

## Complementing Grid with Decentralized Solar Energy: How to Support Solar Entrepreneurship

Mr. Amit Kumar, Senior Director, TERI, set the context to the theme by emphasizing on the complementary and supplementary role of developing viable and economic solar models which are essential in the era of 100% electrification and government schemes such as Saubhagya under which all the villages have been electrified.

Mr. Edwin Koekkoek, Counsellor, Delegation of the European Union to India, enthusiastically presented the welcoming words by highlighting EU-India partnership and significance of the cooperation to attain 2030 Agenda. He added financing solar entrepreneurship would contribute to addressing multiple SDGs such as poverty, health and well-being, gender, education, water, affordable and clean energy, economic growth and climate action.

Dr. Arunabha Ghosh, Founder-CEO, Council on Energy, Environment and Water (CEEW), New Delhi, accentuated the need for looking at the strategies, technologies, business models, financial instruments and the behavioural change of customers in terms of distributed as well as non-distributed sources in rural and urban areas for significantly interacting SDG 7 with the other 16 SDGs.

Mr. Donal Cannon, Head of Regional Representation for South Asia, European Investment Bank, set the scene by highlighting the energy problems and the role of mass entrepreneurship in distributing energy as a part of the solution to sustainability. He drew the attention of the gathering towards the energy evolution where energy mobility, grid storage capacity, energy aggregators are playing a significant role in distributed energy. He mentioned various components of the distributed energy solution/technology such as generation, storage, application, load device, and IT skills and has also stressed on the high potential of IT skills and level of innovation which drives the Indian solar market. He directed the attention to the challenges faced by Indian energy market such as low-cost finance accessibility, low capital resources, high upfront cost, low margins, and low start-up revenues, no steady income, etc. and how these challenges can be taken care of by supporting the solar entrepreneurship. The two major factors he stressed upon in supporting the solar entrepreneurs are: first, access to low cost finance which needs management of bad loans from local banks and international financial support, second, technical assistance through product development, market development and access to finance which can be delivered via various channels such as micro-finance institutions, business angels, mentors, venture capitalist, incubators and accelerators etc. He recapitulated that SDG7 addresses the first ten SDGs and the need for measuring the sustainability indicators for attracting a whole new set of investors to support the solar entrepreneurship for complementing grid with decentralized solar energy.

Mr. Piyush Mathur, Chief Executive Officer, Simpa Networks, started with a statement that the problem of energy is primarily the problem of finance. He pointed out that the eternal presence of distributed solar technology in India whose accessibility at the micro level has always been a challenge due to its unaffordability. He also mentioned the inertia in technology as a considerable challenge in the solar energy market. Further, he discussed

that India is at the tipping point in the energy evolution curve with steadily advancing technology. He drew the attention to the financing challenges in the Indian market that could be controlled via packaging solar devices solutions with financing through a pay-as-you-go model making customers readiness to acquire decentralized energy solutions.

Ms. Mohua Mukherjee, Program Ambassador, International Solar Alliance, informed that in the last couple of years there had been much development in the field of super energy efficient appliances. In addition to the energy efficient lightings, energy efficient pumps and motors have been a game changer. She emphasized that in the coming years cooling would be the most energy consuming area in the field of agriculture, comfort, and medicines. She stressed that manufacturers would not enter the space until they see a market by way of affordable payment solutions. Also, distributors will play a key role in helping the market grow. She also emphasized that Saubhagya is going to increase the demand for such appliances.

Mr. Dhruva Purkayastha, Director, US-India Clean Energy Finance, Climate Policy Initiative, mentioned that the DISCOMS and the Indian Grid is not robust enough and efforts should be put on improving the regulatory regime through international investment, and resources for capacity building. He also discussed that the energy politics has its role to play in the regulation and functioning in energy sector as it is noted that where market and technologies weigh more the public sector tends to lose out and there is a need to innovate with regulation and the adoption of the technologies should be taken care of, to support the solar entrepreneurship. He stressed on the public-private partnership in the business models for decentralized grids to provide the electricity as an infrastructure service to milling, spraying, cold storage, transport, and other local economic activities.

Mr. Debajit Palit, Director and Senior Fellow, Rural Energy and Livelihood Division, TERI, emphasized that the technology is in isolation with the current institutional, regulatory and policy architecture in the country. He said that there is a need to devise models which incorporate both Central Grid and Distributed Renewable Energy systems. He emphasized that in order to promote DRE, the road map should be clear on what customers would be provided, their aspirational demand and pricing structure. He discussed that sub-mega-watt/ mega-watt scaled solar power plants with part storage can compete with the grid electricity price. He stressed on pricing as the most important component for the private sector to flourish.

Mr. Vinay Rustagi, Managing Director, Bridge to India, emphasized that DISCOMs are going through financial difficulties even after implementation of UDAY scheme, and in such conditions, it becomes difficult for the utility to act pro-actively to adopt the new evolving business models. He discussed that the Indian grid is still evolving to support the R.E technology. He mentioned that in terms of regulatory regime much more needs to be done to enable distributed energy systems to operate alongside grid. He concluded on the point that the policy has not been pro DRE and that needs to change and evolve.