



New back-contact solar cells could be on the market next year

## Solar cell wins its stripes for more efficiency

silicon wafers and is a back-contact, back-junction cell, without any metallization on the sunny side.

This means that,

while the efficiency of today's industrial mainstream monocrystalline cell technology will soon saturate at around 19% to 20%, Silfab's innovative Zebra technology starts from 19% and will reach efficiencies of over 22% while significantly reducing the production costs per watt peak.

"The combination of high efficiency, large area n-type wafers, as well as a low cost process leads to a significant

reduction of cell and module production costs, and represents a very important step towards Grid Parity," claimed Franco Traverso, Silfab SpA president and chief executive.

He explained that the Zebra process sequence was a new and smarter combination of single process steps already implemented in mass production by the PV industry, thus avoiding the need of adopting specific equipment for producing inter-digitized back-contact cells (IBC).

The company plans to have a cell manufacturing pilot line set up by the end of this year, with new generation modules available in 2012. ■

**A** research and development project between Silfab SpA (Italy) and ISC Konstanz (Germany), has led to a new back-contact solar photovoltaic (PV) cell with an actual 19+% energy conversion efficiency and a claimed potential exceeding 22% that uses a low-cost industrial process.

Named the Zebra, new cell concept is based on large area (156 mm x 156 mm) n-type monocrystalline (Cz)

## Compact boiler designed for larger buildings

The new compact, high-output wood pellet boiler has been designed by Windhager UK to provide larger properties with heating requirements of up to 180kW.

Extensively tried and tested, the pellet heating technology has been adapted especially for high performance, focusing on maximum operational safety, fuel efficiency and economic operation for cost savings.

The new BioWIN uses a specially patented fully automatic pellet feed suction system, which uses up to eight extraction points within the bulk pellet hopper, making the

system incredibly reliable and space saving as pellet storage rooms incorporating inclined surfaces are no longer required.

An installation footprint of just 1.12m<sup>2</sup> is all that is required for the boiler that is available in outputs of 35kW, 45kW and 60kW, as well as in a cascade version up to 180kW, making it the ideal heating solution for large buildings and district heating systems. ■

This new compact wood pellet boiler from Windhager UK



## New batteries designed for renewable energy systems

The Californian-based Trojan Battery Company, a leading international manufacturer of deep-cycle batteries has launched a new line of deep-cycle industrial batteries for renewable energy (RE) and back-up power applications.

"Recognizing the importance of this emerging market, the company has directed its attention toward

leveraging its expertise in deep-cycle battery technology to engineer products specifically for renewable energy applications for large-sized RE and backup power systems," said Bryan Godber, vice-president of renewable energy at Trojan Battery.

The Industrial product family is designed for use in large off-grid PV systems, off-grid hybrid PV systems,

grid-tied PV systems with battery backup, smart grid peak shifting systems and a variety of other applications.

They are specifically designed for deep-cycle use and optimized for deep discharge and recharge cycles characteristic of RE systems. ■

See [www.trojanbatteryRE.com](http://www.trojanbatteryRE.com) for more details