

### Meridian Energy

- Maama Mai Solar Farm, Tonga

November 2011 – August 2012



Maama Mai Solar Farm, Tongatapu – 1.325 MW peak solar generation capacity.

Maama Mai means “Let There Be Light” and this solar farm is the first in Tonga. It is among the largest solar farms in the Pacific.

Our client for the project was Meridian Energy, New Zealand’s largest power generator / retailer. Meridian’s clients were the NZ Ministry of Foreign Affairs and Trade, Tonga Power and the Tongan Government. Maama Mai was dedicated in July 2012 by King Tupou VI.



## leaders in solar power

The solar farm itself is made up of 5760 x SolarWorld 230W solar modules which are wired together to form 240 DC strings of 24 modules. These DC strings are then fed into 15 x Skytron Array Guards and from there the solar power is connected into the DC modules within the Emerson SPV2400 inverter. These are shown on the left hand side of the photo above. The solar power is then inverted into usable AC power via the 8 x AC modules on right of the photo.

The system uses high quality solar components from -

SolarWorld Germany's largest solar panel manufacturer

Conergy German specialist manufacturer of solar array frames

Emerson American / European inverter manufacturer; Fortune 500 company

Maama Mai is forecast to produce 1,880 megawatt hours of electricity per annum. This is approximately 4% of the total annual power usage on Tongatapu.

Diesel savings are estimated to be 470,000 litres annually, with carbon savings estimated to be 2,000 tonnes per annum.