

Big Dish snares \$7m ray of sunshine

By Jessica Wright

The Federal Government's efforts to tackle climate change have produced a \$7 million grant based on a revolutionary solar power storage system developed at the Australian National University.

Five projects have received Australian Government grants totalling \$17.6 million, under the federal Advance Electricity Storage program, to trial and demonstrate more efficient ways of storing electricity from renewable energy sources.

The funding, announced yesterday by the federal Minister for the Environment and Water Resources, Malcolm Turnbull, and the federal Minister for Industry, Tourism and Resources, Ian McFarlane, is part of a \$2 billion Federal Government strategy to address climate change.

Electricity storage is an issue faced by all renewable energy generators worldwide and Mr Turnbull highlighted the benefits for Australia of such systems.

"Demonstrating new renewable energy storage technologies in grid-connected and remote area power supply application will give Australia

a strong base on which to grow its own industry and expand opportunities overseas," he said.

The ANU energy storage system is a large silver dish that concentrates the sun's rays into a chemical reactor, providing adequate heat to split ammonia into hydrogen and nitrogen gases.

These gases can be stored indefinitely and when power is required, the gases are recombined to generate electricity through a steam turbine.

Mr McFarlane said the funded projects would help develop new ways of meeting Australia's growing demand for electricity, while helping to reduce the effects of environmental challenges such as greenhouse gas emissions.

"The energy industry understands the strategic importance of improving electricity storage technologies. They are prepared to take action," he said.

Nicknamed the Big Dish, the technology is the largest of its kind in the world and was developed by Keith Lovegrove and colleagues at the ANU College of Engineering and Computer Science.

"Because we are storing energy before generating electricity, we can deliver multi-megawatt base-load

electricity and meet peak loads on-demand in the same way as coal, nuclear or gas fired power stations do," Dr Lovegrove said.

"It is emission-free power generation on a large scale. The system is comparable to wind turbine energy production, but the energy can be kept."

Canberra company Wizard Power is the research group's business partner and will use the grant to build a commercial-scale demonstration of the storage system.

"Our partnership with Wizard Power is the essential element that we need to get our technologies into the market place," Dr Lovegrove said.

Dr Lovegrove firmly believes solar energy is the way of the future and while the Big Dish technology is not the only option, he believes it will have an important role to play.

"With the world increasingly looking for utility scale renewable energy the time for solar thermal power has finally come," he said.

Two out of the five grants awarded are concerned with solar energy with the remaining three concentrating on different renewable battery systems.



SILVER LINING: Dr Keith Lovegrove, of the ANU College of Engineering and Computer Science, checks the large silver dish that concentrates the sun's rays into a chemical reactor. Picture: BRAHAM TIDY