

A Rough Ride

Developers' views

Even as developers continued to be plagued with issues, 2019 turned out to be another challenging year for the entire renewable energy sector. Discoms' outstanding dues piled up, regulatory bottlenecks impacted developer sentiment, and delayed transmission development and land acquisition restricted capacity addition. Although government efforts are on, there is still an urgent need for more effective reforms. Leading renewable energy developers express their views on the challenges, policy requirements and emerging trends in the sector. Excerpts...

What have been the most noteworthy developments in the renewable energy space in 2019?

Andrew Hines

I would like to point to some short-term developments and also the continuation of broader trends. For instance, India had central and state elections this year. The new government in Andhra Pradesh announced its decision to renegotiate the previous power purchase agreements (PPAs), leading to a lot of apprehension in the industry. At the same time, however, 2019 has seen a continuation, and even a quickening, of the steady global march towards renewables. This is not just a 2019 development. In fact, I could point to a number of developments this year which illustrate that unmistakable trend, which is driven by the cost effectiveness of solar and wind power vis-à-vis power generation from fossil fuels in many parts of the world, in addition to climate and environmental concerns.

Gaurav Sood

The Ministry of Power (MoP) and the Ministry of New and Renewable Energy (MNRE) issued some important clarifications in 2019. The MoP released a man-

date requiring all discoms to maintain letter of credit of adequate amount as payment security to safeguard developers. Another clarification was issued regarding fixed charges, which states that these charges would be treated as PPA tariffs for solar and wind power. The MNRE clarified that as long as a solar power plant's AC capacity is as per the PPA, a developer has the right to decide the project's DC capacity in order to meet the capacity utilisation factor requirement.

New solar bidding guidelines were also issued by the MNRE to address a lot of issues including land acquisition and payment security. According to the new rules, 100 per cent possession of land is to be achieved prior to the scheduled commissioning date (SCOD) of the project. The rules emphasise on the creation of a payment security fund with the intermediary power offtaker as well as the end procurer thereby making provisions for any delayed payments to safeguard developers. The guidelines provide for direct generation compensation for developers in case of curtailment for reasons other than grid security. They also offer proportionate time

extension in case tariff adoption is not achieved within 60 days of PPA signing.

Sanjay Varghese

In the past one year the sector has seen tremendous traction among domestic and foreign investors. Around 13 GW of solar capacity got subscribed and tenders of more than 20 GW are expected by the end of this financial year. Interestingly, about 85 per cent of this capacity is ISTS connected with developers' scope of work including land acquisition and evacuation. Solar project developers are showing increasing comfort and capability in aggregating the land in non-solar parks and arranging for power evacuation. Moving with the times, the government has started focusing on round-the-clock, hybrid, storage, floating solar and manufacturing tenders. A 7,500 MW tender has come up in the Leh and Kargil region, which has a very difficult terrain. We believe that these are very positive developments that not only demonstrate the government's commitment to stay the course but also its willingness to try new models and bids. In the long run such initiatives will help the sector to grow and achieve the 175 GW target by 2022.



Sanjeev Aggarwal
Founder and CEO,
Amplus Solar



Andrew Hines
Co-Founder,
CleanMax Solar



Gaurav Sood
Chief Executive
Officer, Sprng Energy

In your opinion, what are the biggest challenges and risks looming in the renewable energy sector in India?

Sanjeev Aggarwal

The bulk of solar capacity addition has been witnessed in utility-scale ground-mounted projects whereas the solar rooftop segment has not received the desired impetus to achieve the 40 GW rooftop target. The renewable energy sector is highly dependent on policy support. With a growing thrust from the central government, states have come out with aggressive targets to be achieved by 2022 under their solar policies. However, the growth in rooftop solar capacity addition needs to be supported by improvements in discom infrastructure, the continuation of net metering benefits and other regulatory incentives.

Andrew Hines

While the cost economics of renewable power is improving day by day, continued growth in the sector also requires a supportive and stable policy and regulatory environment. Renewable energy projects, like all long-term infrastructure projects, require millions of dollars of investment and, therefore, need regulatory certainty and long-term clarity for investors and lenders to have the confidence to invest. They need to know how a project is going to be treated in the future. PPA renegotiation, payment uncertainties, safeguard duty and changes in the taxation regime do not help foster that confidence. Even the implementation of safeguard duty in itself was not as big a challenge as the ambiguity surrounding it, which dragged on for months.

CleanMax focuses on commercial and industrial (C&I) solar projects and even in



this space uncertainties over open access regulations and the treatment of captive and group-captive projects exist. Regulators reinterpret old laws, which then get challenged in courts. These risks hold the sector back from growth. That said, one positive aspect I observe in India is that the growth of renewables is seen as a positive and necessary development by all levels of the government, which means that there is a high degree of support in principle. It is often the volatility and related issues such as discom incentives that create problems.

Gaurav Sood

The non-payment or delayed payment of dues by discoms is a major issue. Most of the discoms across the country are facing a financial crunch and have large outstanding dues to generators. This puts the generators under a lot of pressure as they have to service debt and interest on debt to lenders; as a result, their returns are affected. The existing evacuation infrastructure capacity in most of the wind/solar-rich states is exhausted. The gestation period to create additional evacuation infrastructure is about three to four years whereas the commissioning timelines of solar/wind power projects are much shorter. The non-availability of such infrastructure may affect project schedules and, therefore, the country's renewable energy targets.

Although the appropriate commissions have approved safeguard duty and GST claims under the "change in law" provision of the PPAs and directed discoms to reimburse the justified claim amounts in a time-bound manner, the same is not being honoured by the state discoms. This is significantly affecting investors' financials as projects are bid out through competitive bidding and the margins are very low. Recently, Andhra Pradesh discoms tried to review the already executed PPAs and this impacted investor sentiment.

Another issue is curtailment of power. Solar and wind power plants are provided must-run status. Of late, it has been observed that load despatch centres of renewable energy-rich states are directing solar and wind power plants to reduce their generation substantially, citing grid security reasons. This is affecting the financials of many such plants. Finally, the time taken by offtakers, the MNRE and regulators in addressing the various uncertainties arising out of the contracts during execution and operation is a key challenge, as it impacts the outlook for the sector. Whether it is land issues, tariff adoption, long-term access (LTA) charges on account of the extension in SCOD or change in law declaration and compensation, such issues lead to a lot of stress for investors.



Sanjay Varghese

*Executive
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ReNew Power*



Sanjay Varghese

There are many areas in which the government is working extensively to improve both financial performance and the end user experience. However, when viewed holistically the policy needs to include the following measures:

- Alignment of national interests with state interests, as some of the major crises in the sector have erupted due to inter-state and intra-state variance in supporting regulatory frameworks. Despite a must run status, curtailment of power continues unabated in some states and financial payments to IPPs are regularly delayed.
- Poor financial health of discoms and future demand potential for electricity are important issues because of uneven economic development in the hinterland. The constant attempts to renegotiate PPAs cast a shadow on India as an investment destination.
- The sector also needs stricter implementation of the existing policy measures for ensuring effectiveness, particularly, in integrating renewable energy with the existing power infrastructure.

What are the key regulatory interventions required from the government to tackle the critical issues in the sector?

Andrew Hines

The government, in general, is broadly supportive of renewables, but I would be ha-

ppy to see more emphasis on long-term sector planning from policymakers and regulators. A lot of attention is paid to annual capacity additions, but it is time to shift the discussion to forming a long-term vision for the transition from fossil fuels to a decarbonised power grid. A more holistic approach would mean thinking about all forms of renewables, as well as energy storage, demand response, regulatory changes, the role of discoms and so on. More specific to CleanMax's B2B focus, greater clarity in the regulatory treatment of open access and group captive transactions is a policy intervention that is needed to sustain the recent growth in the C&I solar space in India. While the Electricity Act, 2003 permits large consumers to procure power directly from private generators, in practice, this is not always the case. We are awaiting further policy developments along these lines to provide greater clarity for implementing open access projects, especially in the states with a large pent-up demand for cheaper and cleaner power for C&I consumers.

Gaurav Sood

Although the MNRE has, in the latest guidelines, provided for deemed tariff adoption within 60 days or proportionate time extension to be given, it does not address the issue of approval of power procurement capacity and tariff by state regulators. The bidding guidelines may not prevail over the provisions of the Electri-

city Act, but an appropriate amendment to the act is required to make these provisions workable.

There are substantial LTA operationalisation charges in case developers do not commission the projects on time, in line with the LTA kick-off date. When extensions are provided under the PPA on account of external reasons that are beyond the control of developers, the LTA operationalisation does not get extended as there is no linkage and it is upon the developer to appeal to the CERC to get relief for the same. So, provisions need to be made to link the SCOD with the LTA operationalisation. In addition, as per the new solar bidding guidelines, the minimum equity lock-in period has been changed from one year to three years post the commissioning of the project, with the intent to improve module the quality. However, all developers are of the view that for ensuring the quality of modules, the technical criteria need to be strengthened.

Sanjay Varghese

Policy making in the renewable energy sector now needs to move away from developing or enabling mindset to one focussing on easing bottlenecks, streamlining regulations and ensuring stability. Here are some areas that I feel can be the focus of the government.

- Strengthening the grid is critical for India to achieve its ambition of becom-

ing a \$5 trillion economy. Investments in the grid by way of more transmission lines, adoption of AI and machine learning will help in better forecast and efficient use of resources.

- The government should look at incentivising and fast-tracking the deployment of rooftop solar systems, and promotion of solar pumps and other such innovations. The industry now needs to move from government contracts to individual adoption.
- Storage-based bidding and the promotion of battery storage options will be helpful in handling the variability in renewable power generation.
- Restoring discom health in order to prevent it from affecting the entire energy value chain.
- The government should bring in policies to operationalise ancillary and capacity markets to extract the total value of renewable energy technologies.
- Reforms in banking systems will go a long way in assisting the renewable-energy sector. At present, banks categorise renewables as part of the power sector, due to which, the loan limit gets used up by thermal plants and only a small amount of fund is available for renewables. A healthy banking system will improve credit financing and support long-term lending for the renewables sector.

What new opportunities do you see in the renewable energy space in India?

Sanjoov Aggarwal

Over the past decade, India has made rapid strides in terms of renewable energy capacity addition. In the solar energy segment, the growth has primarily been driven by strong government support in terms of conducive policies and schemes, and the declining cost of solar technology. Along with this, the increasing consciousness towards clean energy deployment and a strong energy demand have led to considerable foreign investments in the Indian solar segment. By 2030, renewables will outcompete existing fossil fuel generation on an energy cost basis – one of the key

tipping points in energy transition. We should see a greater adoption of new technologies. Meanwhile, new opportunities in energy efficiency, floating solar, wind-solar hybrids, solar plus storage are expected to emerge. Moreover, the adoption and use of smart cost-efficient technologies at every stage of a project will become common. We might see a shift towards unregulated markets and decentralisation of energy with changing customer preferences, and this will open up new market opportunities. Ambitious policies and regulatory frameworks are critical to creating favourable conditions, so as to allow renewable energy to grow.

Andrew Hines

We see a lot of opportunity in the micro, small and medium enterprise (MSME) space. These enterprises can become potential clients for solar power uptake provided credit risk issues are thoughtfully addressed. We feel that rooftop solar growth in the residential segment attracts more focus, but is actually more challenging in India. The MSME segment, meanwhile, is a low-hanging fruit which faces fewer obstacles to rooftop solar adoption. However, it does require a government or multilateral body to address the creditworthiness issues. Going forward, energy storage solutions also present a favourable case for mass deployment.

Gaurav Sood

Having higher renewable power concentration will lead to instability in the grid. Some of the high renewable energy generation states are already facing issues and backing down power generation from renewable energy sources. Such states need to be incentivised by providing energy storage facilities to balance their grid systems. Thus, competitively priced energy storage systems have immense potential for the sector. In addition, hybrid projects can help reduce the variability of renewable power generation and optimise the use of transmission infrastructure. India has good wind and solar resource availability across various regions and a great potential for setting up hybrid projects.

Sanjay Varghese

The hybridisation of solar and wind energy (combined solar-wind projects) will push up the capacity utilisation factor close to that of coal-fired power plants. This will reduce the intermittency challenge drastically, increase renewable energy as a source of available power and disrupt the existing grid models. It is estimated that by 2025, the cost of energy storage (through batteries) and energy generation (through renewable energy), combined, will be on a par with the cost of power generated through fossil fuels.

Distributed generation will become the least costly method to provide electricity. For this, a number of technological advances are converging: advanced control systems; more compact and efficient electrical inverters; smart electricity meters and the Internet of Things domain with energy apps. It is possible that in the not-so-distant future many consumers may go off the grid completely.

The Indian renewable energy industry is at a very exciting stage. While previously the government was only focused on developing the sector, the attention is now shifting towards problem resolution and ensuring large-scale adoption and continuity.

So, when we speak about technology, we can look at the potential in two ways. One is the incremental technology that can help us improve efficiency of the existing assets. The other is altogether new streams of business that the Indian renewable sector hasn't explored yet. Here, I believe offshore wind as a technology has a lot of potential. An offshore wind project could be a very effective energy solution for our coastal states, which have a long coastline and a favourable wind profile. Similarly, as an industry we have barely explored floating solar technology. It can be of immense benefit to India as we have several water bodies and large dams. A floating solar project reduces evaporation and moreover, does not face land acquisition issues that continue to affect the projects on ground. ■