

Kangaroo Island Airport Visible Solar Project

PROJECT COST

\$500,000

PROJECT PARTNERS

1. Kangaroo Island Council – Project Manager
2. Regional Development Australia (Adelaide Hills, Fleurieu and Kangaroo Island)
3. South Australian State Government (*RenewablesSA*, Department for Manufacturing, Innovation, Trade, Resources and Energy)
4. David Altmann (Development Answers) Pty Ltd
5. Ingenero Pty Ltd
6. Nissan Australia
7. ChargePoint Pty Ltd
8. KI Transfers Pty Ltd

PROJECT FUNDING

Regional Development Australia (Adelaide Hills, Fleurieu and Kangaroo Island), in association with the Kangaroo Island Council, successful received funding through a RenewablesSA grant from the Premier of South Australia (Department for Manufacturing, Innovation, Trade, Resources and Energy).

PROJECT DELIVERY

September 2012	Funding received for <i>Visible Solar Icon Project</i> .
September 2013	Solar Photovoltaics Installed
December 2013	Electric Vehicle's Delivered
December 2013	Charge Points Installed
January 2014	Electric Vehicle's for Hire
February 2014	Project Officially Launched

BACKGROUND

The project by the Kangaroo Island Council and Regional Development Australia was funded by the State Government's RenewablesSA program, with Kangaroo Island chosen to be the "visible demonstration of advanced solar power technology". The initial sole requirement was for 50KW of tracking solar photovoltaic generation. This was enabled for 72% of the budget and options were provided to add value to this installation for the remaining 28% (\$140K).

The state-of-the-art, dual-axis solar array system installed at the Kangaroo Island Airport tracks the sun, increasing the energy output by 30 per cent compared to a fixed system, and generates 100,000kWh a year, enough to power 13 homes. Its output powers 80 per cent of the needs of the Kangaroo Island Airport, saving the council at least \$26,000 a year in power use. The savings generated during procurement of this enabled the addition of a 14kW fixed, roof mounted solar system at the Kingscote Town Hall to both offset power use here and to allow the installation of infrastructure to recharge electric cars. A Island township approach was taken here with the installation of six charge stations (Airport x 2,

Kingscote, Penneshaw, Parndana and American River). In addition the project also funded the three year lease of three Nissan Leaf electric vehicles, two of which can be hired by the public through a commercial partnership with KI Transfers who manage a hire car agency on the Island.

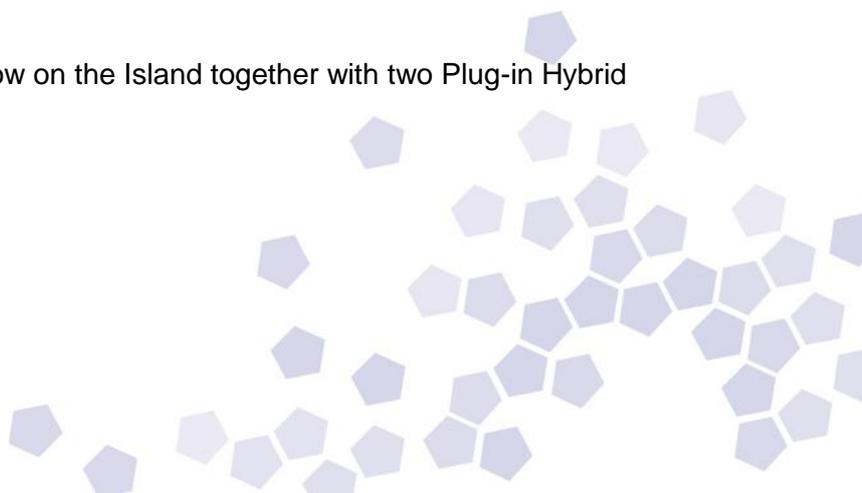
ENVIRONMENTAL, FINANCIAL AND COMMUNITY BENEFIT

The Visible Solar Project delivers a range of environmental, financial and community benefits, including:-

- Use of Renewable Energy to off-set energy consumption at the Kangaroo Island Airport and Council Office
- Use of Renewable Energy to fuel emission-free electric vehicles
- Environmental benefits through reducing reliance on use of fossil-fuels, and exporting excess solar energy to the grid
- Financial savings through use of Renewable Energy – both in the energy costs associated with the Kangaroo Island Airport and the Council Office and also in substituting fuel costs for vehicles with Renewable Energy
- A small revenue stream for Council through the leasing of electric vehicles and the sale of 'fuel' at the various electric vehicle charging stations
- Longer term community promotion, education and awareness – leading to potential future community based investment into Renewable Energy
- Opportunity for value-added business investment into Renewable Energy on Kangaroo Island through potential expansion of the existing infrastructure or allied renewable energy initiatives.

RESULTS (to March 2015)

1. Kangaroo Island Airport
 - 87% decrease in \$ spend
 - 94% decline in kWh consumed
2. Dauncey Street Council Offices
 - 24% decrease in \$ spend
 - 30% decline in kWh used
3. "Fuel" Sales
 - 3MW power sold as EV "fuel" for 50% premium over cost to purchase and 222% premium over sale back into Grid
4. Lease Revenue
 - Small lease revenue stream from KI Transfers
5. Gross Savings for Council for Year 1
 - in excess of \$25,000
6. Three additional vehicles are now on the Island together with two Plug-in Hybrid EV Mitsubishi Outlanders



AWARDS RECEIVED TO DATE

1. **KESAB 2014**
Environmental Sustainability Award
2. **United Nations Association of Australia World Environment Day 2015**
Best Specific Environmental Initiative Award in the Local Government category

NEXT STEPS

The project has generated interest on the mainland with the RDA Adelaide Hills, Fleurieu & Kangaroo Island now investigating the feasibility of leveraging off the work here to create “Electric Highways” linking Adelaide Metro to the Hills, Southern Fleurieu and Kangaroo Island together with the vehicles to permit EV tourism around the region.



Electric charge point at the Kangaroo Island Airport. A further five charge points are located our other major townships Kingscote, Penneshaw, Parndana and American River



State-of-the-art, dual-axis solar array system installed at the Kangaroo Island Airport tracking the sun and increasing the energy output by 30 per cent compared to a fixed system, and generates 100,000kWh a year, enough to power 13 homes



Electric vehicle charge point locations around Kangaroo Island