



WORKSHOP ON “THE FUTURE OF SOLAR ENERGY IN INDIA”



Organized by:

Gujarat Energy Research and Management Institute (GERMI)

And

Centre for Science and Environment (CSE)

On 23rd September 2013

At PDPU Campus, Gandhinagar

[PHOTO GALLERY >](#)

Summary: Workshop on “The Future of Solar Energy in India” on 23rd September 2013



Panelist:

1. Shri D J Pandian, Principal Secretary , Energy and Petrochemicals Department , Government of Gujarat
2. Shri Sudeep Jain, Chairman and Managing Director , Tamil Nadu Energy Development Agency
3. Dr. T. Harinarayana, Director, GERMI
4. Smt. Sunita Narain , Director General, CSE
5. Dr A K Tripathi, Director, Ministry of New and Renewable Energy
6. Mr. Chandra Bhushan, Deputy Director General, CSE
7. Mr. Kanv Garg, Clean Energy Analyst (Solar Specialist), World Bank
8. Mr. Siddharth Kohli, Managing Partner, India Development & Environment Agency
9. Mr. Arjun Guha, Energy Specialist, KfW
10. Mr. Pranav Mehta, Chairman, National Solar Energy Federation of India
11. Dr Omkar Jani, Principal Research Scientist, GERMI
12. Dr Sharath Rao, Materials Department, CSTEP
13. Dr Ketan Shukla, Deputy Director General, Gandhi Labour Institute, Gujarat
14. Mr. Rupesh Agarwal, Vice President, Ernst & Young
15. Mr. Rao SYS Chodagam, CEO, Titan Energy
16. Mr. K N Subramaniam, Chief Executive Officer, Moser Baer Solar Ltd



Inaugural Session[Left to right]
Shri Chandra Bhusan (CSE)

Smt. Sunita Narain (CSE)
Shri Sudeep Jain, IAS (TEDA)



Shri D. J. Pandian, IAS (PS-EPD)

Dr. A. K. Tripathi (MNRE)



Agenda:

In lines with the objective of the conference was to bring together key stakeholders of solar industry, viz. government officials, developers, equipment manufacturers, social entrepreneurs, NGO's, academia and R& D professionals to:

- **India has achieved about 1.8¹ giga-watt (GW) of solar power while the Jawaharlal Nehru National Solar Mission (JNNSM) aims at achieving a target of 20 GW by 2022**
- **The conference discussed how the solar energy development in India has stagnated in recent times and needs policy reforms to reenergize the sector**
- **Deliberations focused on how important it is to secure financing for solar projects and industry to prosper and how to develop the domestic manufacturing sector**

The panelist and participants deliberated on the above objectives and came up with the following major points that have to be worked out for the brighter future of Solar Energy in India.

Summary:

Less than four years after fossil fuel prices hit an all time high and the world plunged into its deepest recession since the Great Depression, geopolitical events are driving prices steadily higher. The short- term risks to political stability and economic activity posed by the world's dependence on fossil fuels are again as manifest as its long- term threat to environmental sustainability. To break this dependency, the world needs a clean energy revolution; a revolution, which can enhance global energy security, promote enduring economic growth and tackle environmental challenges.

After more than three years since the launch of the Jawaharlal Nehru National Solar Mission (JNNSM) and more than 1.8 GW (as on July 31, 2013) of installed capacity, solar

¹ As on 31 July 2013 ; Source MNRE



development is still facing certain fundamental challenges in ma
ation. The Phase-II of JNNSM has yet to be finalized. Stagnation has



appeared even at the state levels. The state governments complain of lack of funds to support high costs of solar power. Indian solar PV manufacturing sector is also facing bankruptcy. There is no direction to develop decentralized solar in the country either. We today lack a clear plan for the future of solar energy. Geographically India being one of the most favorable places in the world for development of Solar Energy but still the Future of solar energy seems bleak if sector reforms do not pull through.

The conference was jointly organised by and the Gujarat Energy Research and Management Institute (GERMI) and Centre for Science and Environment (CSE), the New Delhi-based research and advocacy body. The objective of the conference, said CSE deputy director general Chandra Bhushan, was “to take stock of the existing status of solar energy in India and develop a policy roadmap for its sustainable growth”.

Solar power development in India has stagnated and needs policy reforms on issues like financing and domestic content requirement to re-energise the sector, recommended experts at a conference on ‘The future of solar energy in India’ held here today.

As of July 31, 2013, India had an installed capacity of more than 1.8 GW of solar energy. Gujarat’s solar policy accounted for a major proportion of this development. The Union ministry of new and renewable energy (MNRE) plans to commence phase II of the national solar mission with allocation of 750 megawatt (MW) of solar projects. The launch of the second phase is delayed and recently being approved by Cabinet at the Centre. Bhushan stated that ‘If India wants to achieve the 20 GW aimed in JNNSM by 2022, there should be a growth rate of 30% per annum in solar installation.’

Speaking on how Gujarat intends to implement the second phase of developing solar energy sector, Shri D. J. Pandian, IAS, Principal Secretary, Energy & Petroleum Department, Government of Gujarat, said, “Gujarat will now mainly concentrate on roof-top solar power, since it offers enormous potential. If we cover only 20% of the houses, which works out to be about 20 lakh, we can install solar generation capacity of



MW, which is a big thing. So we plan to install about 60 MW capacity through this route. Tenders for 5 MW roof-top solar power generation



in each of the five cities namely Rajkot, Mehsana, Bhavnagar, Vadodara and Surat are ready and waiting approval from GERC.”

While asserting that Gujarat will come out with a policy to attract solar manufacturing sector, Shri. Pandian also said that we have been successful in reducing the capital cost of a roof-top solar power plant significantly and Sardar Sarovar Narmada Nigam Ltd is in the process of setting up a 10 MW canal-top solar power plant on SSP canal network near Vadodara.

One of the key points of discussion in the conference was the state solar policies. Dr. Omkar Jani, Principal Research Scientist, GERMI stated that while many state-level incentives have sprouted up, assistance and support by the Central government needs to be in place to ensure the sustenance of such state-wide models. It will also ensure there is no unfair burden on any state due to the high cost of solar energy.

With respect to financing, Mr. Kanv Garg of the South Asia Sustainable Energy team at the World Bank said ‘3,600 MW of solar under JNNSM phase-II would require around US \$6.4 billion, and also a debt financing requirement of around US \$4.5 billion’. The experts insisted that commercial lending should be encouraged to reduce dependency on central and state subsidies. Industry wants there should be more enforcement of renewable purchase obligations (RPO).

CSE believes that incentivizing only capital expenditure might lead to deployment of inefficient or unproven technologies that may not contribute much in terms of electricity generation or the life of the project. Solar projects should be granted ‘priority lending’ status for banks to allocate funds specifically to solar plants. In addition to this, takeout finance should be established like in the case of infrastructure projects that address issues that might arise for the long-term debt financing to core projects.

Another reason for the delay in phase II of JNNSM has been the disagreement over the issues of domestic content requirement (DCR) and how to develop the Indian



uring sector. The Indian Solar Manufacturers Association wants to domestically (Indian) manufactured cells and modules, irrespective of technology. Developers oppose the idea. They think that restricting the sector to domestic manufacturers is would only end up in trade wars with other countries.

Experts at the conference supported the idea of developing an indigenous manufacturing sector. However, any DCR mandating developers to buy Indian modules and cells will not only lead to higher costs for developers, and thereby higher solar electricity tariffs but may also encourage a stagnant and protectionist industry with little incentive to invest in improving their product. There is also the risk of any DCR being circumvented through re-branding imported cells and modules and forging documentation.

Many recommendations were put on table to support domestic manufacturing. Experts from GERMI recommended that a marginally incremental duty be imposed on imports such that some room is given to domestic manufacturers to reach scales and establish themselves to compete against cheaper imports. Experts from CSE recommended a financing package to reduce the rate of interest for the loan taken by the developers. A lower rate of interest could be provided to solar power developers under JNNSM willing to use Indian solar modules and cells.

Industry representatives and experts recommended that the phase II of the national solar mission should be announced quickly by the Central government to kick-start the solar energy development in the country.

Conclusion:

After a daylong deliberation and discussion, the major outcome was that the financing of solar project is a major bottleneck in the development of the solar sector and higher cost of financing is increasing the levelized cost of energy as well. A smart and innovative ways need to be worked out to boost up the confidence level of the investors and financial institution in this sector. Hence, everyone agreed and recommended that an innovative financing package shall be introduced to reduce the rate of interest on the



by the developers like the EXIM banks from US are doing to promote the solar industry. This can substantially reduce the effective cost of power.



Valedictory Session [Left to right] :

Ms. K Aruna (CSE)

Dr. A.K. Tripathi (MNRE)

Smt. Sunita Narain (CSE)

Mr. Pulkit Dhingra (GERMI)

Mr. Chandra Bhusan (CSE)

Dr. T. Harinarayan (GERMI)

Dr. Omkar Jani (GERMI)

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