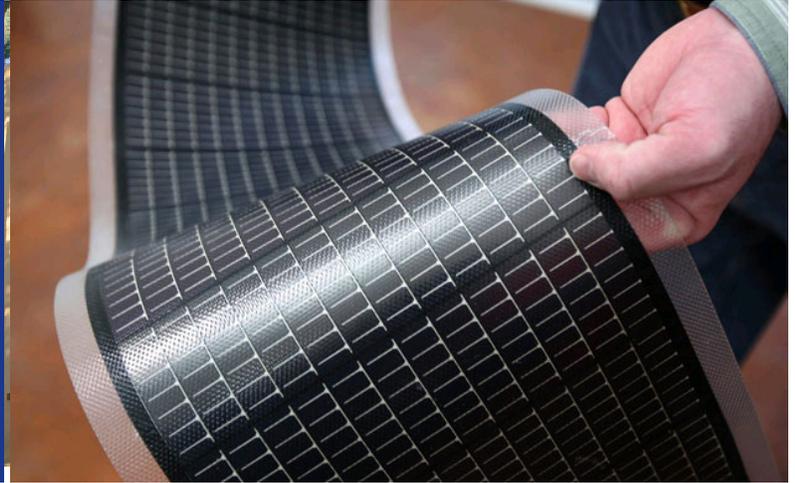


Thin-Film Photovoltaic Modules – ready for the challenge?



Dr. Douglas Hall

Portfolio Manager

US Department of
Energy



**Dec 5, 2011
Monday**

1.10-2pm

TH 327

Synopsis:

In order to gain wide-spread deployment in electrical generation systems, the cost of photovoltaic modules must be reduced by a factor of 3-4 times and approach the Department of Energy's SunShot Program goal of an unsubsidized cost of \$0.50/W by 2020. There has been significant progress in cost reduction of crystalline silicon-based PV modules, which represent about 80% of the PV modules that are currently produced. The 2nd generation PV technologies of Cadmium Telluride (CdTe), Copper Indium Gallium di-Selenide (CIGS), and multi-junction thin-film silicon are challenging this dominance.

This talk will describe the performance/cost challenge, describe the current state of thin-film manufacturing and discuss some of the technical challenges that one of these technologies (CIGS) must overcome to meet the SunShot goals.

Speaker Bio:

Douglas Hall received a bachelor's degree in physics from Occidental College, Los Angeles in 1975 and a doctorate from the University of California, Davis in 1982 while a student employee at Lawrence Livermore National Laboratory. He joined Corning Inc. in 1983 where he initiated and led Corning's research project on erbium-doped fiber amplifiers for use in long-haul telecom systems. He was the technology leader as this product line moved from research concept to volume manufacturing. During a 27 year career at Corning, Doug played a variety of roles from research scientist to division vice-president and development director for the Photonics Technologies Division. His last position at Corning was as Product Technology Director for Corning Photovoltaic Glass Technologies. He retired from Corning in 2010. In June of 2011, he joined the Department of Energy as Portfolio Manager of the Solar Energy Technologies Program's Photovoltaic Manufacturing Initiative. This initiative is helping to create a crystalline Si PV manufacturing development facility (SVTC-Solar), a CIGS thin-film PV manufacturing consortium (PVMC, Inc.), and a university-based manufacturing-focused research consortium (BAPVC). Doug is the author of over 20 articles in refereed technical journals and three book chapters. He holds 17 U.S. patents. He is a Fellow of the Optical Society of America. He has served as associate editor of the Journal of Light Wave Technology and as a member of the Public Policy Committee of OSA. He is currently chairperson of ASTM subcommittee E44.20, Glass for Solar Applications.

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