

'Solar cell efficiency is important'



If we want to push Make In India, we need to complement it with determined efforts in R&D, says *Kirit Parikh* in an interview with *Shitanshu Shekhar Shukla*.

Q How do you view the renewable energy sector in India?

Well, the government seems to be serious. It is giving subsidies and encouragement for people to set up rooftop solar. It has also asked, many generating companies such as NTPC to put a certain amount of renewable as part of their generation. I think these measures will certainly increase the renewables' share in the country.

The Union Minister for Railways Suresh Prabhu was quoted by



a newspaper as saying that the solar panels would be installed on all stations.

Yes, certainly a lot of energy (power) can be generated through solar panels on station rooftops.

What do you think of the renewable portfolio obligation?

What we should do really is to have a common uniform renewable portfolio obligation level for all states and then one can decide on the basis of a long term goal the share of renewables in the country. I want X per cent of my generation from renewables, so you say, all states should have that X per cent. And, one must ensure that this is implemented. There should be a minimum price that producers are guaranteed and a sufficiently high penalty should be imposed on those who do not fulfill their obligations. Only then it would be possible for people to bring renewables in a way that would be efficient.

If Tamil Nadu finds it worthwhile to set up wind power plants then it will generate wind power and will sell it to someone who is setting up no renewable power plant and that's the whole idea of renewable portfolio obligation.

It requires enforcement and uniformity.

There should be a penalty clause. Today the DISCOMs do not buy power from the neighbours, instead they impose power cut on the consumers. That is the distortion we need to fix first.

According to REN21 report, the rich countries have been outspent by the developing countries. Do you see any paradigm shift? Developing countries are spending more and rich countries are spending less. What is your opinion?

I have not seen the report. So I don't know the exact percentage quoted. But I can imagine that the demand for power in rich countries is not growing because their population is not growing. They are not setting up new power plants. I don't know how to compare these things.

We need to have a long term vision and it is quite imperative that everyone should cut down the greenhouse gas emissions but the developed countries have a much greater responsibility than we have. It

doesn't mean we should not do anything. We should do something which is sensible in the larger context.

If developing countries switch to renewables and the developed countries don't, then it's the same as, when the Americans say, that they are cutting down on their energy needs and the Indians and the Chinese are increasing it. So, what is the game? Everyone has to agree to a significant amount of deductions in emissions or curtail emissions. We can't reduce our emissions but certainly can curtail our emissions growth rate.

We have a few promising start-ups in India. What do you have to say about them?

I think in the wind turbine sector we have two very promising firms: Vestas and Suzlon. They are large players in the international wind market. What we really need to make sure is to make it attractive for people to set up wind power plants. That means they should be able to sell the power they have with some minimum price guarantee. If you have a feed in tariff then the financial banks know that this is the minimum amount that you are going to make. So, it's easier to have a financial closure. If you have a renewable portfolio obligation, the banks are not sure what money you will gain by selling your power. If there is renewable portfolio obligation, with a minimum guaranteed price, the banks may feel confident to get a certain amount of money and raising finance may be easier.

We need to attend to all the issues related to this.

Do you think we need to invest more in R&D?

For solar, we need huge amounts of research not to improve solar technology but to improve efficiency of the cells and the possibility of very cheap storage.

We need focused R&D efforts to develop technologies of interest to the country. Entrepreneurs should have the incentives to do so. They should have the ability and the financial resources to do it. From a long term view point, our main objective should be to develop two or three different technologies which we think are the most important. Can we produce solar cells with

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an efficiency of 45 per cent rather than 15 per cent? We should concentrate on that. We should not wait for the Americans or Chinese to develop it and then import it to us. We should think in terms of being technology suppliers to the world not just technology buyers in the world. This requires a concentrated and more focused effort in research and development. Target it. Call it a mission solar 45. I want to have solar cells which give me that efficiency. If I can do that it will make a huge difference. Another thing is storage. For renewable energy, storage is vital.

Just look at the US Sunshot Programme. They define target and sub targets in great detail. Then identify the kind of problems that need to be overcome at each stage. Then they give 4-5 research contracts to different private and public institutions to resolve them. So, you give 50 different research projects and each element of this will build to a larger goal. That kind of a coordinated, well thought out, strategic research plan we don't have. You collect 10 scientists or may be 20 and let them discuss and define what is required. They will identify what is required and at each

stage they can set up programmes to resolve issues. And in research, redundancy is always required. So, you give the same problem to four different groups. Let them compete against each other. Whoever comes with a solution is what you use.

What is your opinion of Indian scientists?

Look at the research done abroad. In most cases, you will find Indian scientists involved. Give them an opportunity. Many of them would work much harder in India than abroad. It is a matter of inspiring people to get things done. If we can do effective R&D in space, why not in solar cells? It is just a question of recognising the importance of a particular thing and pushing it. I would say we should think seriously about carbon capture and storage. I think we have given a powerful thrust to solar energy but if we want to push Make In India, we need to complement it with determined efforts at R&D. 

Kirit Parikh is former member, Planning Commission, and chairman, Integrated Research and Action for Development (IPCC) authors in 2007.

