MR. JAY KUMAR WAGHELA

HEAD – BUSINESS DEVELOPMENT (NORTH& EAST ZONES)
FOURTH PARTNER ENERGY

Q.-1: Government of India target of 40GW Rooftop Solar by 2022; Can the industry achieve this target

JW: The Centre has set itself an ambitious target of installing 100GW of Solar by 2022, out of which 40 GW would be installed under rooftop segment. If we look at installed capacity, the overall solar installed capacity is 31.5 GW, out of which rooftop is 4.5GW. Statistically speaking overall installed capacity has reached 31% of the target whereas rooftop segment, only 11% of the target. Hence, I feel as a country we may reach close 70-80 GW overall, but rooftop segment will find it hard to cross 12 - 15 GW in the next 3 years.

Q.-2: Please present case study of few noteworthy projects executed by your company in the distributed solar space

JW: Rooftop segment is a different ball game where every roof is a project in itself; and one needs to design the plant considering local site conditions. Fourth Partner is proud of each of the 1700-odd installations for large industrial, commercial and government clients as well as SMEs. Some of our marquee clients include Coca Cola, D-Mart, Ferrero, ICICI Bank, Indian Railways, Nilkamal, PepsiCo, RSWM, Schneider Electric, Sintex, Ultratech, Walmart etc. We have also developed one of India's largest onsite solar plants of 22MWp capacity for a single client in Rajasthan. The environmental impact of this plant alone is equivalent to planting over 1.4 million trees. The carbon emissions will be reduced by over 30,000 tons per year, while saving 73 million litres of water. Some of our other recent, noteworthy projects include a 2MW solar plant for Ultratech in Odisha, where obtaining statutory approvals posed quite a challenge; Skoda's 1.2 MW Carport in Maharashtra for its innovative design; 2 MW pan-India installations for Walmart reflected our exemplary execution speed; as well as the 500 kW project for Nagpur Metro that was hailed by the government and public.

Q.-3: Please describe in detail about your company, its promoters, directors, investors, vision, objectives and its plans in the solar industry

JW: Fourth Partner Energy is amongst India's leading Distributed Solar developers, with an operating portfolio of over 160 MW across 23 Indian states. It was founded in 2010 by Saif Dhorajiwala, Vivek Subramanian & Vikas Saluguti to provide energy from rooftop solar as an alternative to high cost, unreliable grid power from distribution companies.

We now have 10 offices across India and a workforce of over 250 people. Our firm primarily serves industrial, commercial and government clients, helping them reduce their cost of electricity and carbon footprint. In July 2018, The Rise Fund, managed by TPG (Globally renowned Private Equity Fund with over US$ 100 billion under management) made an equity investment of US$ 70 million into 4PEL. In addition to that we have also raised project finance and debt from highly reputed Indian and international financial institutions. With this capital and a strong operating team encompassing deal origination, engineering, execution, O&M and financing, the company is now rapidly expanding its portfolio. Our revenue CAGR for the last 5 years has been 113% and our target is to grow it by another 10x in the next 4 years.Last year we managed to nearly triple our installed capacity and our vision is to reach 1 GW installation by 2022. We have also forayed into setting up large scale ground-mounted plants to supply power to existing corporate clients under Open Access in a few states like Maharashtra, Uttar Pradesh, Haryana, Andhra Pradesh and Tamil Nadu. 4PEL also plans to integrate solar with energy storage, develop floating solar plants, and are exploring opportunities in the EV charging infrastructure space going ahead.

Q.-4: What are your USP's and differentiating factors as compared to your competitors

JW: 4PEL offers complete in-house services across the entire spectrum covering financing, engineering, procurement, construction, and operations & maintenance of critical solar infrastructure. This gives us control over the quality of the plant executed, timelines of execution, cost of construction and ensures plant efficiency in the long run-- which together culminates into delivering one of the lowest total costs of ownership to clients. Also, we are recognized in the Industry for ensuring record execution deadlines. At 4PEL, we have leveraged technology to develop an IOT-based solution for monitoring and controlling our assets across the country. The solution enables our monitoring team as well as clients to track real-time performance and generation of solar plants; which in-turn helps in early identification of underperformance/malfunctioning and quicker resolution. On the engineering front, we have also developed a non-penetrative technology to mount panels over tin roofs. 4PEL's cutting-edge Grid Power Monitoring System and DG optimizers allows the client to monitor the electricity consumption from the grid, avoiding excessive billing or penalties by the EB (in absence of net-meter) by ensuring power is not injected into the grid and guarantees optimal synchronization between solar power and diesel generators. Our USP is our 'Customer Centric' approach has led to more than 25% of our orders coming from existing clients as repeat orders.

Q.-5: What are the opportunities in this space and the challenges in upscaling and mainstreaming distributed solar

JW: There is huge opportunity in the rooftop segment in India, the industry has barely scratched the surface. Most of the developers are vying for large roofs belonging to creditworthy customers having credit ratings of BBB+ and above. There are many customer segments like SMEs, housing societies, customers with lower credit ratings but great business models, who are yet to be explored. The rooftop solar market in India has shown significant and steady traction in the past 5 years with a cumulative current capacity of about 3.9 GW. The Commercial & Industrial segment has shown most potential with over 70% of installed capacity; with states like Maharashtra, Tamil Nadu, Karnataka, Rajasthan and UP leading the country in installed capacity. India is undoubtedly amongst the better-performing countries globally in terms of adopting solar power, but the rate of growth is not nearly enough to achieve the 40 GWp rooftop target for 2022. A constantly changing policy environment including unpredictable caps or restrictions on net-metering that vary from state-to-state, extended timelines in securing CEIG approvals and limited access to credit are some key challenges. To try and achieve the maximum possible of this target, it is imperative that instead of working in silos – policy makers, DISCOM/utility companies, financiers, developers, clients, tax authorities and all other stakeholders work in tandem. In fact, it is 4PEL's belief that the DISCOMs should be incentivized to allow for higher capacities of rooftop solar as there are enough savings for the consumer to share some of the upside of installing rooftop solar with the DISCOM. - Such incentives would minimize the impact of losing a high tariff consumer for the DISCOM and lead to overall alignment of interest, thereby accelerating the pace of growth for rooftop solar.

Q.-6: Kindly enlighten on "Energy Storage as Game Changer" - Technology & Cost Trends, Incentives and Government Support needed.

JW: Today, we all know that solar energy can be supplied only until the sun shines (daytime). With the advent of energy storage, we will be able to store energy and supply it even when sun isn't shinning (nighttime). On certain occasions we even have to limit the capacity of rooftop solar plant projects to match daytime consumption. With energy storage we may be able to utilize the entire roof and store energy and supply to grid. Today the cost of energy storage (Li-Ion) is in excess of $175MWh. When these costs fall below the $100 MWh range, it will become commercially viable. Storage costs will be driven mainly by the automobile sector; and the Indian government has taken right steps as far as policies are concerned to push EVs sales.

Q.-7: Policies &Regulations: What are the benefits, subsidies given by SECI, Central, State and Local Government; What are the key policy & regulatory features announced by the government.

JW: The imposition of safeguard duties on solar modules last year, was a serious set back and adversely impacted capacity addition. While the industry growth reduced by 35%, rooftop solar as a subset saw a capacity addition of 47%, less than half of industry estimates. Moreover, increase in GST to nearly 9% from 5% was a double whammy. Duty and GST resulted in a 15-18% increase in the cost of projects to developers -- affecting clients, developers and the growth of the industry. Key hurdles to this was India not having enough module manufacturing capacity and international financiers being wary of lending to projects utilising local modules. However, despite these policy changes India continues to remain the 3rd largest solar market in the world, just behind China and the US. It is imperative now for the industry to create a conducive environment for regulators, developers, financiers and clients to work within a stable policy framework. Better HSE standards, contract enforcement laws and gearing up local manufacturing capabilities will also give comfort to financiers and developers looking to enter the market.

Q.-8: Net Metering vs GrossMetering: Kindly explain what are the various metering techniques, their pros and cons

JW: Recently we have seen states like Uttar Pradesh and Tamil Nadu replacing net metering with gross metering. In net metering regime the end customer used to get the benefit of entire tariff of the banked units whereas in gross metering the benefit will only be limited to solar tariff determined by SERC. Most of the times solar tariff will be lower than the tariff provided by the solar developer and hence will not make any economic sense. This will lead to installing solar plants limited to replacing daytime consumption. I personal believe this is a regressive step taken by regulators, considering the fact that rooftop segment has only 11% of target set by government.

Q.-9: Kindly rank various states in the order of attractiveness of distributed solar market

JW: Internally our think tank has developed a framework to rank the various states based on Market Potential, Variable Grid Tariff, Irradiation level and Ease of Doing Business (Net Metering, CEIG Approvals). Maharashtra, Andhra Pradesh, Rajasthan happen to be the top 3 States whereas Uttarakhand, Himachal Pradesh and Goa are States where policies could be more conducive.

Q.-10: What are the cost of solar energy in various states for different category of consumers such as Commercial, Industrial & Residential

JW: In our experience cost of solar is 20 – 50% cheaper than the variable grid tariff for C&I sector across most states in India. Even the residential consumers in major metros stand to gain by adopting solar in their housing societies.

Q.-11: Kindly enlighten our readers with the power tariffs in various states for commercial, industrial and residential customers, tariffs for various levels of consumptions, power availability/shortage, the price trends.

JW: Average power tariffs for Industrial consumers is around Rs 7 per unit in most states in India whereas large commercial consumers pay over Rs 8 per unit. Residential tariffs continue to be subsidised and pay less than Rs 5 per unit in most states. Power availability has definitely improved in many major cities, but in most others, there is huge scope of improvement in power reliability.

Q.-12: Are there any financing benefits like interest or capital subsidies by Government, banks, NBFC's for financing distributed solar projects?

JW: World Bank and ADB offers loans for rooftop segment at subsidized rates through SBI and PNB respectively; Other Banks and NBFC offer loans at par rates. There are no current subsidies from Government.

Q.-13: Solar Cities: How many solar cities are announced and describe in detail as to what will happen in these solar cities

JW: In 2014, the government had approved the implementation of MNRE's Solar Cities Program. Solar City aims at minimum 10% reduction in projected demand of conventional energy at the end of five years, through a combination of enhancing supply from renewable energy sources in the city and energy efficiency measures. In a Solar City all types of renewable energy-based projects like solar, wind, biomass, small hydro, waste to energy may be installed alongwith possible energy efficiency measures depending on the need and resource availability in the city.
MNRE has sanctioned development of 60 Solar Cities out of which master plan for 49 of these solar cities has already been prepared. The stakeholder committees have been constituted in 21 cities and solar city cells have been created in 37 solar cities. Few cities like Nagpur, Diu and Surat have been making remarkable progress in adopting solar energy.