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A Project of the Ministry of New and Renewable Energy at IIT Bombay

NCPRE Association with Solar Industry: IAP Membership, Technical Collaborations and Site Visits

NCPRE has been building a strong relationship with the solar industry in India. Our faculty, staff and students have been interacting with industry through the Industry Affiliate Programme (IAP), Technical Collaborations, Workshops and Facility Visits. The IAP, which was introduced in Phase I of NCPRE, is successfully being continued in Phase II. This annual membership program has attracted many organizations. It offers several benefits like fee waiver for NCPRE courses, usage of facilities at reduced rate and most importantly it gives a channel through which industry members can discuss their technical challenges with NCPRE faculty. This has led to some very productive collaborative work.

There is also a lot of interest from industry in using NCPRE's expertise for conducting performance evaluation of their fielded modules. NCPRE is collaborating with industry to gather data on degradation rates, and impact of module materials and climatic zones on long term performance of modules. The Module Reliability Workshop held in April 2017 was attended by many industry participants where they received training on module performance evaluation.



NCPRE - Industry Interactions

As the industry moves towards Diamond Wire Cut (DWC) wafers which have a polished surface, the existing Texturization process will not be able to create the required reflectance. In our Silicon solar cell lab, we are working with cell manufacturers to jointly develop a new process for texturizing the DWC wafers.



Participants at Module Reliability Workshop, April 2017

Transportation of PV modules is also an area of concern in India as poor condition of the roads can lead to cracks in the panels. NCPRE is working with Waaree Energies to gather data on vibrations experienced by the module during transportation by placing an accelerometer in the pallet. This will help develop standard procedures for packaging and handling of modules. We are also collaborating with many material manufacturers like RenewSys, Gujarat Borosil, DSM and Borealis to study how the various materials like EVA, backsheets and glass affect the performance and reliability of modules. Industry partners provide the samples, processing time and help with measurements and the NCPRE team conducts experiments and analyzes the data. This collaborative effort will be very helpful in gathering basic understanding of materials and their impact on module performance.



Field Reliability measurement with industry

Equipment available at NCPRE is also being used by organizations like CEL, IMC, OneSun, Vikram Solar and Webel. Analytical tools like FESEM and Environmental chambers for reliability study are in high demand.