

solar

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AUSTRALIA

**Trevor Horman and Sam Latz
on solar in the NT**

The intelligent way forward -
**smart modules and
smart inverters**

Solar cell technology
innovations

Warwick Johnston asks:
**how long can Australia's
800 MW PV market last?**

SPREADING SOLAR AROUND THE SHIRE

Barcoo Shire Council in central Queensland is home to four solar installations developed by Ingenero under the company's Solar Challenge program, which is designed to move local governments towards a fully sustainable energy supply.

THE INGENERO SOLAR Challenge signed up several local council buildings to solar power throughout 2009 and 2010.

One such council, in Barcoo Shire – a remote and rural area near Longreach, Queensland – committed to the challenge in 2009, and completed the development of four solar installations providing a total of 72 kilowatts of capacity for Barcoo Shire Council-owned buildings in the towns of Jundah and Windorah.

Solar in community spaces

Both Jundah and Windorah are powered by small diesel mini-grids. They enjoy high levels of sunshine year-round, so made ideal candidates for solar power when it came to selecting sites in the Solar Challenge.

Ingenero says that the competitive economics of solar versus diesel made solar a sensible choice for the Barcoo Shire Council, with the added benefit of significant greenhouse gas reductions.

The Council owns a number of public buildings with large roof spaces, providing the opportunity for Ingenero's Solar Challenge to showcase its environmental leadership without the Council having to apply its own capital to the project.

The installations are situated at the Barcoo Shire Council Administration Building in Jundah, the Jundah Sports Centre, the Windorah Cultural Centre and Windorah Sports Centre.

The project was 50 per cent funded by the Federal Government's *Renewable Remote Power Generation Program*.

Technological integration

The four solar installations each utilise Suntech Power's 210 watt polycrystalline panels and SMA Solar's SMC10000TL inverters.

"For remote installations such as these, component reliability is of utmost importance so as to reduce maintenance and expensive call-outs in case of performance issues," says Ingenero General Manager – Generation Rodger Whitby.

The Barcoo Shire solar installations were the first in Australia to take advantage of new energy monitoring technology, introduced in the country under a partnership between Ingenero and German-based energy and weather services provider Meteocontrol.

"The facilities that the Barcoo Council have chosen to mount the systems on are largely used by the community, setting the example of living sustainably with a highly visible display of their commitment."

– Ingenero Pty Ltd Chief Executive Steve Wilson

CONTINUED ON PAGE 32 >>



project profile

PROJECT NAME:

Barcoo Shire Solar Installations

LOCATION:

Windorah and Jundah,
Queensland

DEMOGRAPHIC:

Rural

CAPACITY:

72 kW over four sites

COMMISSIONED:

August 2009

DEVELOPER, OWNER

AND OPERATOR:

Ingenero Pty Ltd

CAPITAL COST:

\$667,000

TECHNICAL DETAILS:

Suntech 210 W polycrystalline solar panels, SMA SMC10000TL solar inverters

Above and opposite: The Windorah Cultural Centre in Barcoo Shire.

Ingenero's web-based performance monitoring system, EcoWatt, also allows the Barcoo Shire Council to monitor every one of the four systems with real-time access to solar data.

When the Jundah-based systems were first commissioned, Barcoo Shire Chief Executive Michael Parker noted "Ingenero is helping us achieve our environmental goals with no capital cost, no ownership risks with the system and no maintenance or repair issues or expenses."

Remote yet visible

Barcoo's solar installations collectively produce approximately 104 megawatt hours of electricity per annum. Power generated from the project is sold to the Barcoo Shire Council under long-term agreements.

The solar generator operates during daylight hours and is a non-market generator on a remote grid.

The plants are connected to two local low-voltage distribution networks operated by Ergon Energy.

The project is expected to save 31,150 litres per annum of diesel fuel, which is equivalent to reducing approximately 84 tonnes per annum of greenhouse gas emissions.

"Using a power purchase agreement model to purchase solar energy is a smart business decision; it is also a huge demonstration of Barcoo's commitment to sustainability within the shire," says Ingenero Chief Executive Steve McRae.

"The facilities that the Barcoo Council have chosen to mount the systems on are largely used by the community, setting the example of living sustainably with a highly visible display of their commitment." ◉



The Barcoo Shire Council Administration Building.