

Reproduction of Canberra Times article by Rosslyn Beeby, Science and Environment Reporter

A world-first solar technology poised to make photovoltaic panels cost competitive with clean coal, developed by Australian National University researchers, has won one of Australia's top science prizes.

Professor Andrew Blakers and Dr Klaus Weber of the ANU's Centre for Sustainable Energy Systems have been awarded the Sir Alan Walsh Medal by the Australian Institute of Physics for their revolutionary solar sliver cell technology.

The medal, which honours the Australian inventor of atomic absorption spectrophotometry – a simple, rapid and inexpensive method for analysing minute traces of metals – is awarded to an invention which the institute believes will lead to “significant industrial and commercial outcome”.

It's the fifth major award in two years for Professor Blakers and Dr Weber, who came up with the idea of producing a wafer-thin solar cell while on a train trip to a renewable energy conference in Scotland.

The solar cells are micro-machined to less than 70 microns thick, and use 90 per cent less silicon than conventional cells to make photovoltaic panels.

“The biggest challenge in solar panel research has been to somehow reduce the cost of the silicon. What we've been able to do is come up with a technology that will cut the cost of photovoltaic panels by three quarters,” Professor Blakers said.

The breakthrough is attracting the interest of several billion-dollar big name renewable energy investors in Europe and the United States, but Professor Blakers and Dr Weber are hoping their invention won't go offshore.

Origin Energy has invested more than \$30 million to commercialise the technology, including construction of a pilot manufacturing plant in Adelaide, but is still seeking engineering skills and an investment partner to accelerate large-scale production.

“Australia could be a world leader in the solar market which is growing at a phenomenal rate overseas. On average it is doubling every 18 months and will be worth \$100 billion in just five years time,” Professor Blakers said.

Working with the deputy director of the Australian Research Council's Centre of Excellence for Solar Energy Systems, Dr Vernie Everett, Professor Blakers and Dr Weber developed a “second generation” of sliver cell technology that could capture a big slice of the global solar market.

“Vernie came up with a way of making the manufacturing process cheaper and faster,” Professor Blakers said. “The costs are such that the second-generation sliver technology will make solar cost-competitive with clean coal.”