

Solar has seen the fastest change in technology in the power sector



Technological change in solar energy has been much faster than anyone would have anticipated. While this change helped bring down the cost of the solar tariffs drastically, it has raised doubts among many if this is the right time to invest in this energy. Commenting on these apprehensions, **Tata Power - Renewables, president, ASHISH KHANNA**, during a webinar organised by **NMIMS University-FPJ** in association with **Tata Power**, said investing in solar at any given point of time is not a delay.



Anupam Rastogi



R N Bhaskar

Other than investments, he spoke about some fundamentals of solar and other forms of energy as a whole, at the session 'The Future of Solar Energy' which was moderated by **Anupam Rastogi**, Senior Professor, SBM, NMIMS University and **R N Bhaskar**, Consulting Editor, Free Press Journal. Given besides are edited excerpts of the session compiled with editorial support from **Jescilia K:**

Energy and politics link

While power is primarily an energy provider, solar is part of the power system. For me, energy is, and will remain politics. We have seen many wars that were fought by nations for energy. For the last two decades and even before that, there have been battles fought in the name of energy. Even though energy is politics, there is some shift there. Today, energy has moved from a natural resource to manufactured resource. Energy has far-reaching implications. In the past, when you are born in a country that is enriched with fossil fuel, the situation was different, compared to ones who are not. Today, we manufacture equipment (read as renewables) that can work as an energy source.

Energy mix is changing

The energy mix (inclusive of oil and gas as well) is changing, the contribution of electricity will more than double from the current level of 19 per cent by 2050. By 2050, this 19 per cent will become around 49-50 per cent. Out of 49-50 per cent (of electricity), 86 per cent will be renewables. Out of 86 per cent of renewables, 66 per cent will be solar. India's per capita consumption is not even one-tenth of the US and one-sixth of Europe. But if you look at the projections, by 2050, India will consume more power than Europe and the United States. By 2038, India will overtake Europe. By 2050, it will consume more than the US too.

Solar story

In the last three years, India added more than 100 gigawatts (GW) of solar capacity on a year-on-year basis. It is not small. To understand this growth, one has to look at the price factor. Compared to the last decade, today the prices of solar panels have become 94 per cent cheaper. Today the same solar panel which was manufactured three years back costs half the price and produces twice the power. While prices of fossil fuels are dominated by appreciation and depreciation of the dollar, rents, geopolitical issues and other factors, there is another form of energy, solar, which has advanced so much that costs have reduced. This is how solar is driving energy. It is the future. In my years of experience, I have never seen any technology in the power sector or any other business change the way technology in solar energy is changing. All the estimates that are made for 2050 could be achieved much faster because the world is changing faster. Due to the COVID-19 pandemic, the adoption of technology and digitalisation will be faster. In the residential segment, there is an option of

on-grid and off-grid solutions. But in the industrial and commercial segment, solar has the potential to provide grid-connected power.

Secure energy: Solar energy

A fixed cost for a 25-year period in the case of solar energy is an added advantage. After investing in solar, the consumer will have one thing less to worry about for many years. For homes that are in isolated areas, rooftop solar will be beneficial as their roofs can generate power for them. This way the government will not have to spend a huge amount of money to establish a grid (in such remote locations) as power requirements grow. While the consumption in the country is around 170 GW, India has a total capacity or the potential of 749 GW. The consumption of the country, which had dropped (during COVID-19-induced lockdown), has reached 158 GW of consumption that is pre-COVID-19 levels.

Solar energy can bring assurance among farmers

In the case of agriculture, it is subsidised even though it is the backbone of our country. We subsidise power to a particular segment (read agriculture) while increasing the cost of power to another segment (read commercial entities). There is a need to have a one-time subsidy rather than having a subsidy every year. Another area in agriculture that needs attention is the need to provide security in terms of power supply to these farmers. There is a whole new technology that allows pumping of water which is based on your needs and on free power. Every farmer in the country just needs a 3 hp motor but they have installed a 10 hp motor pump in the villages as there is uncertainty around the availability of power - is available for three hours or ten hours. These farmers flood their field even if they receive enough power as they fear a shortage of electricity supplies. Till the time, this fear is not eliminated from their mind, we will continue to see the water table go low, which we have witnessed in the last few years. The future and technology are there, we just need to implement it (solar-enabled systems will thus bring a level of certainty among these farmers).

To invest or not to invest in solar energy

More and more investments are coming into solar energy, but that is not making it expensive. Many new products (technologies) in the solar basket will become a reality in the next four to

five years. For instance, satellites in space have been working for so long with the same solar panel. The only advantage for these satellites is that there is no night, thus, no need for storage. So, there is a technology that would enable electricity generation in space without having a need to depend on the land. However, the catch here is the transmission of electricity which is being worked on. Every country should look at ways to invest in the power sector. However, the question is should we invest in areas we need it most, or should we create a rivalry between solar and fossil fuel? We need to invest where it matters most. With technology changing so quickly in solar, investing at any point of time is not a delay. We need to keep investing in R&D. If there is support from the government and the rest of the industry for R&D, then the sector will continue to grow.

Staring at future

Being Atma Nirbhar should be different from ring-fencing. To become self-reliant, we should have the technology to support that. Having said, I would like to add that we have amazing technologies with us like micro-grid, grid power, rooftops solar and others. We are fortunate that solar energy is available in abundance in our country. It is time we use it for our benefit. In this pandemic, we saw the migrants moving from one place to another. If there was distributed generation at the village level or if utility companies gave power to them, these migrants and others can nurture entrepreneurship in this country. We have to exploit this (solar) resource that is available (to help such talents). In the hinterland, entrepreneurs can explore the opportunity that is available (if they have access to power). So, these entrepreneurs can generate revenues at the village level. This will largely address the migrant issue in our country. But for that to happen, India will have to invest in solar and its technology. By 2038, the number of Electric Vehicles (EVs) will outnumber Internal Combustion Engines (ICE). In this case, you need a distributed generation of electricity. You do not need major grid power but power at your convenience. There is an abundance of sun in this country, so we just need to find a solution around storage. Yet another technology that is being used increasingly is printing of solar cells on any surface anywhere. We have a building where we have used this system.

CORPORATE GALLERY

CR lauds RPF's efforts of maintaining social distancing



The Railway Protection Force of Mumbai Division of Central Railway, in its exemplary display of grit and determination plays a vital role in ensuring the safe travel of the essential staff during this fearsome time of Coronavirus Pandemic. Central Railway runs 200 Special Local Trains (130 on Main line & 70 on Harbour line) for the essential staff on the request of the State Government. Railway Protection Force personnel in coordination with GRP and Civil Police has put in various efforts to ensure Mumbaiers in adopting to the new normal of maintaining social distancing across its suburban stations and trains. Ensuring thousands of essential service providers, board the trains in Queue and following Social Distancing measures is a tough challenge. Central Railway deployed 2400 RPF and RPSF personnel 24x7 across all Suburban Stations to ensure the safety of Passengers during Suburban Train operations for essential workers.

Punjab Gov and Union Petroleum Minister jointly inaugurate Battery Swapping Facility at IndianOil retail outlet



VP Singh Badnore, Governor of Punjab & Administrator of UT-Chandigarh, and Dharmendra Pradhan, Union Minister of Petroleum and Natural Gas and Steel, jointly inaugurated a state-of-the-art battery swapping station for electric vehicles at M/s. Kapoor Service Station, one of IndianOil Corporation's (IndianOil) leading retail outlets in Chandigarh, through a virtual event held here today. IndianOil has partnered with M/s. SUN Mobility to set up battery-swapping stations at select fuel stations in identified cities. Speaking on the occasion, Pradhan commended the efforts of IndianOil and SUN Mobility in pursuing the innovative, clean energy solution, thereby contributing to the Govt. of India objective of reducing vehicular emissions. He hoped that the tie-up would energise the EV markets in India. The EV opportunity is so big that every player in the eco-system will benefit from it, he said.

WR to run three more parcel spl trains



Western Railway's Parcel Special trains are continuously on the move, as per the timetable, during the current situation, in the wake of COVID-19. Western Railway is fulfilling very well the responsibility of transporting most essential items like medical equipment, medicines, food grains etc. across the nation, as it has always been fully committed to the needs of its customers. WR is also ensuring the supply of milk and milk products to different parts of the country through its milk special trains. In continuation to this, 3 more parcel special trains with total 80 trips are scheduled by Western Rly to run between Bandra T- Ludhiana, Okha - Guwahati

Central Translation Bureau trains 16 CRPF translators online



The Central Translation Bureau, subordinate to the Department of Official Language, Government of India, started a special five-day special technical translation training for participants of the Central Reserve Police Force from 22 June 2020 to 26 June 2020. The program was inaugurated by Secretary of Department of Official Language Sumit Zarath by lighting a lamp in the Central Translation Bureau. Highlighting the importance of online training through information and communication technology during the Covid era, the Secretary, while quoting the song 'Ruk Jaana Nahi Tu Kahin Haar Ke', said that we have to keep going in this difficult time. He expressed the gratitude of Dr. AP Maheshwari, Director General of Central Reserve Police Force, and said that he made this online training possible by allowing the participants training during this difficult time.

Indian Coast Guard: The Saviour Of Sea Life



Indian Coast Guard (ICG) being a multi mission maritime force is also entrusted with the responsibility of ensuring safety of flora and fauna in the maritime zones of India. Every year ICG conducts 'Operation Olivia' for protection of endangered Olive Ridley turtles, which arrive on the beaches of Odisha annually from November and stay till May for nesting. Coast Guard State Headquarters (Odisha) at Paradip in coordination with State Fisheries and the Forest Department conducted the operations which commenced from 1 November 19 for providing protection to the Olive Ridley Turtles in prohibited areas along the world's largest nesting ground of Odisha coast. Various co-ordination meetings and awareness programme was coordinated by ICG for sensitising coastal populace and fishing community as part of the operation.

NALCO declares net profit of Rs. 138 crore in FY 2019-20



National Aluminium Company Limited (NALCO), the Navratna CPSE under Ministry of Mines, Government of India, has declared its financial results for 2019-20 fiscal. According to the audited financial results for the year, taken on record by the Board of Directors in a meeting held on June 26, 2020 NALCO has posted a Net Profit of Rs.138.23 crore for FY19-20. During the year, the company has achieved net turnover of Rs. 8426 crore, which has been adversely impacted by about Rs.2900 crore due to fall in global metal prices. The export turnover of the company for the fiscal was Rs. 3511 crore. However, weathering the sluggishness in the international metal market and falling London Metal Exchange prices, NALCO has continued to remain profitable by successfully handling the market downturn.

WR runs 1230 Shramik Special trains to carry 18.50 lakh migrants



Western Railway has operated total 1230 Shramik Special trains from 2nd May, 2020 to 25th June, 2020, which have carried approx. 18.50 lakh migrant labourers & their families to their desired destinations. Indian Railway's decision to run Shramik Special trains has benefitted at a large scale and is proved to be a boon to lakhs of migrant workers & their families. In continuation to this, one more Shramik special train departed from Bandra Terminus of Mumbai to Samastipur on 25th June, 2020. Out of the 1230 Shramik special trains, maximum trains were bound for Uttar Pradesh followed by Bihar.

Jain Farm Fresh launches Aayush Kadha



To assist people in taking preventive measures which boost our immunity in these Covid-19 times, Jain Farm Fresh Foods Ltd.'s brand Valley Spice has launched Aayush Kadha. It contains spices like Holy Basil (Tulsi), Dry Ginger (Soonth), Black Pepper (Kali Miri), Cinnamon (Dal Chini) which have unique bioactive compounds that help natural immunity building and health. Spices play an important role in enhancing the body's natural defence system (immunity) and maintaining optimum health and these ingredients are specifically endorsed by the AYUSH Ministry among the potential combinations of spices that can help against various air-borne viruses by boosting immunity. All the ingredients of Aayush Kadha contain bioactive compounds. Cinnamon contains Cinnamaldehyde which acts as a digestive aid and helps cure cough and cold.

4269 new recruits in Police Department: Home Minister Dr. Mishra



Madhya Pradesh Home Minister Dr. Narottam Mishra held a departmental review meeting on Friday. In this meeting, the Minister decided to begin the process of recruitment of 4269 constables. He instructed the Director General of Police, Vivek Johari to start the process of recruitment of police personnel. The Home Minister was conducting a departmental review at the Police Headquarters. He said that departmental authority should work with full vigilance and honesty to maintain law and order. "There are some things in which the consent of the Central Government is required. Today it has been decided to send the proposal to the Center for that consent as well. There was also a point-by-point talk about the intelligence, cyber crime control techniques in the state, the minister said.

CORPORATE CORNER

NTPC FY20 Profit Before Tax up by 14.15%

The Country's largest power generator- NTPC Ltd. with a group installed capacity of 62110 MW, declared the financial results for FY20 along with the unaudited financial results for Q4 FY20 on 27 June 2020. In FY20, NTPC has recorded the highest ever commercial capacity addition of 8260 MW which includes acquisition of 2970 MW capacity of THDC and NEEPCO. The gross generation of NTPC Group for FY20 was 290.19 Billion units as against 305.90 Billion units during the previous year. For FY20, the total income crossed the one lakh crore mark and was Rs. 100,478.41 crore as against Rs. 92,179.56 crore in FY19, registering an increase of 9%. For Q4 FY20, total income was Rs. 28,278.75 crore as against Rs. 22,545.61 crore in Q4 FY19, registering an increase of 25.43%. The Board of Directors of NTPC Ltd. have recommended a final dividend @ 26.5% of paid-up share capital i.e. Rs. 2.65 per equity share of the face value of Rs. 10/- each for FY20, subject to the approval of shareholders in the Annual General Meeting.

HUDCO Q4 net profit rises 87 pc

State-owned HUDCO has reported a 87 per cent rise in its consolidated net profit to Rs 440.91 crore for the quarter ended March. Its net profit stood at Rs 236.29 crore in the year-ago period. The company's total income rose to Rs 1,900.40 crore in the March 2020 quarter from Rs 1,493.35 crore a year ago. Net profit rose to Rs 1,708.20 crore, from Rs 1,179.85 crore in the 2018-19. Total income went up to Rs 7,571.84 crore in the financial year 2019-20 from Rs 5,591.22 crore in the previous year. M. Nagaraj, CMD, HUDCO, shared the highlights of HUDCO's robust performance in 2019-20, wherein the company has recorded Outstanding financial results in its Golden Jubilee Year witnessing a 45% growth in Net Profit that has touched an all-time high of Rs 1708.42 crore in 2019-20, from Rs 1180.15 crore in 2018-2019. HUDCO is a policy institution that provides housing finance and non-commercial urban infrastructure financing. It is regulated by the National Housing Bank and is under the administrative control of the Ministry of Housing and Urban Affairs.

APPOINTMENT

Rajiv Podar to be President Elect & Juzar Khorakiwala to be Vice President Elect of IMC for 2020-21



Rajiv Podar, Vice-President of IMC Chamber of Commerce and Industry has been elected as the Chamber's President for 2020-21. Juzar Khorakiwala, has been elected as Vice-President for the year w.e.f. June 15, 2020. Rajiv Podar will take over at the Annual General Meeting (AGM) of the Chamber to be held in July 2020 while the current President, Ashish Vaid will step down from office after completing his distinguished one-year term. Rajiv K Podar is the Managing Director of the Podar Enterprises - a century old organization with interests in education, skill development, sports, education, investment, housing and advisory services. Juzar Khorakiwala, the Vice President Elect of the IMC Chamber, is the Chairman and Managing Director of Biostadt India Ltd., the company that provides high-quality product range of insecticides, herbicides, fungicides, hybrid seeds, aqua products and farm services. Juzar Khorakiwala holds a Bachelor of Pharmacy (B.Pharm) degree from Ahmedabad, and a Masters degree in Business Management from the Asian Institute of Management (AIM), Manila, Philippines.



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