

Research to Uncover Lower Costs and Reduced Material Use in Thin Film Silicon Module Production

European Commission Funds Research Project Led by Oerlikon Solar

Trübbach (Switzerland), 2 November 2010 – Oerlikon Solar, the world's leading supplier of thin film silicon photovoltaic (PV) production equipment, leads a research project called “PEPPER” that is receiving a grant under the Framework Programme for Research of the European Union, coordinated by the DG Energy of the European Commission. The aim of the project is to further enhance performance and decrease costs of thin film silicon modules within the next three years. Additionally the project will assess and reduce the environmental impact of the overall module production process.

Project “PEPPER” (website: <http://pepper.epfl.ch/>) started on 1 September, 2010 and mounts up to EUR 16,7 Million of which EUR 9,4 Million are financed by the European Commission – DG Energy. The members of the project, in addition to Oerlikon Solar, are the Photovoltaics Laboratory of the Institute of Microengineering at EPFL (IMT-Neuchâtel, Switzerland), the Universities of Northumbria (UK) and Patras (Greece), Bosch Solar Thin Film (Germany, module production), Heliosphera (Greece, module production) and Linde (Germany, gas supply).

The goal of the project is to demonstrate high performance processes and equipment for thin film silicon PV modules produced with lower costs, reduced material use, and an even improved environmental-friendly production process. The project tackles the major influences on Micromorph® module efficiency and production cost by assessing the influences of glass, gas, transparent conductive oxide (TCO) and silicon deposition as part of the production process.

Having industry and university partners as part of the project transfers new developments and improvements directly into production plants where the full impact on module efficiency and costs can be evaluated. Achieving the goals of this project will further increase the competitiveness of thin film silicon Micromorph® technology not only compared to other photovoltaic technologies but also with other energy generating technologies.

“I am very pleased that Oerlikon Solar’s research efforts are being recognized through this project selected for a FP7 grant by the DG Energy of the European Commission,” said Dr. Juerg Henz, CEO Oerlikon Solar. “Driving down costs while raising the efficiency is key to economically viable solar power. With this impressive consortium of experienced research and industry leaders we will continue our path in making thin film silicon the competitive, clean and sustainable energy source of tomorrow.”

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About Oerlikon

Oerlikon (SIX: OERL) is a leading high-tech industrial group specializing in machine and plant engineering. The Company is a provider of innovative industrial solutions and cutting-edge technologies for textile manufacturing, thin-film coating, drive, vacuum, solar energy systems and advanced nanotechnology. A Swiss company with a tradition going back 150 years, Oerlikon is a global player with around 16,000 employees at over 150 locations in 36 countries and sales of CHF 2.9 billion in 2009. The Company invests more than CHF 200 million annually in R&D, with over 1,200 specialists working on future products and services. The operative businesses rank either first or second in their respective global markets.

About Oerlikon Solar

Oerlikon Solar designs and manufactures field-proven equipment and turnkey manufacturing lines for the mass production of environmentally sustainable thin film silicon solar modules. With its amorphous and high-efficiency Micromorph® tandem technology, Oerlikon has dramatically increased the efficiency of thin film silicon and

created innovative end-to-end manufacturing solutions for thin film PV, enabling new entrants in the fast-growing, global PV manufacturing business. Oerlikon Solar leads the thin film solar equipment sector with 14 customers in seven countries, and more than 3 million modules produced and 450 MW of capacity produced worldwide.

Oerlikon Solar has Micromorph[®] patents dating back to 1993, was the first to integrate the high-efficiency Transparent Conductive Oxide (TCO) layer, and the first to commercialize the high-efficiency Micromorph[®] process and support the majority of its customers in migrating to it. To date it is the only proven end-to-end Micromorph[®] solution available on the market, offering lowest cost of electricity \$/kWh, and proving highest future cost reduction potential. Certifications from UL and TUV confirm that Oerlikon Solar meets highest quality and reliability standards worldwide. In May 2009, Oerlikon Solar became the first thin film silicon PV technology provider to pass all tests required for its Micromorph[®] thin film silicon solar PV modules and receive TUV Rheinland's IEC certification.

Oerlikon Solar thin film silicon modules are produced environmentally friendly with non-toxic materials, and they are ideal for semi-transparent glass and other building-integrated PV (BIPV) applications. Thin film modules perform well in diffuse or lower light, and are best suited for high temperature climates. Its production lines are complete systems, yet modular and upgradeable, so customers have the capability to scale up rapidly with the latest technology to meet fast-growing demand for solar PV, demand that will accelerate as the cost of PV energy approaches grid parity.

Oerlikon Solar launched the new production line "ThinFab" for manufacturing of thin film silicon modules, which will achieve record breaking production costs of € 0.50 per Watt peak (Wp). The ThinFab reduces the energy payback-time of thin film silicon modules below one year, with the lowest energy consumption for photovoltaic production plants in the industry.

Oerlikon Solar is headquartered in Switzerland, has about 700 employees in 13 locations worldwide, a number of factories in production around the globe and maintains sales and service centers in the USA, Europe, China, Taiwan, Korea, Singapore and Japan.

For more information, please visit www.oerlikon.com/solar