

Background and Context

It is undeniable that access to energy is a fundamental requirement for development and also a key tool in poverty alleviation across the globe. This results in commissioning of numerous new power plants across the world. Coal, Petroleum and Natural Gas are the three conventionally most used fuel sources. However these natural resources are rapidly depleting, putting a serious threat on the existence of our future generations. Moreover, production of power by using these resources leads to huge Green House Gas (GHG) Emission which pollutes the environment and is one of the major contributors of Anthropological Climate Change. It is estimated that Global CO₂ emissions/year during 2020 would reach an alarmingly high level of 42 Giga Tonnes (*World Energy Resources: A Summary World Energy Council 2013*).

Considering the quantity and quality of reserves of primary energy it is projected that India will meet its demand of energy by importing 267.8 MTOE by 2016-17 and 375.6 MTOE by 2021-22 (*Energy Statistics, 2013, Ministry of Statistics and Programme Implementation, Government of India*). Thus, it is clear that if the huge electricity demand of India is to be met from the conventional power plants, then it would cast a serious threat over the country's energy security and economic growth.

Keeping this in mind, the Government of India has created several policies and schemes to promote the usage of Renewable Energy and increase its share in the energy mix of the country. Even most of the states in India have different policies in place for exploiting their respective Renewable Energy potential.

It is pertinent to mention here that the land required for developing a Solar Photo Voltaic (SPV) Power Plant of Mega Watt capacity is enormous. Thus

it makes a lot of sense to utilize the free spaces that are available on roof tops of large community buildings or hospitals or civic bodies or commercial/industrial entities for generating power from SPV based systems. Also one of the major losses in the power system is caused due to the Transmission and Distribution (T&D) losses and the Aggregate Technical and Commercial (AT&C) losses. The T&D losses of India in the year 2011-12 had been 23.65%, while the AT&C losses had been 27 % (CEA, September, 2014). This stresses on the need for avoiding construction of new T&D lines as much as possible. One of the major advantages of having the Roof Top SPV systems is that, it gets connected to the distribution system and the power is fed into a load centre, which avoids T&D losses, incurred as in the case of centralized larger plants.

The Government of West Bengal, realizing the need of having small scale solar roof top projects, has identified the types of buildings on which Roof top Solar PV systems can be installed, in its regulation, *Cogeneration and Generation of Electricity from Renewable Sources of Energy* (WBERC). However, the fact remains that in West Bengal, although the battery operated isolated roof top SPV Systems are a bit popular in both rural and urban areas, the roof top grid tied SPV systems are yet to set a footmark in the state.

In this context, CUTS Calcutta Resource Centre in partnership with West Bengal Renewable Energy Development Agency (WBREDA) and with support from West Bengal Electricity Distribution Company Limited (WBSEDCL) & Calcutta Electric Supply Corporation (CESC) Limited, is organising a **'Knowledge Exchange Workshop on Net Metering Based SPV Systems in West Bengal'** on 16th January, 2015 at Vidyut Bhawan, Saltlake. Shri Manish Gupta, Honourable Minister-in-Charge of the Department of Power & Non-Conventional Energy Sources of the State, will grace the event as the

Chief Guest. Mr. Toine Van Megen, Co-Founder, Auroville Consulting from Tamil Nadu and Dr. Omkar Jani, Principal Research Scientist, Solar Research Wing, GERMI-RIIC from Gujarat will present their experiences on Net Metering based Solar Photo Voltaic Systems, in their respective states. This workshop will be attended by stakeholders from Utilities, Academic Institutions, Corporate Houses and others.