

WORLD RECORD PHOTOVOLTAIC POWER GENERATION

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Solar Systems sets new performance benchmark for solar power

Solar Systems has developed the world's highest performing concentrated photovoltaic (CPV) solar power receiver.

The first receiver of this type is now operating in Hermannsburg solar power station in the Northern Territory, Australia. The receiver has demonstrated 30% efficiency in generating electricity from concentrated sunlight – similar to the efficiencies of current fossil fuel power stations.

As well as being the most efficient, it is also the largest high efficiency array in the world. The patented receiver in the photograph is generating over 30kW_{DC} of electricity from less than 0.25m² of photovoltaic material.

Complementing the high efficiency PV cells, the unique combination of the mirrored concentrator dish and patented tracking system captures the sun's energy from the start to the end of the day. The pictured receiver has been operating continuously since March 2006 and continues to exhibit excellent stability and performance.

The results were presented at the recent IEEE 4th World Conference on Photovoltaic Energy Conversion, Hawaii, May 2006 by John Lasich and Pierre Verlinden of Solar Systems.

This new high level of output is the result of two years research and development work at Solar Systems. The company successfully developed the methodology to incorporate new generation 'multi-junction' (non-silicon) photovoltaic cells in a solar concentrator power plant to get maximum power output.



30% efficiency receiver 'on-sun' at Hermannsburg