

Client: Salmon Earthmoving Installer: Queensland Commercial Solar

Project Factsheet

Project Managers and Integrators	SmartConsult http://www.smartconsult.com.au/
REPQ Engineers	Solargift Technologies
Site Location	Staplyton, QLD
System Specs	98.28kW
Estimate Annual Energy Production	153+MWh
Energy Savings	(Year1) \$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

AN IMPORTANT ZERO EXPORT COMMERCIAL CASE STUDY

2015 was a big year for Queensland Commercial Solar who worked with SmartConsult to design and install a 98.28 kW solar system at Salmon Earthmoving, Qld.

Installs of this size mark 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 Energex 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 Energex meter.

SmartConsult and Queensland Commercial Solar, with their 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 SmartConsult flew a drone mounted camera over the site to capture the scale of the installation, which can be seen on SmartConsult's website:

<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 our analytical consultant Luke Hardy from SmartConsult on: +61 414 366 866

Project Suppliers and Products

