

Way to Go

India reaches the 100 GW renewable energy milestone

India recently crossed the 100 GW milestone for installed renewable energy capacity. This has been made possible through a progressive policy framework and enabling regulations at the central and state levels. However, the country still has a tall target to reach – 450 GW by 2030 – and challenges such as weak discom financials leading to the backing down of power, land acquisition delays, lack of coordination in transmission and generation planning, and the slow pace of rooftop solar additions are hampering progress. Industry experts share their views on the achievement of the milestone and suggest measures to reach the 2030 target...

What are your views on the achievement of 100 GW of renewable capacity? Is the country on track to achieve the goal of 450 GW by 2030? What are the key issues and how can they be resolved?

Ashwin Gambhir

The 100 GW installed renewable energy generation capacity is certainly an important milestone in India's journey towards accelerating its share of renewables in the power mix. Renewables now contribute 21.8 per cent of the total generation capacity (including captive) and 25 per cent (excluding captive power). In terms of actual electricity generation, of the total 147 billion units (BUs) in 2020-21, the share of renewables excluding large hydro was 10.6 per cent, and 22 per cent including the 159 BUs from large hydro. While we should be proud of the 100 GW achievement, it is also important to keep in mind the much larger target of 450 GW by 2030. Even before that long-term goal, India has the short-term goal of meeting 175 GW by December 2022. Apart from the 100 GW installed renew-

able energy capacity, roughly 50 GW is at various stages of implementation and another 30 GW is in the process of bidding and tendering. Thus, in spite of the drop in demand due to the pandemic, one can see the real possibility of over 175 GW coming online in the next few years, although meeting the December 2022 timeline looks uncertain. Some of the important action points to accelerate the move towards 450 GW renewable energy are as follows:

- States need to commit to high as well as long-term renewable energy targets and appropriately incorporate these in their renewable purchase obligations (RPOs). It is also high time to merge the solar and non-solar RPOs into one composite RPO.
- Universal coverage and aggressive implementation of the agricultural solar feeder programme by states. The power minister has already talked about the need to have 110 GW of solar for solarising all of Indian agriculture's existing electricity needs. Low-cost distributed solar power generation

will ensure reliable day-time electricity supply for agriculture while addressing some of the core issues such as improving financial viability of discoms by reducing cross subsidy and subsidy requirement and facilitating better grid integration of solar by shifting demand to day time.

- A storage purchase obligation that can comprise various existing and emerging cost-effective solutions that provide appropriate flexibility should be mandated by states. The government could consider providing VGF support for renewable energy (wind/ solar) projects that are coupled with battery systems and procured through a process of competitive bidding.
- A dynamic, longer-term and multi-stakeholder transmission planning process, that takes cognisance of the need for planning for a high renewable energy share in the future, is the need of the hour. This process should produce a 10-15 year perspective transmission plan, which can be revised on a three-year rolling period basis. This is espe-



Ashwin Gambhir

Fellow, Prayas Energy Group



Amit Kumar

Partner, Leader, Power & Utilities, Mining, PwC India



Ashwani Kumar

Chief Executive Officer, Suzlon Group



Rajiv Ranjan Mishra

Managing Director, CLP India



Abhishek Nath

Sector Head, Energy and Power, Centre for Study of Science, Technology and Policy

"The 450 GW renewable capacity target, although ambitious, is very doable with strategic, transparent and stable policies from the central and state governments."

Ashwani Kumar

The target of 450 GW renewable capacity by 2030, although ambitious, is very doable with strategic, transparent and stable policies from the central and state governments. The next 10-odd years would require 30-35 GW of renewable energy installations every year. I see three main stakeholders in this scenario – large IPP players, the captive and MSME sector and PSUs. It is necessary that policies and guidelines be in place to empower all three to participate in the development of the renewable energy sector.

The deceleration of wind projects in the past few years has been mainly due to several factors related to bidding, implementation and power sector issues. None of these issues are unsurmountable. Given the vision and dedication of the Government of India, I am very confident that we will continue to see a slew of policy reforms for renewables, especially wind energy in the near future. I am hopeful that these policies will focus on relooking at the bidding guidelines, empowering renewables-based captive power for MSME growth, ease of open access, and ISTS waiver for RPO obligated entities, among other things.

The future of renewables at the expected

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Rajiv Ranjan Mishra

scale will require a smooth and accelerated transition to wind-solar hybrid renewable energy parks. In line with our mission for Aatmanirbhar Bharat, policies to encourage component manufacturing for all renewable sources and a uniform GST rate across the value chain could be game changers.

Despite lower per capita emissions, which are one-third of the world average, India has set high renewable energy targets for itself, leading the way and setting an example for the world to follow. The 100 GW capacity is an impressive milestone and we need to celebrate it as a nation. However, for all of us in the renewables industry, this is a foundation and an inspiration to relentlessly continue our efforts towards bigger milestones. The journey is long and the task is daunting, but we are motivated and committed to making India's renewable energy dreams come true for our future generations.

Rajiv Ranjan Mishra

Congratulations to the country on crossing 100 GW of renewable energy capacity. This certifies the country's position as one of the leaders in energy transition in the world. This is also a testament to the power of big ambitions and ideas, laid down under the leadership of the prime minister and this government. Barely 10 years ago, achieving 100 GW of renewable energy installed capacity appeared fanciful!

The Indian power sector is one of the most diversified in the world. The rapidly rising demand for electricity in the country, with a serious thrust on renewables and other initiatives, is expected to increase further in the years to come. The sector is undergoing a sea change that is redefining the industry outlook. The central government's focus on providing "power for all" has accelerated the efforts to ramp up the power generation capacity in the country, largely through renewables, and is targeted to reach 175 GW by 2022 and 450 GW by 2030. The sustained growth in renewables has been enabled through progressive central- and state-level policies. The major push to utility-

scale renewable energy addition was given by the adoption of competitive bidding, which encouraged developers to consistently reduce their costs and increase efficiencies, resulting in the discovery of lower solar, wind and hybrid tariffs. This has also benefited discoms, which have been able to procure renewable energy with distinct cost advantages vis-à-vis conventional generation.

While many enabling policies have been introduced to remove bottlenecks, some problems that still need to be addressed are improving the financial health of discoms, land acquisition-related issues, ensuring better financing terms, enhancing local manufacturing capabilities, coordination in transmission and generation development, and grid balancing. We believe that the Electricity (Amendment) Bill, 2020 is a step in the right direction as it will transform the power sector in some very important ways. One of the main aims of the bill is to promote renewable energy, delicense power distribution and increase competition, thereby unleashing next-generation power sector reforms in India. This is a path-breaking decision that has the potential not only to empower customers but also bring huge investments into the sector and accelerate technology adoption. The reforms will especially make renewable energy generation, transmission, and distribution financially attractive to investors.

Abhishek Nath

In his address to the nation on the occasion of India's 75th Independence Day, the prime minister mentioned that we have crossed the milestone of 100 GW of installed renewable energy capacity. Out of 100 GW, 40 GW is accounted for by wind power, 44 GW by solar, and the rest by small-hydro, waste-to-energy and biomass projects. The government had initially set a target of 175 GW of renewable energy by 2022, which was later increased to 450 GW by 2030. According to the Ministry of New and Renewable Energy, India ranks fifth globally in terms of overall installed renewable energy capacity. We also have