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Origin starts construction of \$20 million revolutionary Sliver® solar power plant in South Australia.

Origin Energy today announced construction is underway on its \$20 million solar photovoltaic (PV) manufacturing plant in Adelaide, South Australia.

The new plant will make solar power panels to demonstrate Origin's revolutionary Sliver® Solar Cell technology developed with the Australian National University's Centre for Sustainable Energy Systems.

Designed to produce up to 5MW of PV modules per year initially, the plant will be readily expandable to 25MW per year should it meet all design objectives and prove Sliver® technology can be applied at a mass produced scale. It will use world-class solar cell manufacturing technology and specially developed automated module assembly techniques.

Solar PV modules incorporating the new Sliver® technology are expected to be available to market by January 2005. The first Sliver® modules will suit applications such as powering homes and telecommunications in grid connected and remote locations.

Origin Energy's Executive General Manager Generation, Andrew Stock said, "This revolutionary new Sliver® solar technology offers tremendous potential to expand the application of solar power because it cuts by up to 90% the expensive silicon used in conventional solar panels. The unique properties of Sliver® cells will also allow a wide range of consumer and industrial products to be powered by the sun."

"We chose to demonstrate this technology in South Australia because of the state's advanced manufacturing and technology base, specialty glass manufacturing which already supplies the world's solar power industry, and the highest per capita consumer uptake of grid connected solar power in Australia," he said.

The new plant will create around 30 highly skilled jobs initially for people with specialist knowledge in advanced physical and chemical sciences, and manufacturing. These numbers could grow significantly as production is expanded to meet potential export markets.

In 2004, Origin Energy will be seeking global technology and marketing partners to develop the full application potential of the unique Sliver® cell characteristics.

An A\$1million grant from the Australian Government, through the Australian Greenhouse Office, contributed to the project.

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Origin Energy Sliver® solar cell PHOTOS available by clicking:
<http://www.originenergy.com.au/environment/environment.php?pageid=1131>



About Origin Energy's Revolutionary Sliver® Solar Technology

Dramatically reduces expensive silicon use: Sliver® technology uses 90% less of the expensive silicon than current conventional solar PV modules yet delivers commercially competitive cell and module efficiencies. This means a solar power panel using Sliver® cell technology needs the equivalent of 2 silicon wafers to convert sunlight to 140 watts of power. By comparison, a conventional solar panel uses around 60 silicon wafers to achieve similar performance.

Substantially thinner than most solar cells yet highly efficient: Micromachined using innovative manufacturing techniques to less than 70 microns thick (thinner than a human hair) from monocrystalline silicon, Sliver® cells demonstrate efficiencies of 19.5%. While Sliver® cell efficiencies are competitive with other conventional solar cells, they perform much better than most other thin film technologies. Sliver® cell trial modules tested by Sandia National Laboratories in the United States show efficiencies comparable with other solar power module products now on the market.

Radically different in size and shape: Sliver® cells also differ radically from conventional solar cells in size and shape. They are long, ultra thin, quite flexible and perfectly bifacial. This is unlike conventional solar cells which are typically square or round, up to 4 to 5 times thicker, quite rigid and usually single sided.

New application possibilities: These unique and versatile Sliver® properties open up opportunities to use the sun to power a wide range of potential new applications including:

- Transparent Sliver® cell panes in buildings
- Flexible and roll up solar panels
- Small and very high voltage solar panels for consumer electronics, and
- Remote surveillance systems.

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Solar industry growth. The solar PV industry generated over A\$5 billion (560MW) in sales worldwide in 2002 is growing at over 30% annually. In 2002, production of solar PV modules grew by 56% in Europe and 46% in Japan. Use of solar power for homes and businesses in grid connected applications is the fastest growing use and now dominates world solar PV sales with over 50% of the total market. In Australia, 1.46MW of solar modules were installed in grid connected applications in 2002/3.

About Origin Energy: With a history dating back 140 years, Origin Energy is a leading Australian energy provider. It participates in most segments of the energy chain including power generation; energy retailing and trading; natural gas exploration and production; and asset management services. Origin Energy supplies energy to more than two million Australian homes and businesses. The company is one of the leading marketers of grid-connected solar systems in Australia. Since 1998, Origin has invested over \$6 million in solar power research with the ANU's Centre for Sustainable Energy Systems.

Origin Energy is also Australia's leading Green Power retailer with over 30,000 Green Power customers. Green Electricity Watch, a body comprising Australia's peak environmental groups, has rated Origin Energy's Green Power products as market leaders. Visit our website: www.originenergy.com.au

The Australian National University is the premier research University in Australia. The ANU Centre for Sustainable Energy Systems (CSES) has an international reputation as a leader in R&D in the areas of photovoltaics, solar thermal power and solar energy systems. CSES undertakes work spanning basic research through to commercialisation of technology. Visit the website at <http://solar.anu.edu.au>