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MiaSolé Achieves 15.7% Efficiency with Commercial-Scale CIGS Thin Film Solar Modules

NREL verifies energy conversion efficiency of 15.7% on 1 square meter area CIGS modules

SANTA CLARA, Calif.--(BUSINESS WIRE)--MiaSolé, the leading manufacturer of copper indium gallium selenide (CIGS) thin-film photovoltaic solar panels, today announced that the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) independently confirmed the 15.7% efficiency of its large area production modules (1 square meter in size).

15.7 % module efficiency closely follows the previously announced 14.3% efficiency in September 2010. This is the highest efficiency demonstrated for commercial size thin-film modules and effectively closes the gap with polycrystalline silicon module efficiencies.

"This is a significant accomplishment as it represents the ability to manufacture full scale CIGS modules with efficiencies equal to or better than that of polycrystalline silicon modules available in the world today but manufactured at a thin-film cost structure. We are pleased that we are executing ahead of our roadmap for efficiency improvements and feel confident in our ability to bring high efficiency CIGS technology to the market place," said Dr. Joseph Laia, CEO of MiaSolé.

MiaSolé has previously announced that it would start shipping its 13% efficiency modules in the second quarter of 2011 upon completion of UL and IEC certifications.

"This is a very exciting result, especially when it comes so soon after the previous 14.3% achievement from last September," NREL solar researcher Dr. Rommel Noufi said. "An almost 1.5% absolute increase in efficiency in such a short time on a continuous roll-to-roll manufacturing line is impressive and demonstrates good process control and a validation of the MiaSolé approach." This achievement significantly narrows the efficiency gap between manufacturing performance and cells produced in the laboratory (20.3%), Dr. Noufi pointed out. It also moves CIGS technology well on its way to achieving DOE's target of $1 per Wp photovoltaic systems, he said.

MiaSolé now offers bank financeable solar modules with efficiency comparable to polysilicon combined with the lower manufacturing costs of thin-film modules.

MiaSolé's unique manufacturing process deposits CIGS on a flexible stainless steel substrate and produces all of the layers required for its highly efficient solar cell in a single continuous process. MiaSolé is the only thin-film solar company that uses sputtering processes in every step of the coating process of the solar modules, thereby reducing manufacturing time and cost of production.

MiaSolé will ship 22MW in 2010. The company's products are designed for utilities and independent power producers to use in industrial scale deployments such as large-scale rooftop and ground mount installations.

About NREL

NREL is the U.S. Department of Energy's primary national laboratory for renewable energy and energy efficiency research and development. NREL is operated for DOE by The Alliance for Sustainable Energy, LLC.

About MiaSolé (www.MiaSolé.com)

MiaSolé is a pioneer and leading developer of copper indium gallium selenide (CIGS) thin-film photovoltaic solar panels, one of the lowest-cost, highest efficiency solar panels in the world. MiaSolé's primary mission is to advance the extraordinary potential for harnessing solar power as a competitive, sustainable energy source and enable grid parity by 2012. Based in California, MiaSolé currently operates two manufacturing facilities.

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