

PV SYSTEM DETAILS

AN IMPORTANT ZERO EXPORT COMMERCIAL CASE STUDY

Project Managers & Integrators
SmartConsult

Installation Contractors
Qld Commercial Solar

REPO Engineers
Solargift Technologies

Site Location
Staplyton, Qld

System Size
98.28 kW

Estimated Annual Production
153+MWh

Energy Savings (Year 1)
\$21,500 +

Solar Inverters
3 x 27.6 ABB / Power One

Solar Panels
378 x Jinko 260W

Zero Export Device
Supply Partners

Monitoring System
e-Gauge Systems

Installation Date
June 2015

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The successful installation of a 98.28 kW solar system at Salmon Earthmoving, Qld, marks a new era in complex solar systems design and integration for Zero Export sites. Salmon Earthmoving will save in excess of 153 MWh of power a year; saving in excess of \$21,500 in the first year alone. Salmon will operate during the day almost totally on Solar Power. Salmon can view solar and grid consumption and other statistics in real time with the installed central e-Gauge systems measurement device.

The client site of over 5 hectares contains a number of separate buildings connected to the Energen meter located at the front gate of the premises. Legacy wiring and site load statistics meant the installation required two separate PV panel arrays, with inverters on two buildings, 150 meters apart and 50-100 metres from the Energen meter.



SmartConsult with its partners and engineers created a solution that allows for multiple arrays and up to 32 inverters to be control by the Supply Partners Zero Export & Inverter Ramping and provide comprehensive monitoring using an e-Gauge; all from one central point using dedicated Wi-Fi & 433 Hz radio links.

The e-Gauge is integrated directly into the ABB inverter RS 485 output, allowing for the complete system to be monitored (down to string level if required) plus measuring the grid and net consumption. The operator is provided with system alerts on status in real time. The e-Gauge assists in the regulatory approval process, as kWh, kW, KVA, Kvar, Hz, Voltage, Power Factor, Harmonics etc., both grid and solar are captured in real time.

The combination and integration of multiple ABB Inverters, Supply Partners Zero Export Controller & e-Gauge linked by wireless to 1 central point has not been achieved before anywhere in Australia that we or our partner suppliers are aware of.

SmartConsult remotely monitors the health of Salmon's system, as well as its existing installed base of over 1 MW of commercial solar installations. During commissioning we flew a drone mounted camera over the site to capture the scale of the installation, which can be seen on our website at <http://www.smartconsult.com.au/drone-flights>.

This solution can be deployed in similar configurations with other inverter types that need to be integrated and centrally controlled and monitored by a standalone zero export device and network protection system attached the electricity meter box. This is especially suitable for school campuses with multiple roofs and inverter locations, or industrial sites like Salmon with standalone and isolated electricity meter's.

For further information on this solution contact Luke Hardy on Tel : +61 414 366 866