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Solar energy technology becomes increasingly affordable and available and its potential as a major source of low-carbon energy grows

In a 2004 report entitled, “Solar Generation” [Greenpeace and the European Photovoltaic Industry Association (EPIA)], estimated that, by 2020, Photovoltaic systems could provide MWh of energy-equivalent to 1% of the global demand projected by the International Energy Agency (IEA).

Energetica India talks to Mr. Prakash Nayak; Senior Member, IET & Director, PEnA Power Engineering and Automation Pvt Ltd to know about IET India Solar Panel, Å Solarillion Foundation & its contribution to Indian Renewable Energy Sector

ENERGETICA INDIA: Please introduce us to IET India Solar Panel- its mission, activities and members?

MR. PRAKASH NAYAK: The IET is one of the world’s leading professional societies for the engineering and technology community, with more than 150,000 members in 127 countries and offices in Europe, North America and Asia-Pacific. The IET provides a global knowledge network to facilitate the exchange of ideas and promote the positive role of science, engineering and technology in the world. Increasingly, the IET is projecting its voice and contributing to the major issues of our time such as climate change, affordable energy, trans-

portation, sustainable development, the skills shortage and, perhaps one of the more fundamental topics, education. The IET has a strong presence in India, with an office in Bangalore and local networks of leading engineers and IT professionals in Bangalore, Chennai, Delhi, Kolkata, Mumbai, Pune, Nashik and Kanyakumar, along with a South Asia office in Bangalore.

Power Engineers Panel: IET has formed the power engineer’s panel to create a platform bringing together the stakeholders from various parts of the power industry, academicians, education institutions, corporate bodies, scientists, students, government and policy making bodies. Under the national Power Engineers Panel, we intend to form local power engineer’s panel supported by IET Local Network. The Power Engineers Panel is an afterthought of IETs Sector focus and while looking at the core issues hindering the growth of power industry in India, similar panel exist at UK and Austral-

ia. The panel will be supported by the IET Power Academy based out of The UK.

Panel objectives

- To work on making engineering students excited about careers in core engineering industries.
- To increase the engagement of students and academics with other stakeholders and drive home the importance of engineers and technicians in building national assets.
- To work with similar minded bodies and relevant government agencies for creating concentration in technologies which are clean and environment friendly.

Other Focus Areas

- To form an advisory body around areas of power generation, distribution and transmission.
- Creating pool of technocrats and professionals and researchers in the area of power management and technology

- Attract young professionals towards most talked about growth engine of the country, i.e. power.

Solar Panel has been formed as part of Power Engineers Panel which we started in 2012; the mission and goals were similar to the one we had chalked out for Power Engineers Panel mentioned above. Creating an exclusive Solar Panel hinged on two things, Firstly, there is a stronger need for awareness of clean energy like solar and wind. Second, the awareness has to start from young kids, making them realise the importance of natural resources and preserving them thru fun embedded activities, model building, workshops etc., hovering on how one could reduce carbon emissions.

ENERGETICA INDIA: How is IET contributing to the Indian renewable energy industry?

MR. PRAKASH NAYAK: We are fortunate that since we started the solar panel, there has been tremendous development and announcement and thrust from the centre and announcement of 175 GW of clean energy out of which 100GW from solar by 2020, reiterate our above view and focus. However, the affordability, limited knowledge of people was the factors for slow growth. Thus, this is an area of opportunity, IET can take it forward.

I would therefore need Centre and States to follow the goal and evaluate the impediments; one such impediment is knowledge and awareness of total life time cost of solar system compared to fossil power. This awareness and education has to start at all levels, including schools and colleges and at community level. IET with their strong connections with colleges and school level in UK with Faraday's program to attract student to opt STEM subjects, could help through their activities.

Our IET Solar panel sponsored some of the activities in Tamil Nadu starting with workshop and building a model. Besides this, our head of solar panel Mr. Vineeth Vijayaraghavan, conducts many seminars and workshops on the subject.

What are also needed are government resources to create this awareness on green energy and energy conservation etc. in much larger scale utilising the IET Solar Panel resources, which comprises of

representatives from Industry, Academia etc. IET being a volunteer lead and not for profit organisation there should not have any issues partnering with government on these initiatives. Thus government could earmark some budget for this purpose of education and awareness.

ENERGETICA INDIA: What kind of industry interaction exists between IET India and the industry?

MR. PRAKASH NAYAK: As mentioned, IET is projecting its voice and contributing to the major issues of our time such as climate change, affordable energy, transportation, sustainable development, the skills shortage etc. In IET we have group of individuals forming a sector focused group at South Asia level and similar working group at each of the local networks. Some of the activities we conduct are high profile seminars and technical talks at each of these local networks besides mega events/conferences. Each of these localized networks works on various topics of their interest and which is relevant to the present context and conduct them through their volunteers and through college and student chapters etc. Considering huge drive from centre on renewable of 175 GW and 100 GW on renewable and solar energy respectively by 2020, there has been lot of active participation of our volunteers in partnering with industry and academia related technical talks, seminar and workshops.

Considering the country's commitments on climate change and inherent benefits to lower cost per MW, significant shorter gestation cycles, and focus should continue with the push that has been created. In a large country with more than 50% with age less than 25 years inclusiveness is the key to success.

ENERGETICA INDIA: There has been a lot of focus in India on renewable energy, energy conservation, green buildings and smart cities. Where do this all lead to in terms of business opportunities?

MR. PRAKASH NAYAK: India is a large country with huge domestic market. Though there is need to focus on export of goods and services, the domestic consumption being so high opens up huge opportunities. Power, with present situation of load shed-

ding even in the city like Bangalore, surely can be seen as a mega opportunities. Also, I believe opportunities and challenges inter-related.

There are many challenges, while there exist huge drive from centre on renewable of 175 GW and 100 GW on renewable and solar energy respectively by 2020, in my opinion it would be better to prioritize them and address them very effectively, as the credibility of implementation is the key to success and inclusiveness of the society as mentioned above is yet another factor leading to success.

First, incentives schemes should have flawless execution. Second, present state of State Electricity Boards (SEBs) is a bigger problem when it comes to large developers and the banking community. There is continuous exploration of various initiatives including the Ujwal Discom Assurance Yojana (UDAY) to revive the DISCOM Situation. Also there is a serious need to hike power tariff, which is an unpopular step for the political parties.

Third, I would also emphasise more of roof top to generate a power where the load is. Effective implementation of net-metering policy of the various state governments with good execution could be the yet another game changer. All these lead to huge business opportunities in the domestic market on the renewable energy front.

Yet another innovative idea is the solar park policy that created a mechanism to support large scale solar power plants. The solar parks and bid invitations by Central and State bodies are receiving excellent response.

As per global study, Solar Energy technology has become increasingly affordable and available; it's potential as a major source of low-carbon energy grows. In a 2004 report entitled, "Solar Generation" [Greenpeace and the European Photovoltaic Industry Association (EPIA)], estimated that, by 2020, Photovoltaic systems could provide MWh of energy-equivalent to 1% of the global demand projected by the International Energy Agency (IEA). The study assumed that the Photovoltaic systems market would grow at a compound annual growth rate of 30% until 2020. India with abundant sunshine surely enjoys a huge potential ◀◀