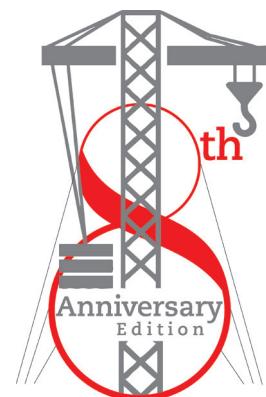


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**FUTURE 2021:  
INFRASTRUCTURE  
DOWN THE DECADE**



# Tata Power aims to build a total capacity of 20,000 MW by 2025

Over the next few years, India's focus would be largely on renewable energy space, says **ANIL SARDANA**, CEO & Managing Director, Tata Power

**Which are the segments in the infrastructure sectors that have the potential to transform the future of the power sector?**

Since its inception in 2014, the Narendra Modi-led NDA government has prioritised infrastructure development. In the energy space, recent trends depict an upward trend in infrastructure investment, particularly in the transmission and distribution and renewable space. Renewable energy is going to play a big role with the Government's ambitious target of '24X7 Power for All by 2019'. For this, the government plans to install 10,000 small-scale solar-power grids across the country. Moreover, distributed generation will cater to the power needs of areas where grid is inaccessible. It would be important for Government and regulators to encourage distributed formats in solar & wind for roof-tops; micro-grids; mini-grids on protected zonal concept, to provide alternatives to customers, which hitherto were not connected. There is also a need to encourage mini & micro grids to provide electricity to all unconnected households & customers. With a thrust on renewables, in line with India's 2022 target of reducing carbon emissions, the annual average

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The power value chain is likely to provide immense investment opportunities

**ANIL SARDANA**  
CEO & Managing  
Director, Tata Power

investments in renewables is expected to reach ₹ 90,600 crores in FY18.

On another note, India's energy mix for electricity majorly comprises of coal or renewable energy sources. As a result, alternative sources of energy like Natural gas have not been able to advance significantly. This can be mainly attributed to the lack of domestic infrastructure, which makes it difficult for natural gas to cater to the consumers, which is critical at this point. With the government's ambitious plans to have more than 10 million electric cars on the road by 2030, there is a need of providing infrastructure for charging stations. In addition, there are not enough facilities for ecofriendly disposal of batteries. A recent report by NITI Aayog states that accelerated adoption of electric vehicles could save USD 60 billion in diesel and petrol costs while cutting down as much as 1 gigatonne (GT) of carbon emissions for India by 2030. High growth potential of this sector makes it imperative to address infrastructure bottlenecks.

**How do you foresee the growth of the power sector in the next decade?**

Over the next few years, India's focus would



be largely on renewable energy space as the government has shown great promise towards promoting renewable energy. A special World Energy Outlook report of the International Energy Agency says that by 2040, over 50% of India's new generation capacity will come from renewables and nuclear energy. Solar power is a focus area of the government with 100 GW installation being targeted by 2022. The country is expected to have a surplus of 3.1% during peak hours and 1.1% during non-peak hours during 2016-17, as per the data from the Central Electricity Authority. Power surplus scenario is one of the big achievements. India can meet its power demands without further capacity

₹ 3 lakh crore would be required for building transmission corridors to evacuate the green power. Last mile connectivity, which requires tech upgrade and means to combat power theft, will demand another ₹ 4 lakh crore. The power value chain is likely to provide immense investment opportunities, and the government is looking to expand the power value chain at every stage, be it thermal, renewable, power transmission or even waste-to-energy plants.

While financial stress on discoms is a huge concern, there is a significant opportunity for improvement in this space. The power sector needs growth as per macro indicators, as India's per capita consumption is one third of

segment that needs significant reform-intervention and a combination of tariff increases, distribution reforms, open access and enforcement of the 'obligation to service' is required going forward.

#### **What will be the trends and technologies in power sector down the decade?**

While the Indian market continues to remain one of the key geography for business growth, however, due to linkage unavailability, land-availability issues & delays in various clearances, the pace of growth is slow. The companies need to start making investments into projects in select international geographies to strengthen and diversify its portfolio and for greater impetus for growth. In line with the international strategy, the companies should evaluate investment opportunities in Africa, Turkey, Middle East, South East Asia and the SAARC region. There is a need to deploy resources in these regional geographies to understand the market dynamics and scout for opportunities. The shortlisting of these regions can be done based on aspects like opportunities; risks; likely rewards; law and order situation & ethics cum values prevalent in these geographies.

Power sector today is facing various challenges. Poor financial outlook of Discoms where the losses have been increasing to levels far higher than previous years is a matter of great concern as the buyer of merchandise has to be solvent and efficient, failing which the fiscal health of all associates in the value chain will get impacted and it would lead into vicious & unviable circle of uncertainty. Distribution continues to be the weakest link in the Indian power sector, with the customer not being at the centre stage of the delivery process and fiscal viability. Aggregate Technical and Commercial (AT&C) losses in India continue to be one of the highest across the globe. However, we



addition for the next three years.

In August 2016, India jumped 19 places in World Bank's Logistics Performance Index (LPI) 2016, to rank 35th amongst 160 countries. India needs ₹ 31 trillion (US\$ 454.83 billion) to be spent on infrastructure development over the next five years, with 70 per cent of funds needed for power, roads and urban infrastructure segments.

According to Power Minister, Piyush Goyal, the domestic power sector will require ₹ 20 lakh crore of funds over the next five years. According to Ministry estimates, renewable energy alone will require about ₹ 8 lakh crore of investments over five years and another

global average, and the consumption of fuel-oil used in DG sets is still high.

India needs immediate distribution reforms and that too in a massive way. The crux of the problem of power sector lies in slow to nil reforms in distribution. It is the state's inability to let go the distribution sector due to involvement of vested elements, otherwise there is no good reason for Government to be in the business. There is lack of political will in pursuing the reforms in the right earnestness and whatever is being done today is more to tick the box and keep the interests of vested elements live.

Power distribution still remains a

have examples within the country that prove that it is possible to achieve the benchmark of low AT&C losses. Likes of Gujarat State Electricity Board, West Bengal State Electricity Board, Calcutta Electricity Supply Company, Tata Power networks in Delhi & Mumbai have insignificant AT&C losses. This needs to be replicated across the country, especially in the major consumption centres, so that relative impact of its loss can be eliminated.

Smart Grid technologies needs huge investment and the industry does not have the financial capacity to fund for the technologies. Successful implementation would require support of government programmes to provide incentives for investment. The government is also trying to push the technology through enabling policies. Enabling policies along with regulatory directive/mandate will propel faster implementation of smart metering. Additionally, integrating it with R-APDRP will help address the funding problems faced by most distribution utilities. Smart meters are important building blocks of the smart grid, so it will definitely help in boosting up the metering technologies. Many countries in the West have already started using smart metering on pilot projects or in selective roll out for specific urban areas. India is a very important market for new emerging technologies such as this, as the country gets ready to transform its power sector.

UDAY scheme for distribution is one of the enabling policies that have ushered the investment confidence of the sector. UDAY is giving state Discoms the opportunity to make sure that once again the losses don't pile up on their balance sheet. Energy efficiency improvements coupled with demand side management is also helping to reduce the energy intensity of households, commercial & industries establishments and this has reduced losses to great extent. One has to now

make sure that implementation under UDAY happens in the manner that it has been conceptualized in the scheme. The key part of this scheme is how the state electricity boards will, within the assigned time, reduce their AT&C losses, will make sure that the delivery of power will happen as it ought to happen. If these two aspects are taken care then people should get electricity on predictable basis.

#### **What will be Tata Power's contribution to the infrastructure sector down the decade?**

Over the next few years, India's

roughly ₹ 1500-2000 crores per annum as done in previous years. The capex plans would be commensurate to the growth plans and would be competitive than the average market prices.

Solar power is a focus area of the government with 100 GW installation being targeted by 2022. In line with the government's target, Tata Power will also focus on Solar. We have revised the share of non-fossil fuel based capacity up to 35-40% by 2025, of which solar power will be an important component. As the conventional grid connected and rooftop projects continue at its own pace, we also need



focus would be largely on renewable energy space as the government has shown great promise towards promoting renewable energy. Tata Power has a well-defined growth plan and is pursuing actions towards achieving the same. The Company aims to build a total capacity of 20,000 MW by 2025. We are working towards achieving this target and, in FY17, we have added about 1400 MW of capacity, and we have various projects in pipeline. For the next 3 years, the company has sketched out a well-defined growth plan and is pursuing actions towards achieving the same. Without giving specific guidance, the company will continue to do a capex of

to look at various innovative technologies to achieve the target for 100 GW of solar. New technologies like Third Generation Photovoltaic have reached incremental efficiencies in lab tests, we need to look at these technologies in order to have better output too. To achieve our objective, the Company is exploring multiple options, both Greenfield and Acquisitions, to be able to capture the market for both Solar and Wind based generation. The Company is also in the process of acquiring suitable land parcels in the states of Maharashtra, Rajasthan, Gujarat, Andhra Pradesh and Karnataka to develop solar and wind projects.