

SOLAR POWER – AN ICON OF SUSTAINABILITY

By mid-2009 more than 2,000 solar energy installations were connected to regional Queensland's electricity grid thanks largely to the Federal Government's financial support for solar.

The strong interest in taking up solar photovoltaic energy systems saw around 200 being connected per month by June-July 2009. That's an average of seven regional Queensland households going solar every day. And it has not slowed down – the current rate of new connections will see the total number double by the time this case study is published with Ergon Energy's Annual Stakeholder Report.

Grid-connected solar energy systems are essentially a mini power station on the roof, generating power from the sun, which is then connected to the main electricity grid. If the household needs more power than the system generates, it is provided through the electricity grid.

From a sustainability perspective, residential solar power generation offers many benefits, most importantly reducing a household's reliance on the state's predominantly fossil-fuelled generation plants. We estimate that the 2,000 residential systems connected to the grid in mid-2009 are now effectively reducing greenhouse emissions by around 4,000 tonnes of greenhouse gas annually – the equivalent of taking 1,000 cars off the road. That's a great outcome for the environment.

Our solar-powered households are also reducing their electricity bill, and many are being paid for exporting their excess power back into the electricity grid. As part of the Queensland Government's Solar Bonus Scheme, Ergon Energy pays households 44 cents per kilowatt hour for any excess power generated – more than twice the current general domestic-use tariff.

Between the feed-in tariff introduction date of July 2008 and June 2009, Ergon Energy paid our solar customers around \$200,000 through the scheme for the renewable energy fed into the grid. It's providing a real incentive to go solar.

SOLARPLUS A NEW CHOICE

Ergon Energy also sells its own premium **solarplus** system as part of its commitment to offering its customers smart energy choices. We recommend, whichever supplier you choose, that you use an accredited installer.

The commercial success that we have achieved in this area of our business has occurred despite the economic downturn, with sales of residential solar energy systems across the industry jumping dramatically. Our customers were keen to ensure they benefited from the \$8,000 Federal Government rebate that was available to those with a household taxable income of less than \$100,000.

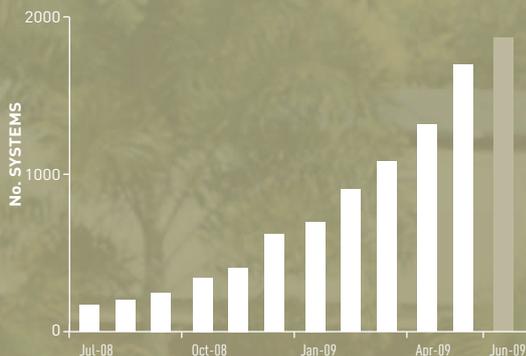
To replace the rebate, which ended in June 2009, the Federal Government has recently finalised a new form of financial assistance to help people 'go solar' – the Solar Credits Scheme.

In short, this scheme will allow Ergon Energy and other suppliers to offer customers a significant Solar Credit discount. It's a real opportunity for any home or business that wants to install a renewable energy system, and unlike the previous rebate, the new scheme is not means tested.

The discount, made possible through the new Solar Credits Scheme, has been enabled by legislation that allows up to five times the usual number of tradable Renewable Energy Certificates (RECs) to be created for the first 1.5kW of a system's output. Generation from capacity above 1.5kW is still eligible for the standard 1:1 rate of RECs creation. More information regarding Solar Credits and RECs is available at www.climatechange.gov.au

Ergon Energy has also installed solar energy systems at a number of schools this year, from Edge Hill State School in Cairns to Charleville State School in the south west. These systems have been funded

SOLAR UPTAKE SURGES



If you put the three megawatts of solar panels connected to the grid by mid-2009 end to end they would stretch around 35 kilometres. It's an image that helps to visualise the community's growing support for adopting smarter, greener energy choices.



On Magnetic Island alone Ergon Energy has installed over 60 solar energy systems, under the supervision of Dean Condon, Ergon Energy's Installation Manager for the 'Townsville: Queensland Solar City' project. In addition to the **solarplus** systems that we have installed on our customers' homes and businesses across the state, we have also installed 14 systems on our own buildings.

from the National Schools Program. Our packages comply with this government rebate program, which allows the school to either install the maximum sized solar energy system possible within the funding or to combine one of our energy solutions with other eligible efficiency initiatives. Our systems are also being installed at a number of Queensland Fire and Rescue operational sites.

Ergon Energy also remains a commercial player in the Stand-alone Power Supply (SPS) system market across Northern Australia. As well as the significant wins achieved with Queensland Parks and Wildlife Service at Dundaburra and New Laura and a major pastoral system for Retreat Station in western Queensland, the team also had success interstate throughout the past year supplying systems to the Department of Environment and Conservation in Western Australia.

SUNNY DAYS IN TOWNSVILLE

In addition to offering solar choices on a commercial basis, Ergon Energy has also made progress in 2008/09 through the 'Solar Suburb' component of the *Townsville: Queensland Solar City* project on Magnetic Island.

The project will see Ergon Energy install around a megawatt of solar energy systems on rooftops across the World Heritage-listed island. This is in addition to about 1,500 smart meters installed and 1,500 energy assessments being carried out. This is supported by innovative community engagement techniques to promote sustainable behavioural change, as well as other electricity demand management strategies.

During the year, around 600 energy assessments were conducted – resulting in 180,000 watts of lighting being changed over to energy efficient lighting solutions. The team also installed the first 1,200 smart electricity meters and 60 solar energy systems – that's over 130kW of capacity.

The roll out of the project will continue until 2013, by which time the team hopes to have reduced the greenhouse gas emissions associated with electricity use by around 50,000 tonnes; but for now, the focus is on building genuine ownership of the energy conservation targets within the community. As an icon of sustainability, we believe the investment in solar energy systems will play a major role in helping to engage our customers in making smarter energy conservation choices.

From Ergon Energy's perspective, the suite of actions will help reduce demand for electricity, especially at peak times, and help us understand how a concentration of distributed generation sources interacts with our network. It's about developing a cost-effective electricity supply model that could be applied in any location on our network where peak demand is approaching network capacity.

In addition to local funding from the Queensland Government and the consortium members, the Townsville project is one of seven nationally that the Australian Government is funding until 2013. Each is unique and at a different stage of development and operation; however, together they will showcase an integrated model of distributed solar power generation, demand management, energy conservation, smart metering and cost-reflective pricing. Information collected about energy use behaviour in homes and businesses through the Solar Cities program will help Australia develop more sustainable energy solutions. For more information on the project, visit townsvillesolarcity.com.au

Another project where we used solar to help engage the community was the ClimateSmart Living Communities Program. Launch events in August 2008 signaled the start of the program in the final two locations of Stanthorpe and Gordonvale, joining Home Hill and Biloela who participated in the previous year.

The aim of the program was to help regional communities understand the contribution of energy waste to climate change and to demonstrate how the adoption of energy conservation behaviours can lead to a more sustainable community. To assist with this, Ergon Energy donated solar energy systems for each community, which are now installed on their public libraries. Through web based monitors visitors can see the amount of solar electricity generated and the tonnes of greenhouse gas emissions avoided.

The program also included a schools program to help students in each town find simple and meaningful ways to reduce their school's energy use. The ClimateSmart Living Communities program was a partnership between Ergon Energy, the Environmental Protection Agency (EPA) and the local regional councils.

SOLAR ENERGY IN ERGON ENERGY

Ergon Energy is also practising what it preaches. After installing solar energy systems on two more of our depots, a training facility in Townsville, and five of our buildings on Thursday Island over the past year, we now have 14 systems supplying our electricity requirements. We plan to continue to roll out installations to our other buildings, and have incorporated the capacity for solar energy systems into all new building designs.

We are also using solar as part of our alternative technology strategy for our isolated generation sites, with the \$4.6 million solar concentrator power station now generating at Windorah in south-west Queensland. The five 14 metre-diameter solar dishes are supplying much of the town's daytime power needs – generating up to 175kW of electricity.

More details on our energy conservation efforts can be found on our online case study: *Putting Our Energy into Using Less*.



Our \$4.6 million solar concentrator power station at Windorah in south-west Queensland began generating in late 2008. The dishes act like giant sunflowers, facing and following the sun to capture as much sunlight as possible to cater for the daytime electricity needs of the local community.

THE WAY WE SEE IT...

... delivering an affordable, dependable and smart electricity network is central to our contribution towards the sustainability of regional Queensland.

To find out more, see our Annual Stakeholder Report 2008/09 available online at ergon.com.au/annualreport. It presents a holistic view of the economic, environmental and social value we are providing to our customers, employees, government shareholders and other stakeholders.