

Cycle Environnement et Transition énergétique

Photovoltaics at the heart of the Energy Transition: What role does international R&D take to accelerate large scale deployment?



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Photovoltaics have experienced an impressive growth since 2000, reaching 320 GW cumulated installed capacity worldwide by the end of 2016, with 77 GW that year only. It contributes to about 1,3 % of world electricity supply, peaking at about 7-8 % in several countries. During the next decade it will pass the symbolic teraWatt level. However, this still represents a small contribution to the renewable energy needs and requires further acceleration. The competitiveness at the cost level of PV electricity is a key factor of success, another one is to improve the performances of solar cells and modules, in particular the conversion efficiency by research and development efforts. This presentation will present these perspectives from state of the art research and possible roadmaps established by the most advanced laboratories and institutions. The IPVF road map « 30x30x30 » launched in 2015 at Cop 21 will be presented and critically discussed in view of the recent developments of PV technologies, together with the present R&D program and highlights of the institute.

