Solar PV Module Recycling: Now and Future

The deployment of solar PV technology has grown tremendously in recent years. Photovoltaic (PV) technology disposition opens the option for realizing the decarbonisation of power sector and having sustainable supply of energy that could be deployed in almost everywhere on this planet. Presently, whole attention is on up-scaling the capacity additions of solar PV modules including efforts on rural and urban solar electrification, one must not lose sight from the fact that the huge quantities of the solar PV module waste might find its way sooner towards the landfill sites, places of installations or leaching in the soil and water. It's clear that sustainable development of solar PV industry is supported by regulatory framework and institutions across the globe. On the contrary, no such program is implemented so far in India which needs to mandate and regularize the collection, recovery and recycling of solar PV modules after reaching end-of-life along with the strategic designing and adoption of economical and appropriate technologies. The waste generated by the solar PV modules is presently covered under general e-waste regulations. In India, the use of solar PV is supported by the government for more than three decades now; however, the volumes have started rising since last decade only. Considering useful life of PV nodules, the issues and establishment of ecosystem to support gainfully recycling cannot be over emphasized.

The focus of this thematic track is to explore the legislative and technical framework for sustainability of solar PV modules via analysing and gathering latest information on potential of solar PV module waste generated in leading solar energy markets e.g. recovery of raw material, market for solar PV recycling industries etc. The output from this thematic track will provide important feedback for developing regulatory framework and guidelines to ensure safe and efficient recycling at the end-of-life of solar PV modules. Participation in this thematic track is envisaged to have learning from the global efforts learning to enhance knowledge, capacity building, technological & regulatory systems along with new business development opportunities in solar PV recycling sector.

The Energy and Resources Institute (TERI) and the **University of Agder (Norway)** are organizing a joint workshop, entitled "**Solar PV Recycling: Now and Future**" under Framework Agreement with the **Norwegian Ministry of Foreign Affairs** through the **Royal Norwegian Embassy**, New Delhi, for strengthening the India-Norway co-operation on "**Climate Change and Sustainable Development**" at the **World Sustainable Development Summit, WSDS 2019**.

During this track, it becomes important to take cognizance of the following aspects:

- Present state of recycling technology and potential of innovation for end-of-life management of PV modules
- Availability of desired eco-system in support of end-of-life management of PV modules
- Requirement of regulatory and policy support.