

RE is the driver of the new global energy dynamics



The solar and wind sector eventually should become far more independent of the government and be based on the business models led by private sector, says *Prof. Jyoti Parikh*, Director, Integrated Research & Action for Development in an interview with *Fozia Yaseen*.



Q How has the Renewable Energy(RE) changed the global energy scenario?

The rapid progress of Renewable Energy(RE) is assisted by half a dozen trends. The cost of renewable energy is going down, storage costs are going down; concern for air pollution has gone up, especially in the urban areas. In the rural areas awareness and energy demand has increased. Global warming concerns also demand action. Paris Conference ensured big

stress on renewable energy. It may not be wrong to believe that Paris Agreement gave signal to the renewable lobby which may have also resulted in further reduction of costs. Trends of increasing energy efficiency are also bringing the system costs down as less power and panels is required to do the same task.

For example, thirty years ago when efforts were being made to bring in solar lighting within incandescent lamps it was not successful. But as soon as energy efficient CFL came, the solar lighting became more cost effective. It was soon replaced by LED and solar lighting has made big inroads into the rural lighting and the demand has gone up. The mobile revolution is also demanding electricity in the rural areas. Solar panels are required to charge the mobile phones. These are the different trends which are converging to the spread of RE.

Global energy dynamics is now being driven by RE, although the share of renewables currently is not as big as one would like it to be, but it seems quite clear that this is going to grow very fast.

I think both solar and wind eventually should become far more independent of the government and be based on the business models, which was not the case for other energy sources like coal, petroleum or nuclear where the Govt. or the public sector still has a big role. RE sector should be eventually led by the private sector and business models. While the fossil fuel industry is driven by big business, RE can be more inclusive inviting small and medium enterprises (SME) and also involve poor and should be inviting fairer gender participation.

What do you have to say about India's mission 175 GW of renewables by 2022?

I think that the mission has sent a very strong signal that renewable energy has to be brought in and there is not alternative to it. The commitment has also led to some reduction in prices, increased investment and accelerated pace of progress. It may be that 2022 is too soon and 2025 is more likely for the ambitious target to be met, but the pace can gallop quite fast.

What are the challenges that you see?

For India, especially, domestic manufacturing is a challenge and there could be a huge import burden for solar panels. It is in a way still relying on imports just as fossil fuels are, through only for the capital investment and not as much on regular basis as the fossil fuels. The possible way out would be to strengthen our domestic manufacturing capacity, which we are trying to do. For other challenges like evacuation of power grid integration etc. we are trying to get organized and ways are being worked out for Grid integration of RE. The main challenge, which is inherent to RE, is the 24-hour demand of power. This challenge can be addressed through judicious mix of other power sources such as coal, hydro power and nuclear which would be better options for base loads and flexible power. Otherwise strong storage is needed and work is going on for this. To have a strong storage system, more panels and roof space would be also needed. These issues need to be looked into.

Also, importantly, the disposal of worn-out panels after they complete the tentative lifecycle of 20-25 years may pose a big environmental threat and is something that should be thought about at this stage. There could be a clause at the time of purchase that they could be returned to the manufacturers for disposal.

What are the prospects of storage in the current system?

Electricity so far can not be stored and you have to exactly make it as per the demand. Having said that, there is no guarantee as to who will switch on electricity at what time, creating a fluctuating demand. If you have a fluctuating demand, you have problem to exactly balance the supply of electricity. This means there will always be either shortage or excess of electricity without grid scale storage. In this scenario, storage becomes an essential aspect for the development of a reliable renewable energy ecosystem as we eventually go towards fossil fuel free power system in the long term.

What do you have to say about the prospects of off-grid systems?

Off-grid is a way to start in remote areas but it should be eventually connected to the grid. Off-grid will be especially relevant in specific and rural areas. But the system should

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provide for a combination of off-grid and on-grid systems and that's how it will support increasing economic activities and livelihood.

Please talk about the role that solar will play in rural areas and rooftop in urban systems?

In the urban areas we have to motivate the Residents Welfare Associations(RWA) to incorporate more rooftop systems. There is no reason why they can not get together and use terraces and open spaces available in the housing colonies in setting up either community solar systems or through feed-in-tariff incentives available. (There are difficult in high-rise based development.)

We are far behind in rural electrification, though we are catching up fast. We haven't done it in quality and quantity that is required. By quality I mean interruption free assured and reliable electricity; where as in quantity I meant that you have mainly 11 KV lines and not higher voltage lines. If we want to do rural industrialization and serve non-agriculture load, we may need stronger support of electricity for agricultural and non-agriculture purposes RE can be most appropriate source of energy. There should be new business models where mini-grids can be viable. One current good business model is combining mobile tower with petrol pumps and one or two banks and then linking to unconnected households.

Such solutions could be looked at.

How do you see records being made in terms of tariffs?

One has to closely look into those prices and how are these calculated. You still need to work to the overall grid energy cost by considering the load at not just day peak hour but also supply at other time periods. Also, the place where the power is finally consumed and who pays for the grid. If we rush in and not make rational choices based on true cost to serve that electricity at time and place, it will lead to bankruptcy or chaos later. We have made investment into coal sector and that has to pay dividends during its life, if possible while reducing investment or stopping it.

How is Make in India and Skill India facilitate the job growth in renewables.

Skill India has to be the driver for new jobs in the RE sector. Renewable jobs would be somewhat semi-skilled jobs and will be more for literate or semi-literate people. These will be clean jobs, though still a bit risky especially rooftops. For these jobs people will not be required to leave their home cities unlike as in coal mining, where you need to be at mine location. However, once installed, the system will be automated. There is no requirement to continuously bringing in fuel. 

