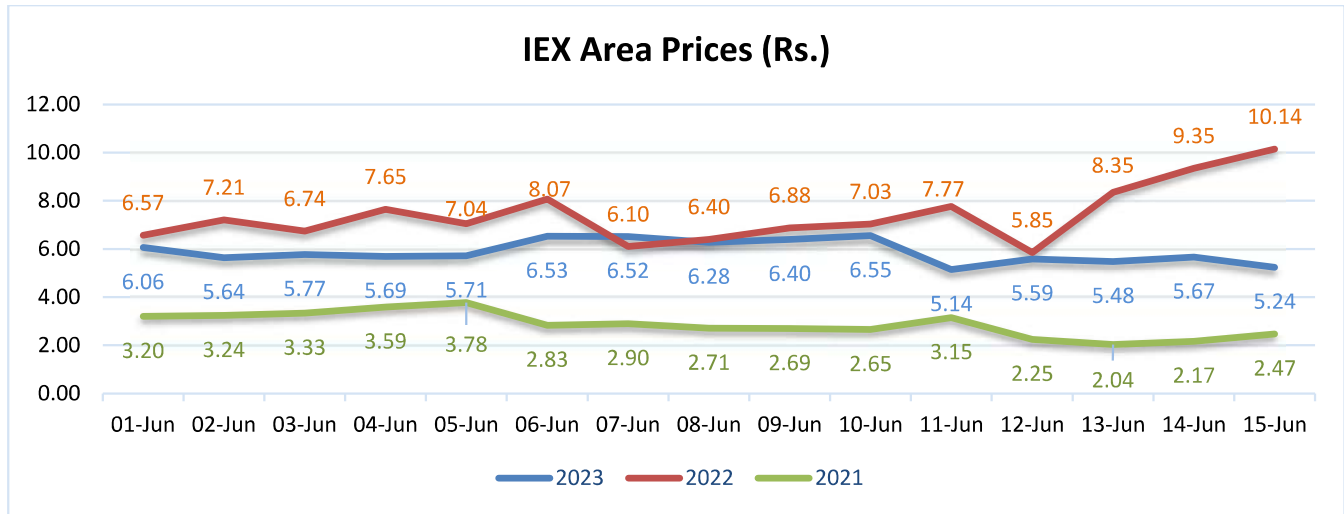
Transmission charges payable by DICs for the billing month of June 2023

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	46.68
2	UP	NR	50.79
3	Punjab	NR	46.35
4	Haryana	NR	56.54
5	Chandigarh	NR	42.42
6	Rajasthan	NR	50.38
7	HP	NR	41.76
8	J&K	NR	44.66
9	Uttarakhand	NR	49.55
10	Gujarat	WR	40.71
11	Madhya Pradesh	WR	46.52
12	Maharashtra	WR	54.36
13	Chhattisgarh	WR	38.99
14	Goa	WR	52.59
15	Daman Diu	WR	47.69
16	Dadra Nagar Haveli	WR	47.69
17	Andhra Pradesh	SR	62.24
18	Telangana	SR	54.20
19	Tamil Nadu	SR	57.70
20	Kerala	SR	62.06
21	Karnataka	SR	58.83
22	Pondicherry	SR	50.10
23	Goa-SR	SR	47.64
24	West Bengal	ER	54.15
25	Odisha	ER	50.75
26	Bihar	ER	44.41
27	Jharkhand	ER	47.56
28	Sikkim	ER	41.49
29	DVC	ER	46.29
30	Bangladesh	ER	36.81
31	Arunachal Pradesh	NER	41.83
32	Assam	NER	45.17
33	Manipur	NER	44.39
34	Meghalaya	NER	40.56
35	Mizoram	NER	43.29
36	Nagaland	NER	57.20
37	Tripura	NER	47.87



IEX Price Trends



Weather (Estimated for next fortnight)

City	Max Temp	Min Temp	Precipitation (Probability)
DELHI	35	28	40%
MUMBAI	30	27	77%
KOLKATA	35	28	58%
CHENNAI	33	27	39%

(Source - Accuweather)



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