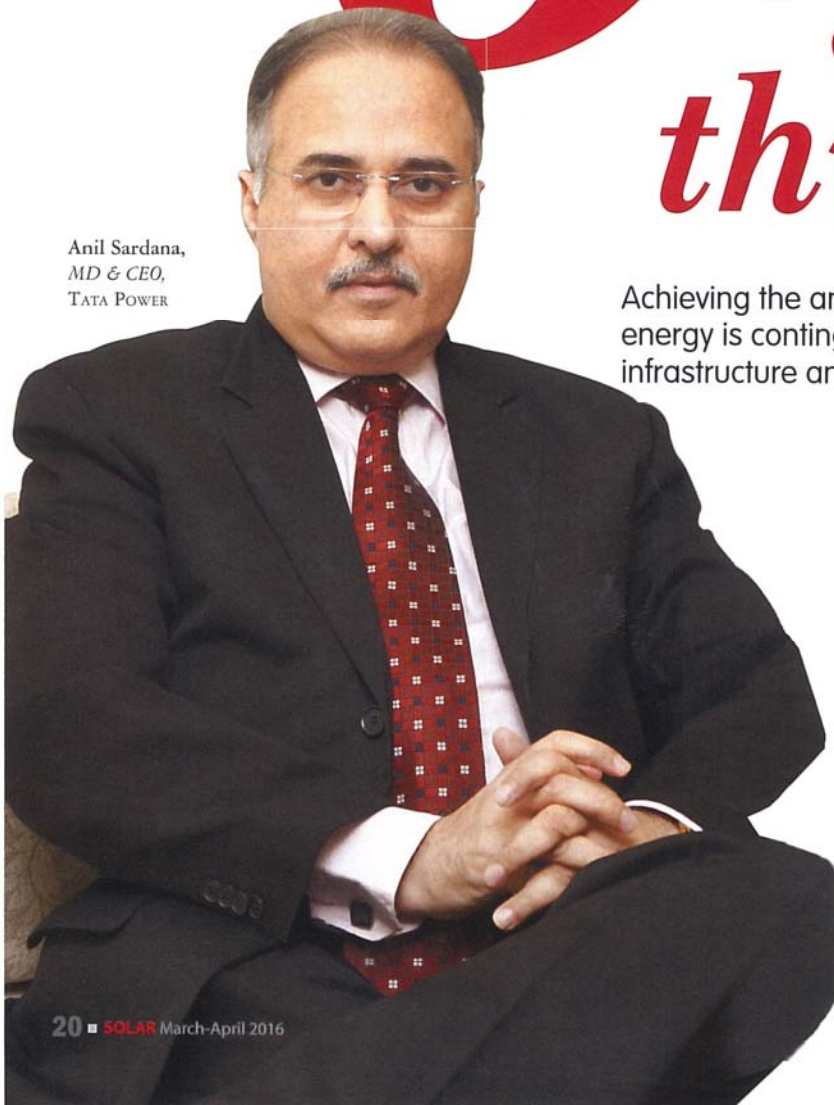


*Is solar power
the next*

big thing?

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Achieving the ambitious aim of 100 GW of solar energy is contingent upon upgrading existing grid infrastructure and evolving new financing mechanisms.

To ensure India's energy security, it is important that renewable energy continues to play a significant role in the energy sector. With India's climate change commitment, the sector is expected to get a bigger boost. The renewable energy sector has shown tremendous growth over the last 5 years. With a meagre installed capacity of 17,174 MW in June 2010, the capacity has now more than doubled to 38,822 MW as on March 2016. This is largely attributed to the steady addition of the wind and solar power capacity.

Government's vision of scaling up of capacity of renewable energy to 175 GW by 2022, which will include 100 GW of solar power projects, 60 GW of wind power projects, 10 GW of biomass power

project and 5 GW of small hydro projects, will provide the much needed impetus to India's clean energy programme. The country has great RE potential and with appropriate planning and a targeted approach this can be realised. State policy and a supporting regulatory framework complement each other in pursuing a promotional agenda, particularly when a capital-intensive new technology needs to be supported. A conducive environment to enable rapid capacity addition in an economically viable manner for all stakeholders, will spell positive growth for the sector.

Policy environment

Recently, solar power has got a boost from the government. The target of generating 20 GW through solar power has been enhanced by the current Government to five times at 100 GW by 2022. The growth in solar power installations are largely attributed to national and state missions. The solar rooftop market is at a nascent stage today, however, it is going to be a big opportunity for developers. Solar rooftop systems can be implemented faster and standalone rooftop systems or hybrid systems can be the solution to meet the rural electrification issues of India. It can also cater to other decentralised power generation like powering a mobile tower or an ATM and is a more viable option than using a DG set. The net metering policy will also help in accelerating the market for rooftop solar in India. Solar coupled with reliable and competitive solar solutions offer a 24X7 alternative to DG sets and grid surplus in identified areas.

The opportunities in this segment are significant provided there is proper synchronisation between all stakeholders including the nodal agencies, consumers and system integrators. The current policy only provides for capital subsidy which might not be sufficient to attract consumers. Tariffs that have already reached grid parity are also not

lucrative for consumers. Moreover, consumer awareness about the economic and environmental benefits is low and needs to be developed.

Domestic manufacturing

The cost of installation/MW of solar is still higher as compared with other sources of power. To ensure the viability of the projects when the solar feed-in-tariff (FIT) has reached grid parity, it is important to bring the capital expenditure further down. Moreover, to ensure 100 GW of installations, we need to enhance capacity of solar panel manufacturing in India. The domestic content requirement has already boosted the domestic manufacturing of solar panels in India. Additionally, with the Make in India campaign, the multinational companies are expected to manufacture the panels and cells in India and help in capacity building of the sector, for long term sustenance.

The Renewable Energy (RE) Bill that is being discussed by the Ministry of New and Renewable Energy is a step in the right direction. The Bill seeks to bring in clear institutional, financial, structural roadmap at the national level. Timely passage and execution of the Bill will go a long way in ensuring that the sector gets a much needed boost.

Infrastructural support

We can hope to achieve the ambitious aim of 100 GW of solar energy feeding into the grid, only if the existing infrastructure is upgraded to be able to cope up with the integration of such huge amounts of renewable energy. Setting up of large solar power projects like the ones being set up in Rajasthan, Madhya Pradesh, Gujarat and Andhra Pradesh of 1000 MW capacity is fraught with challenges related to land banks and evacuation systems. Moreover management of grid becomes a problem as, due to seasonal variations, the wind and solar capacities go up and down. In such a situation, it is imperative that complimentary format of generation,

namely hydro power is also given suitable boost.

Financing support

Financing and bankability of solar energy projects has been an issue for a very long time. With the massive capacity addition targeted, a lot of funding will be required. Apart from debt financing from the banks there should be innovative financing schemes announced for the power sector. This will increase the liquidity for the sector, making it easier to raise finance for the projects. This will also aid in covering risks and the investment gaps of the sector. The financing schemes may include new energy funds, energy bonds, refinancing by pension/ insurance funds, longer duration construction loans.

The proposed bidding under dollar-denominated tariff will enable investors re-evaluate their project returns eliminating any foreign exchange fluctuation and thereby attracting more foreign investors. This scheme may bring down the tariff/ levelised cost of generation as the currency fluctuation hedging cost may be eliminated/ brought down. This is a good initiative and we would like to see further developments on the proposed scheme.

Conclusion

Solar energy industry is a policy-driven sector and still needs some form of viability gap funding. The national and the state policies may continue to enable environment for capacity addition, but in long run, the sector should be able to sustain itself. With the maturing technology, the costs should go down and will see more players investing in it, including International operations. Solar power in various renditions is here to stay and coupled with reliable and competitive storage solutions could well be the mainstay of the sector. **STI**

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