TATA POWER

TATA

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TPTCL'S E-NEWS LETTER

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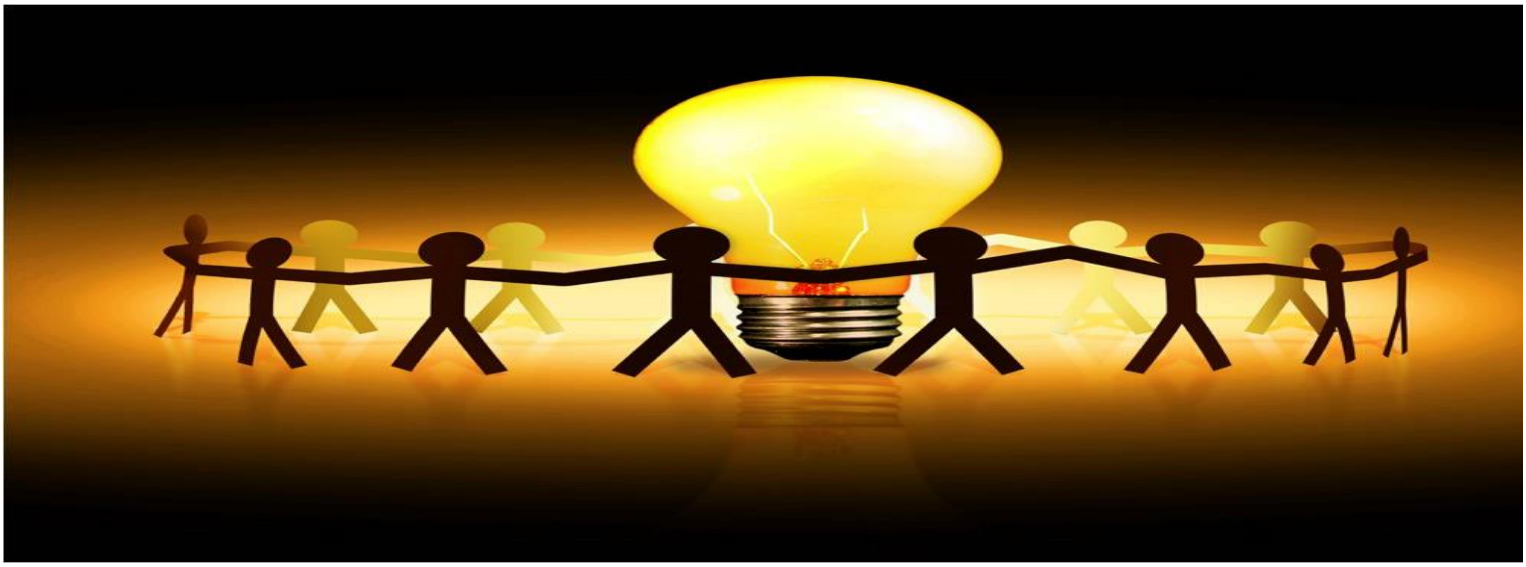
Tata Power Trading Company Limited (TPTCL)



Lighting up Lives!

Power Market News

Peak electricity demand projected to touch 215,000 MW this year

The government has asked generating companies to import about nine million tonnes of coal for blending at thermal power stations to meet the projected peak electricity demand of 215,000 MW this year as the economy is expected to rebound. In an interview, Union power secretary Alok Kumar said the electricity demand is increasing at a compound annual growth rate of 4.5% over 2018-19. “We are basing our projections on 2018-19 because that was found to be a normal year if we see the trend line. This year, it was expected that post-Covid19, the economy would rebound and accordingly, the demand also has increased.”

Kumar said they are expecting electricity demand to hit 2,05,000 MW in April. “between June and September, we are expecting the peak to touch around 2,15,000 MW.” The highest ever peak power demand was 200,570 MW at 12:01 hours on July 7, 2021. This year, that record is set to be broken, Kumar said. He added that ensuring adequate coal stocks at power stations will be a key challenge.

India has been facing a coal crisis, which aggravated between October and November last year due to extended monsoon and an increase in the demand for domestic coal because of expensive imported coal. The crisis triggered power supply issues in states such as Delhi, Maharashtra, and Gujarat, where distribution companies resorted to power cuts.

Kumar said coal stocks were not increasing at the pace as they had previously planned as demand has gone up. “This year too, dispatches are higher than the previous year, but simultaneously, the demand is also much more.” Kumar said high imported coal prices were also creating more pressure on domestic coal consumption. “We have given our electricity projections to the coal and railway ministries and they have promised that they will ramp up their coal production and dispatches.”

Kumar called it a challenging task because both coal and railway ministries have to ramp up their capacities. He added the railway ministry this year will also be increasing the number of rakes and wagons. Kumar said new tracks were also being laid for this purpose. “To avoid a situation, we faced in October last year, this time, we have also asked generating companies to import some coal for blending. So, we will have some cushion in case the demand is higher than the coal supply. This was not there last year. We are expecting around 8-9 million tonnes of coal to be imported by June end and that should see us comfortably through the monsoon.”

Kumar said India is not importing much coal for even the imported coal-based stations. “Imported coal is not being dispatched because their prices have gone up. The idea is to compensate for that much coal through blending. The general trend, however, is that we are reducing imports of coal,” Kumar said. He clarified it will be wrong to decide or claim that no new coal-fired thermal plants in India will be built apart from those that are under construction.

The Central Electricity Authority has projected that India will require around 255-260 GW of coal capacity by 2030. “We have coal-based power plants with a total capacity of around 30,000 MW under construction. Depending on the growth of renewable energy and growth of storage, we might require 8,000-10,000 MW more,” he said. Kumar added another 60,000 MW solar and wind power projects are under construction, while 10,000 MW more from hydropower is also expected. “In total, around 1,00,000 MW is under construction. Largely, it [upcoming power generation] will be from non-fossils.”

At the UN Climate Change Conference (COP26) in Glasgow in November, Prime Minister Narendra Modi pledged to cut India's carbon emission by 1 billion tonnes by 2030. The commitment also includes meeting 50% of India's energy requirements from renewable energy by 2030 and increasing non-fossil fuel power generation capacity to 500GW by the end of this decade. Modi also pledged net-zero emissions by 2070. Currently, 51.7% of India's power generation comes from coal-based power plants. Around 700 million tonnes of coal are used by power plants annually. ***Source***

Mr. R.K Singh highlighted the Journey of India's Power Sector

Union Minister of Power and New and Renewable Energy, Shri R K Singh highlighted the spectacular journey of India's power sector; from ensuring universal electricity access to becoming a global champion in Energy Transition & being the only major economy whose actions are consistent with the sub-2 degree rise in global temperature.

On Saturday, February 19, Shri Singh participated in a panel discussion of India Conference at Harvard themed 'Powering India's Energy Infrastructure: Technology, Investment, and Policy Perspective'

Discussing India's globally acknowledged fastest rate of economic growth, Minister Singh talked about his endeavours to create and implement a robust plan to make the power distribution sector viable; pave the way for new & advanced tech; ensure a supportive regulatory framework for RE industry; make India a world leader in green hydrogen & battery storage-Powering the Green Future of India. He further discussed the various schemes of energy savings that have ensured savings of 320 million tonnes of CO2 every year and the innovative bids to provide for green renewable energy during peak hours and 24x7 power supply using only green energy.

Govt's step to facilitate Renewable Energy integration in the national interconnected grid

- Construction of intra-state and inter-state transmission systems for evacuation of Renewable power
- Innovative products like solar-wind hybrid projects, RE projects with energy storage systems, and supply of RE Power balanced with power from non-RE sources launched to reduce intermittency
- Waiver of Inter-State Transmission Charges on Transmission of the Electricity generated from Solar and Wind Sources of Energy.
- Setting up of Regional Energy Management Centers (REMCs) for accurate forecasting of renewable power and assisting grid operators to manage variability and intermittency of renewable power.
- Flexibility in Generation and Scheduling of Thermal/Hydro Power Stations through bundling with Renewable Energy and Storage Power.
- Implementation of Green Term Ahead Market (GTAM) and Green Day Ahead Market (GDAM) for sale of renewable energy. ***Source***

Central govt preparing accounting rules for discoms

The Centre is preparing accounting rules for electricity distribution companies which are said to be showing exaggerated assets while non-provisioning losses. This could mean the discoms are in a much worse condition than expected. The accumulated losses of power distribution companies have risen at a fast rate over the last five years to about Rs 5.2 lakh crore as on March 31, 2021.

The gap between the average cost of supply and revenue of distribution companies is 60 paise and the total regulatory assets, or deferred tariff hikes, are nearly Rs 1.25 lakh crore. "The accounts of distribution companies do not reflect the true picture. We are preparing rules for standard definitions of the elements which go into the accounting so that the lenders, public and other stakeholders have access to the correct picture," a senior government official said.

He said discoms currently show regulatory assets and receivables pending for years as assets in their books, giving a false picture. "Many regulatory commissions fix non-reflective tariffs, and the gap is accounted for as regulatory assets, which are never recovered," the official said. India's power distribution sector has been a laggard and the financial condition of these utilities, which are the connecting link between power producers and consumers, has been a major concern.

State-run distribution companies do not clear dues of power generation companies. At present, the outstanding payables stand at around Rs 1 lakh crore. "The draft rules for discom accounting are ready and will be circulated among stakeholders for comments," the official said. Late disposal of tariff petitions by state electricity regulators, non-reflective tariffs, non-payment of subsidy by states and dues by government departments are some of the issues responsible for this financial condition of discoms. ***Source***

Outlook for power utilities positive on economic recovery, regulations

Regulatory continuity and resilient power demand from the economic recovery will continue to support the stable rating outlook for Indian utilities. However, overdue receivables from weak off-takers and energy transition will be among the key challenges facing the sector.

Main assumptions about 2022 and beyond

Moderate Demand Growth. For India, power demand growth of 3-5% is expected, driven by a revival in economic and industrial activities. This growth in demand is broadly in line with the country’s GDP growth of 7.8% in 2022, among the highest in the South and Southeast Asia (SSEA) region. Despite the pandemic, India managed to maintain unit demand in 2021, as stronger residential demand offset a fall from commercial and industrial customers. The country fared better than many other SSEA industrial growing, like Malaysia, Thailand, and the Philippines, where demand fell by 3-5% due to disruptions in industrial activities. In 2022 and beyond, we expect tariffs in India for centrally regulated power plants to reflect changes in costs and automatically adjust.

Elevated capex and leverage. For Indian utilities, growth in capex will keep expenditures high. Ratios of debt to EBITDA for most power utilities in the SSEA region will continue to trend between 4x-6x. Indian utilities will likely maintain higher leverage of around 6x or above due to continuing capex. Operating cash flows will be insufficient to cover these investment needs, so additional debt will be required, in contrast to regional peers.

Regulated utilities in India will continue to adopt an 80:20 debt-to-equity mix for new projects. We expect private renewable players will continue to burn through cash flows to chase size and growth, resulting in even weaker financial metrics than traditional utilities — ie, ratios of debt to EBITDA of 6x-8x and EBITDA interest coverage of below 1.5x. Strong financial sponsors and investors looking for “green” investment opportunities will continue to provide capital at attractive rates, however.

Energy transition is here. The transition away from coal is expected to gain momentum over the next three years, although India’s high dependence on coal will make the energy transition challenging. Environmental, social and governance (ESG) factors will drive investments, altering the credit impact and

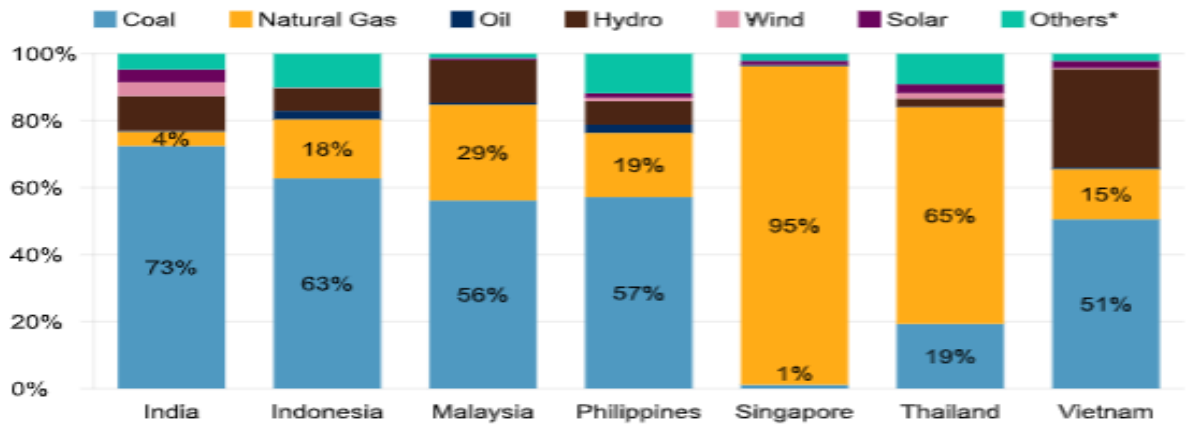
investment decisions for individual companies. The share of renewables will continue to grow in most countries in SSEA, including in India, albeit from a relatively lower base. However, coal and natural gas will remain the dominant fuel in these markets to meet base load demand and increasing energy needs. In India, renewables growth is driven by their relatively lower costs, while for most other countries in the region it will be driven by efforts (policy driven or otherwise) for energy transition.

Credit metrics and financial policy

The credit quality of power majors in India and elsewhere in the SSEA region is partly dependent on continuing government support, which remains intact across all markets. Indian utilities expanding into the renewable business do not benefit from an assured returns and cost pass-through mechanism. However, 25-year fixed-price contracts provide strong cash flow visibility. Varying generation capability, due to resource risk, also remains a key watchpoint for Indian renewables' credit quality. We have also seen that Southeast Asia power majors are using balance sheet flexibility to diversify into different markets (e.g. Thailand utilities) or increasing of renewables investments, which can impact their credit profile.

India's High Dependence on Coal Makes Energy Transition Challenging

Electricity Generation by Source (2020)



*Includes geothermal, biofuels, biomass, nuclear and waste. Sources: IEA, EIA, BP Statistical Review of World Energy 2021, Phillippines Department of Energy.

Key risks or opportunities

Energy transition can be bumpy. Like India, most SSEA countries have significant reliance on fossil fuels and high economic growth rates, complicating their plans for energy transition. Few, if any, countries have clear plans for active phase-out of fossil fuel plants, and most are adding renewables capacity to slowly improve the generation mix. The pace of the energy transition will depend on two key factors: the policy direction and commercial incentives. Such policies will require significant shifts in their ability to scale up renewable capacity. Also, the plans are highly dependent on the evolution of cheaper industrial-scale storage solutions. If such solutions fail to emerge by 2025, the ability of India and other SSEA countries to transition would be significantly impaired. India has been bidding out roundthe-clock or hybrid power solutions to bridge this gap, but we are unlikely to see the first of these large projects completed until 2023. The ability of such projects will be key to their growth potential.

Challenges to contractual sanctity. In markets like India where there are cheaper costs for renewable power, we see increased risk of contractual challenges, renegotiation for coalpower producers, or

renewable players providing power at significantly higher rates than current levels. While contractual sanctity is expected to be ultimately upheld in the case of dispute involving the State of Andhra Pradesh with Indian renewable companies, continuing delays in payments of full tariffs are swelling overdue receivables.

Cash flow divergence poses risk

The regulated nature of power utilities and the resilience of demand means that most utilities in the region remained relatively unscathed, even during the peak of COVID. We believe earnings for regulated utilities will remain largely protected, including from the sharp increase in coal prices (with potential time lags depending on the effectiveness of the regulatory system). However, the key risk lies in divergence between reported profits and cash flows. Indian utilities continue to face burdens from delayed payments of receivables from weak state distribution utilities. This can significantly increase working capital on already-leveraged balance sheets. The Indian power sector's cash flows can be hard hit by overdue receivables, which ballooned to about US$15 billion (as of December 2021), despite a relief package to state distributors. The recent Indian budget, while focusing on a significant uptick in infrastructure investments via the Gati Shakti program, did not address the chronic issue of weak distribution companies. ***Source***

India's energy needs to double in 20 years: PM

India's energy needs are expected to double in the next 20 years and denying people this energy would be the equivalent of denying life to millions, Prime Minister Narendra Modi said in his inaugural address at the World Sustainable Development Summit (WSDS).

"Energy requirements of the people of India are expected to nearly double in the next twenty years. Denying this energy would be denying life itself to millions. Successful climate actions also need adequate financing. For this, developed countries need to fulfil their commitments on finance and technology transfer," he said during his address.

"We firmly believe in fulfilling all our commitments made under the United Nations Framework Convention on Climate Change (UNFCCC). We have also raised our ambitions during CoP26 at Glasgow… I firmly believe, and I am sure you would agree, that environmental sustainability can only be achieved through climate justice. Sustainability requires co-ordinated action for the global commons," PM Modi said.

"We have heard people call our planet fragile. But it is not the planet that is fragile. It is us. We are fragile. Our commitments to the planet, to nature, have also been fragile. A lot has been said over the last 50 years, since the 1972 Stockholm Conference. Very little has been done. But in India, we have walked the talk."

Speaking at the Glasgow climate summit on November 1 last year, PM Modi announced that India's non-fossil energy capacity will reach 500GW by 2030, meeting 50% of the country's energy requirements by then. He said that India will reduce its total projected carbon emissions by one billion tonnes by 2030, reduce the carbon intensity of its economy by 45% by 2030, over 2005 levels, and achieve net-zero emissions by 2070. Modi also added in Glasgow that such ambitious action will be impossible without adequate climate finance from developed nations, calling on rich countries to make $1 trillion available as climate finance "as soon as possible."

he said equitable energy access to the poor has been a cornerstone of India's environmental policy. Through Ujjwala Yojana, more than 90 million households have been provided access to clean cooking

fuel, he said. And under the PM-KUSUM scheme, “we have taken renewable energy to the farmers,” he added. The PM also referred to India’s LED bulb distribution scheme, that has been running for over seven years, and has helped save more than 220 billion units of electricity, and reduced 180 billion tonnes of carbon dioxide emissions per year.

India is a mega-diverse country. With 2.4% of the world’s land area, it accounts for nearly 8% of the world’s species, PM Modi said adding that the International Union for Conservation of Nature has recently recognised India’s efforts. The Aravali Biodiversity Park in Gurugram was recognised an “other effective area-based conservation measures (OECM) site” for effective conservation of biodiversity by IUCN.

He ended his address by saying that as part of its efforts to combat the climate crisis, India has initiated the Coalition for Disaster Resilient Infrastructure (CDRI) which aims to build strong infrastructure in areas prone to frequent natural disasters. On the sidelines of CoP26, India also launched an initiative called “Infrastructure for Resilient Island States” for vulnerable island nations. “To these two initiatives, we now add LIFE – Lifestyle For Environment. LIFE is about making lifestyle choices to improve our planet. LIFE will be a coalition of like-minded people across the world who will promote sustainable lifestyles. I call them 3Ps – Pro Planet People. This global movement of Pro Planet People (3-Ps) is the Coalition for LIFE. These three global coalitions will form the trinity of our environment efforts for improving the global commons,” he said.

Earlier in the day, Union environment minister Bhupender Yadav held a meeting with representatives of several environmental think tanks and experts on how to take the concept of LIFE forward to bring the idea of sustainable lifestyles to the centre of global discussions on climate crisis. The PM’s comments are significant because IPCC is expected to publish its working group II (WG II) report on impacts and adaptation to the climate crisis on February 28. Compared to its previous IPCC reports WG II will have more general and local information with focus on natural, social and economic sciences. During the next two weeks policymakers from 196 countries along with 270 scientists from 67 countries will scrutinise the summary for policymakers (SPM) of the report line by line following which the report will be released. The report is expected to capture the most vulnerable areas on the planet to climate change; define hard and soft limits to adapting to climate impacts, and highlight how several ecosystems are approaching tipping points.

Yadav, who also addressed the WSDS inaugural organised by The Energy and Resources Institute (TERI), said “India gave the concept of sustainable lifestyles and climate justice, both of which found a place in the preamble of the Paris Agreement. Subsequently, reaffirming our commitment to the success of the agreement, the honourable Prime Minister has announced steady increases in our domestic efforts to harness solar energy from 22 to 100GW and subsequently to 450GW at the UN Secretary-General’s conference in 2019. India has been in the lead in ramping up ambition to meet the Paris Agreement goals.”

He urged countries to act on the basis of globally agreed rules taking into account the principles of equity and Common but Differentiated Responsibilities and Respective Capabilities (acting on climate change based on national circumstances). “The Paris Agreement goals cannot be reached unless equity is implemented by all countries staying within their fair share of the global carbon budget. Our goal should be equitable sustainable development and equity in climate actions. Only then, ‘climate justice’ can be achieved,” he said.

John Kerry, US special presidential envoy for climate who spoke during the ministerial section of WSDS, said the climate crisis is the biggest security threat facing the world. “PM Modi to his credit has set the ambitious goal for India – 500GW of renewables must be deployed over the course of next 8-to-10 years.

The criticality of achieving that goal is very simple. It's the only way India itself becomes compliant with the 1.5 degree C goal we ratified at Glasgow recently," he added, stressing that both developing and developed countries need to be on a 1.5 degree Celsius pathway, which is not the case yet.

"Are we going to tackle the climate crisis? Are we going to be real? To some degree we are trapped in a business-as-usual mode now... in 2022 we have said this has to be the decisive decade," he said. Kerry said Glasgow saw countries that accounted for 65% of global GDP committing to plans that are 1.5 degrees compatible. These plans were submitted by Canada, Europe, US, Japan, EU, UK, South Africa etcetera. Countries accounting for the remaining 35%, including some developing countries and some powerful economies are still not there, he added.

Experts said that India's push towards renewable energy will not only be good for the planet, but also provide economic opportunities. "India's growing economy needs energy but that energy is increasingly coming from renewable sources. This cleaner energy will bring new livelihood opportunities, health benefits and water savings. Of course, as renewable electricity scales up, we will require major investments in energy storage, about $35 billion in this decade alone," said Ulka Kelkar, director, climate programme, World Resources Institute India. ***Source***

India's grid storage sector a big driver for forecasted 260 GWh of annual battery demand by 2030

Demand for batteries in India will rise to between 106GWh and 260GWh by 2030 across sectors including transport, consumer electronics and stationary energy storage, with the country racing to build up a localised value chain. The forecast is offered in a new report published by Indian government think tank NITI Aayog and the global and India offices of non-profit research group Rocky Mountain Institute (RMI). It comes while a process of evaluation is underway to support the creation of 50GWh of domestic production capacity across up to 10 new facilities making so-called Advanced Chemistry Cells (ACC), through a scheme called the Production Linked Incentive (PLI).

With the nation committing over US$2 billion of financial assistance to India or overseas headquartered companies that build cell giga factories, each with at least 5GWh annual production capacity, the report explains the drivers behind this urgent need. In addition to a targeted 500GW of new renewable energy capacity to come online by 2030 — a target which the country looks on track to achieve given that it has already reached about 175GW of solar PV and wind — 30% of new vehicles sales should be electric by that time, according to Union Government policies.

Globally, the report's authors cite Bloomberg NEF figures that forecast demand for energy storage at US$150 billion annually by the end of this decade. With a high penetration of EVs and stationary energy storage, India alone could represent 13% of that total demand, according to RMI and NITI Aayog. Growth in the renewable energy market will lead naturally to a big market opportunity for stationary energy storage systems (ESS), given the wide variety of services they can provide and their declining costs mean that ESS are becoming competitive with incumbent technologies.

Broad range of value streams for broad range of stakeholders

Six major drivers are identified for the need to accelerate battery manufacturing within India:

- The centrality of batteries to taking action on climate, in line with India's nationally determined contribution (NDC) of achieving net zero by 2070 and the meeting of 50% of energy use from non-fossil fuels by 2030.

- India currently imports not only large amounts of fossil fuels but also equipment and materials needed for renewable energy projects like solar PV modules and lithiumion batteries. Domestic manufacturing would have a positive impact on national energy security.

- India has 22 out of the 30 most polluted cities in the world for air quality according to an IQAir index. Clean energy and electric transport offer a way to reverse this trend.

- EV adoption goals will undoubtedly drive greater demand for batteries.

- Greater involvement in battery manufacturing presents a great opportunity to grow Indian industry.

- Falling battery costs are making their use in a growing number of applications viable.

The report indexes the attractiveness of market opportunities for batteries in a range of those applications out to 2030: in stationary energy storage, grid support ancillary services, renewables integration, transmission and distribution (T&D) upgrade deferral and commercial behind-the-meter (BTM) will all be highly attractive markets by 2030. In the case of grid services, it does depend on the ability of battery storage to be enabled by regulations to participate in wholesale markets for ancillary services, which looks increasingly likely to happen.

There are many different value streams for energy storage for India's power grid transmission utilities and distribution companies (discoms) that can be tapped, supporting the network's reliability and efficiency. Energy storage can be among assets used to meet demand for electricity at peak hours of consumption, which has until now largely driven investment into peaking capacity from natural gas combustion turbines.

As is starting to be seen in other markets like the US, utilities can defer the need to invest in distribution system upgrades in areas of the grid that are seeing, or expecting to see, rapid rise in demand for electricity. Similarly, the need to make costly transmission system upgrades could be alleviated using strategically sited energy storage capacity. Again, as seen already in many parts of the world, the direct benefit to power sector companies includes smoothing and firming renewable energy output, voltage support and frequency regulation ancillary services, black starting generation and the grid after outages or incidents and much more.

US$15 billion annual demand by 2030

According to the India Energy Storage Alliance (IESA), only around 85MWh of battery energy storage systems (BESS) are in construction or already online in the country, but there is a pipeline of 4.6GWh already (3.3GWh tendered for and 1.2GWh announced).

For the report, two scenarios were produced, one conservative, the other accelerated adoption for batteries: RMI and NITI Aayog said in the accelerated scenario (260GWh) that equates to US$15 billion of demand by 2030, US$3 billion from pack assembly and integration and US$12 billion from cells. Even in the conservative scenario (106GWh) the annual market would be worth more than US$6 billion a year. Localising parts of the supply chain could enable the country to capture "significant value", the report said.

It is worth noting that although electric vehicles get a lot more media attention, they will only comprise about 40% of that total demand, including freight applications, and grid-scale stationary storage will be about equal, if not more. The report is the first of three being produced in a series, with the next two looking at aspects of directly supporting domestic production. ***Source***

India's new thrust on Coal Bed Methane: Prospects and challenges

Here is what the Directorate General of Hydrocarbons (DGH), Ministry of Petroleum and Natural Gas, says on CMS: “The Government has set a vision to make India a gas-based economy, by increasing the share of gas in the energy mix. The Government is making all-out efforts to reduce gas import dependence and has set the gas production target of 50 BCM by 2023-24. In this context, to augment domestic gas production, MoPNG recently launched the Special Coal Bed Methane Bid Round-2021 (SCBM-21) with 15 CBM blocks on offer. SCBM21 is launched under investor friendly Hydrocarbon Exploration and Licensing Policy (HELP) with attractive terms and conditions. Covering an area of approximately 8500 sq. km, fifteen (15) blocks are in 6 states and have prognosticated resource of 700 BCM."

India has launched its Coal Bed Methane (CBM) Blocks auction in September 2021 after a gap of almost 15 years. This carries very liberal terms under new policy initiatives such as HELP, OALP and CBM. The investors in any of the blocks offered in Special CBM Bid Round 2021 will not have to share any output till annual revenue reaches around Rs.20,000 crores. The timing is also apt with the significant recovery in oil price which has hit a 7-year high mark crossing $100 per barrel. The Gas price broadly linked with the oil-price is also moving up. LNG price in international market has jumped five times this fiscal from $6 per mmBtu to $30 per mmBtu.

Given this background, can we expect faster growth in the CBM industry? Let us take a close look on the factors which may influence the CBM growth.

First, CBM, a natural gas which contains 90-95% methane, gets absorbed and stored in coal seams. India has a coal reserve of 285 billion tonnes, the world’s fourth-largest coal reserves. and thus, holds significant prospects for exploration and exploitation of CBM.

Second, the progress in CBM so far has remained slow. Though India has CBM Prognosticated Resource of 92 TCF, in-place reserves established is 10 TCF only. The Government awarded 33 CBM blocks through four rounds of bidding between 2001 and 2008, but only five blocks have gone into commercial production. Other three blocks are under development and six still in exploration phase. The remaining allotted blocks are either relinquished or are under relinquishment.

Third, no new licence for CBM exploration was granted after 2010. Now the bidding process has started. Exploration, Discovery, Development, and Production commencement takes 5 to 7 years. We will have to wait for results.

Fourth, CBM Projects need acquisition of large land areas for wells and surface facilities. The local socio-political issues sometimes delays the process. Environment and Forest Clearances take a long time. The Single Window System, though well intended, does not work at the field-level.

Fifth, Gas evacuation used to be difficult, if consumers not available locally. The upcoming of GAIL’s Urja Ganga Pipeline and other pipe-network brings ease of gas transportation.

Sixth, the government- formula based gas price was not economically viable for investment in gas industry growth. Under new policy of marketing and pricing freedom, the CBM producers fetch higher price by inviting bids through online portal.

Seventh, the coal bed methane areas overlap with coal blocks, resulting into administrative issues between Petroleum and Coal Ministries. Recent CBM Policy reform removed a major retarding force in development of CBM in India. Now Coal India and its subsidiaries holding Coal Mining Lease do not require separate Mining Lease for CBM. Coal India Group is moving ahead for CBM exploitation in three CBM Blocks at Jharia, Raniganj, and Sohagpur within Coal Mining Lease areas.

Eighth, the Special CBM Round 2021 has come up under the new policies with very liberal terms such as no sharing of production with the Government, free to explore and produce any form of hydrocarbon including oil, gas, shale oil, shale gas, CBM; full marketing and pricing freedom and 100% participation by the foreign companies. This makes the investment in CBM more attractive. The Government has invited offers for 15 blocks spread over the six CBM rich states- five are in Madhya Pradesh, three in Chhattisgarh, two each in Jharkhand, Maharashtra and Odisha and one in West Bengal.

Last but not the least, as on date only four companies- Reliance, Essar, Great Eastern Energy and ONGC are currently producing CBM. Global giants such as ExxonMobil, Shell, BP, TOTAL, PETRONAS, or Eni have not shown any interest and unlikely to bid in the current Special CBM Bid Round. The same is the situation with the large non-oil Domestic Companies as they do not meet the essential eligibility criterion of having already in Oil, Gas or CBM exploration or production. This barrier needs to be addressed to have a wider participation.

In short, the new policies have made investment in CBM attractive. More players may enter into this sector for which their concerns need to be resolved. The industry leaders believe the share of CBM gas in India's natural gas basket may go up from the present 3 per cent to 10 per cent in the next five years. With the current bidding round, it might be a win-win situation both for Government and the Investor as the Investor does not need to share the revenue till the time there is a windfall gain and Government through Private participation gets to increase the domestic Gas production resulting in reducing the pressure on Imports. The CBM Outlook looks positive for the coming years. ***Source***

Transmission charges payable by DICs for the billing month of Mar'21

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	47.47
2	UP	NR	49.88
3	Punjab	NR	52.00
4	Haryana	NR	55.05

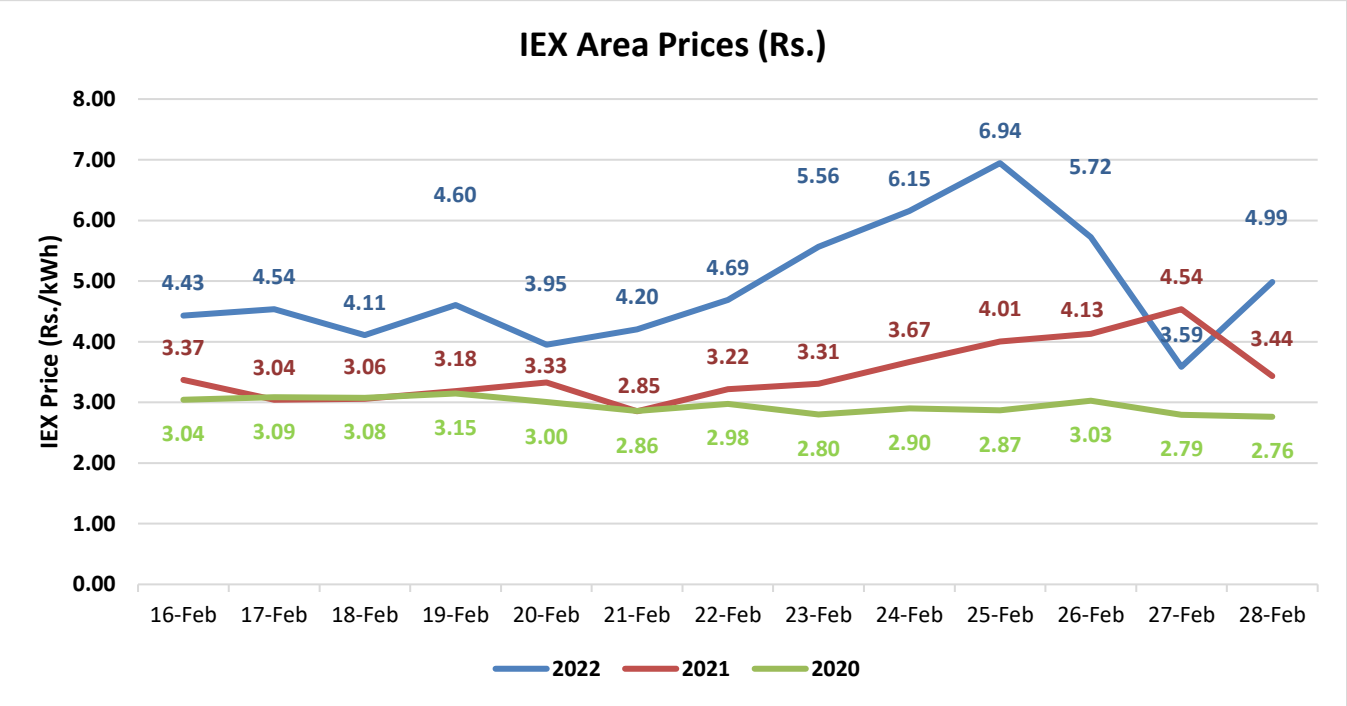
5	Chandigarh	NR	48.95
6	Rajasthan	NR	53.84
7	HP	NR	51.59
8	J&K	NR	54.01
9	Uttarakhand	NR	57.42
10	Gujarat	WR	46.80
11	Madhya Pradesh	WR	49.13
12	Maharashtra	WR	54.64
13	Chhattisgarh	WR	35.96
14	Goa	WR	43.07
15	Daman Diu	WR	46.94
16	Dadra Nagar Haveli	WR	48.90
17	Andhra Pradesh	SR	60.04
18	Telangana	SR	40.51
19	Tamil Nadu	SR	39.93
20	Kerala	SR	42.38
21	Karnataka	SR	44.20
22	Pondicherry	SR	37.59
23	Goa-SR	SR	30.80
24	West Bengal	ER	39.47
25	Odisha	ER	43.50
26	Bihar	ER	41.84
27	Jharkhand	ER	44.42
28	Sikkim	ER	38.08
29	DVC	ER	42.04
30	Bangladesh	ER	33.62
31	Arunachal Pradesh	NER	49.43
32	Assam	NER	40.06
33	Manipur	NER	41.69
34	Meghalaya	NER	40.42
35	Mizoram	NER	39.92
36	Nagaland	NER	56.31
37	Tripura	NER	43.18

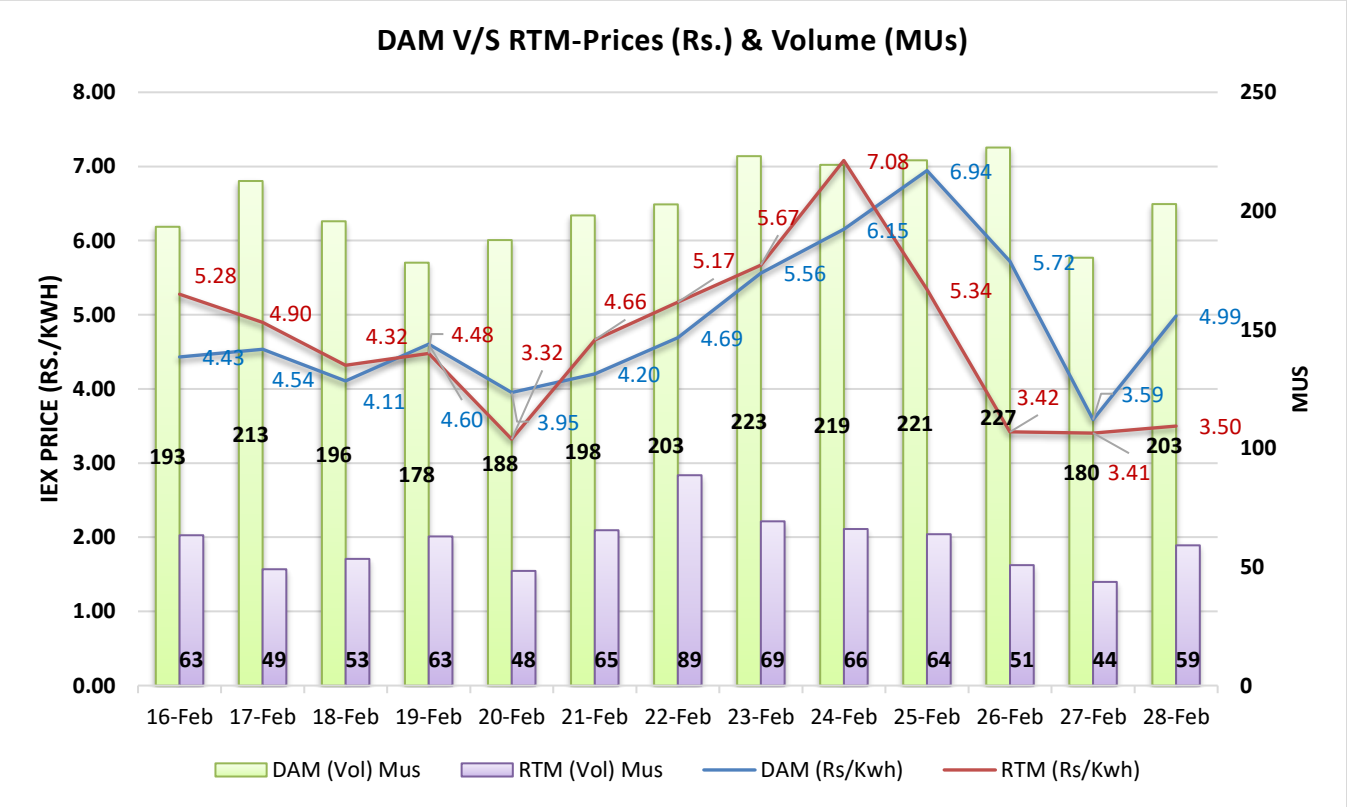
Bilateral Tender Results: -

Sl. No.	Tender Quantum (MW)	Supply Period	Time Blocks (Hrs.)	Price (Rs./kWh)	LOI Status
PSPCL/Short/21-22/RA/109					
1	500	10.06.2022 to 31.05.2023	00:00 to 24:00	4.92-6.25	Awaited
Tamil Nadu Electricity Board/Short/21-22/RA/119					
1	1000	01.03.2022 to 31.03.2022	00:00 to 24:00	5.24-6.75	Awaited
2	1000	01.04.2022 to 30.04.2022	00:00 to 24:00	5.24-6.75	
3	1000	01.05.2022 to 20.05.2022	00:00 to 24:00	5.24-6.75	
4	1000	01.03.2022 to 31.03.2022	17:00 to 23:00	9.97	
5	1000	01.04.2022 to 30.04.2022	17:00 to 23:00	8.95-9.97	
6	1000	01.05.2022 to 20.05.2022	17:00 to 23:00	8.95-9.97	
RUVNL/Short/21-22/RA/118					
1	350	21.02.2022 to 20.03.2022	06:00 to 20:00	5.34-6.75	Awaited
GUVNL/Short/21-22/RA/116					
1	500	01.04.2022 to 30.04.2022	06:00 to 09:00	-	Awaited
2	500	01.05.2022 to 31.05.2022	06:00 to 09:00	-	
3	500	01.06.2022 to 30.06.2022	06:00 to 09:00	-	
4	500	01.07.2022 to 31.07.2022	06:00 to 09:00	7.00	
5	500	01.08.2022 to 31.08.2022	06:00 to 09:00	7.00	
6	500	01.09.2022 to 30.09.2022	06:00 to 09:00	-	
7	500	01.10.2022 to 31.10.2022	06:00 to 09:00	10.84	
8	500	01.11.2022 to 30.11.2022	06:00 to 09:00	8.78	
9	500	01.12.2022 to 31.12.2022	06:00 to 09:00	-	
10	500	01.01.2023 to 31.01.2023	06:00 to 09:00	-	
11	500	01.02.2023 to 28.02.2023	06:00 to 09:00	-	
12	500	01.03.2023 to 31.03.2023	06:00 to 09:00	-	
13	500	01.04.2022 to 30.04.2022	17:00 to 20:00	-	
14	500	01.05.2022 to 31.05.2022	17:00 to 20:00	-	
15	500	01.06.2022 to 30.06.2022	17:00 to 20:00	-	
16	500	01.07.2022 to 31.07.2022	17:00 to 20:00	8.5	
17	500	01.08.2022 to 31.08.2022	17:00 to 20:00	8.5	
18	500	01.09.2022 to 30.09.2022	17:00 to 20:00	-	
19	500	01.10.2022 to 31.10.2022	17:00 to 20:00	15.03	
20	500	01.11.2022 to 30.11.2022	17:00 to 20:00	10.02	

21	500	01.12.2022 to 31.12.2022	17:00 to 20:00	11.11	
22	500	01.01.2023 to 31.01.2023	17:00 to 20:00	10.05	
23	500	01.02.2023 to 28.02.2023	17:00 to 20:00	9.74	
24	500	01.03.2023 to 31.03.2023	17:00 to 20:00	10.06	
TPCL/Short/21-22/RA/122					
1	75	01.04.2022 to 30.04.2022	00:00 to 24:00	5.41-6.5	Awaited
2	100	01.05.2022 to 31.05.2022	00:00 to 24:00	5.41-6.5	
3	75	01.06.2022 to 30.06.2022	00:00 to 24:00	5.41-6.5	
Noida Power Company Limited/Short/21-22/RA/127					
1	80	01.04.2022 to 30.04.2022	18:00 to 24:00	5.49	LOI issued for April 2022 & Oct 2022
2	45	01.05.2022 to 31.05.2022	18:00 to 24:00	8	
3	85	01.06.2022 to 30.06.2022	18:00 to 24:00	8	
4	40	01.09.2022 to 30.09.2022	18:00 to 24:00	8	
5	25	01.10.2022 to 31.10.2022	18:00 to 24:00	5.5	
RUVNL/Short/21-22/RA/130					
1	1000	01.03.2023 to 31.03.2023	00:00 to 24:00	6.23-9.49	Awaited
2	1000	01.04.2022 to 30.04.2022	00:00 to 24:00	6.23-9.49	
3	1000	01.05.2022 to 31.05.2022	00:00 to 24:00	6.23-9.49	
4	1000	01.06.2022 to 30.06.2022	00:00 to 24:00	6.23-9.49	
5	1000	01.07.2022 to 31.07.2022	00:00 to 24:00	5.90-9.49	
6	1000	01.08.2022 to 31.08.2022	00:00 to 24:00	5.90-9.49	
PFC Consulting Limited/Short/21-22/RA/128 (NDMC)					
1	150	01.04.2022 to 30.04.2022	09:00 to 12:00	-	Awaited
2	40	01.04.2022 to 30.04.2022	12:00 to 18:00	-	
3	40	01.04.2022 to 30.04.2022	18:00 to 24:00	-	
4	50	01.05.2022 to 31.05.2022	06:00 to 09:00	6.00	
5	50	01.05.2022 to 31.05.2022	09:00 to 12:00	6.00	
6	50	01.05.2022 to 31.05.2022	12:00 to 18:00	6.00	
7	50	01.05.2022 to 31.05.2022	18:00 to 24:00	10.00	
8	50	01.06.2022 to 30.06.2022	09:00 to 12:00	6.00-7.00	
9	50	01.06.2022 to 30.06.2022	12:00 to 18:00	6.00-7.00	
10	70	01.07.2022 to 31.07.2022	09:00 to 12:00	6.00-7.00	
11	70	01.07.2022 to 31.07.2022	12:00 to 18:00	6.00-7.00	
12	50	01.08.2022 to 31.08.2022	09:00 to 12:00	5.00	
13	50	01.08.2022 to 31.08.2022	12:00 to 18:00	6.00	
14	60	01.09.2022 to 30.09.2022	09:00 to 12:00	5.00-7.00	
15	60	01.09.2022 to 30.09.2022	12:00 to 18:00	6.00-7.00	

IEX Price Trends





Weather (Estimated for next fortnight)

City	Max Temp	Min Temp	Precipitation (Probability)
DELHI	28	15	2%
MUMBAI	36	22	0%
KOLKATA	34	20	0%
CHENNAI	33	23	3%

(Source - Accuweather)

TPTCL offers comprehensive consultancy for Connectivity Long term Medium Term & short term Open Access- For details please contact px@tatapower.com; For any suggestions and feedback Please write to us on pmc@tatapower.com

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