Sliver Cell Offers Solar Power Revolution

A new type of solar cell with the potential to revolutionise the global solar power industry has been developed by a joint venture between the Australian National University and Origin Energy. Director of the ANU Centre for Sustainable Energy Systems, Professor Andrew Blakers, said the Sliver Cell uses one tenth of the silicon used in conventional solar panels while matching power, performance and efficiency.

"By dramatically reducing the amount of expensive pure silicon, the largest cost in solar panels today, this new technology represents a major advance in solar power technology", Blakers said. "A solar panel using Sliver Cell technology needs the equivalent of two silicon wafers to convert sunlight to 140 watts of power.

"By comparison, a conventional solar panel needs about 60 silicon wafers to achieve this performance."

Origin Energy has invested more than $6 million in research and has worked with ANU's Centre for Sustainable Energy Systems to discover a way to harness the sun's power at much lower cost. Origin Energy's Executive General Manager, Generation, Andrew Stock, said: "the economy and flexibility of Sliver Cells will enable it to play an important role in the future wide-spread adoption of solar power."

Sliver Cells are produced using special micro-machining techniques, then assembled into solar panels using similar methods to those used to make conventional solar panels. The new technology reduces costs by using much less expensive silicon for similar efficiency and power output, and needing less capital to build a solar panel plant of similar capacity.

The unique attributes of Sliver Cell technology could open many new applications, in addition to conventional rooftop and off-grid uses, including:

- Transparent Sliver Cell panes to replace building windows and cladding
- Flexible, roll-up solar panels
- High-voltage solar panels, and
- Solar powered aircraft, satellite and surveillance systems.

ANU Vice Chancellor, Professor Ian Chubb, welcomed the research breakthrough. "Origin Energy is to be congratulated for its foresight and persistence in supporting the ANU team in this project", Chubb said. "The company has made a substantial contribution since establishing the research partnership with ANU", Chubb said.

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