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RSC/ERDF Lecture

16th March 2013

“The Prospects for Thin Film PV Solar Energy in a World Dominated by Crystalline Silicon”

Professor Stuart Irvine
Centre of Solar Energy Research OpTIC

Crystalline silicon photovoltaic (PV) modules account for 85% of the global market and the rest comprises of thin film PV based on either cadmium telluride, thin film silicon or CIGS. The global market has been expanding at something like 30% per annum over the past 20 years and thin film PV would have to expand at a more rapid rate to take a larger market share. The major technology driver has been the cost per watt peak and crystalline silicon has managed to stay ahead of most technologies through manufacturing improvements and scale of production. Newer technologies need to have advantages over crystalline silicon that cannot be easily matched by process improvements with silicon. This talk will explore some of the newer PV materials and identify how these might be used in new markets for renewable electricity generation.

