

37KW

ON GRID ROOFTOP SOLAR PV SYSTEM ON PERTH CITY YHA

Perth, WA





Introduction

The Perth City YHA is located in the city center of Perth.

The organization is operating for more than 100 years and has opened hostels all over the world. The hostel provides opportunity to all especially for young people, for education, personal development, fostering friendship and bringing about a better understanding of others and the world around them. With increasing use of electrical appliances by guests, the YHA wanted to reduce its powerbills.

It is opened 7 days a week and thus ideally suited for rooftop solar photovoltaic power generation.

System Analysis & Design

The major load in the premises during summer is air-conditioning which coincides with the sunshine hours. After consultation with the management and assessing the roof space available, it was decided to install a 37kW Solar PV system which has the potential of generating about 190kWh

(or units) per day. It was estimated that the solar power generation would offset approximately 30% of Perth City YHA's annual electricity consumption with a simple payback period of 2.2 years.

System size :	37kW
No. of PV Modules: No.	148x 250W HANWHA SolarOne polycrystalline modules
of Inverters: Annual	2x 15kW SMA Tripower 15000 TL
Energy Yield: Estimated	52,000 kWh per annum
CO2 savings:	39 metric tons per annum

System Details

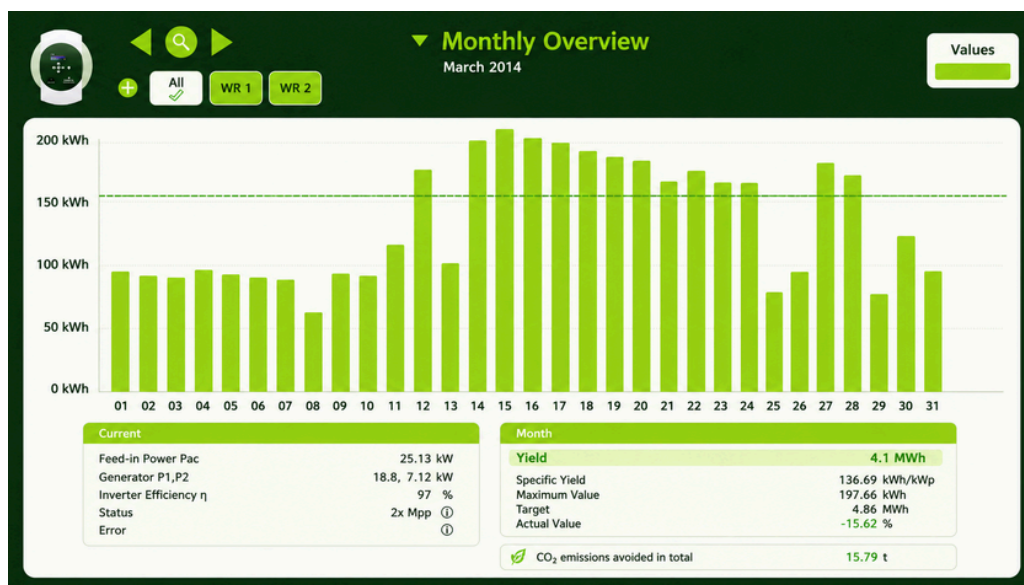
The system consists of 148 numbers of HANWHA Solar One 250 W Polycrystalline solar modules. The panels are supported by a 25 years warranty and are certified by TUV, CE, UL and CEC worldwide certifications; along with meeting all Australian and European quality and safety standards. Two numbers of SMA Tripower inverters (2x STP 15000 TL has been installed) which offers exceptionally high yields with an efficiency of 98.2% and supported by 5 years warranty. Like all Regen commercial installations, the system also includes a remote monitoring system.

Live Monitoring

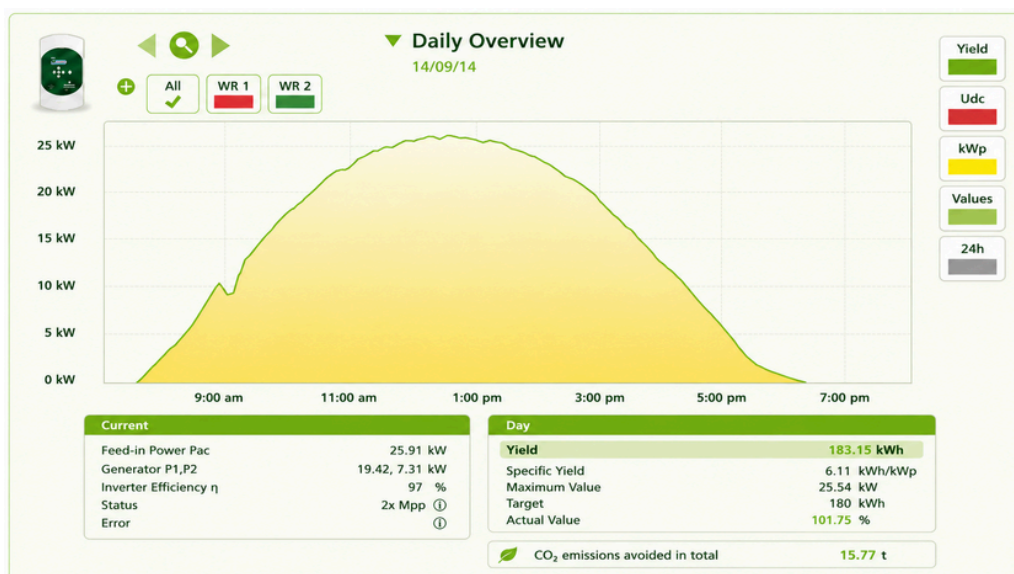
Regen also installed state of the art Solarlog – Monitoring system in this project.

The monitoring system can process and analyze plant data with the help of the Solar-LogTM data logger. This can be done either in graphic or numerical format in the form of daily, monthly and annual data reports. In addition to the yield and input voltage, individual strings and inverters or environmental data associated with plant monitoring can be presented with the help of the sensor box as well as other reference values.

Our monitoring system supports the “Full Service” maintenance concept through online access to the plant. The monitoring system not only measures and compares the yield data of the individual strings, but also performance data of the individual inverters. Regen can enter into maintenance contract with the plant owner – we offer the customer complete package with monitoring, maintenance and servicing of the solar power plant.



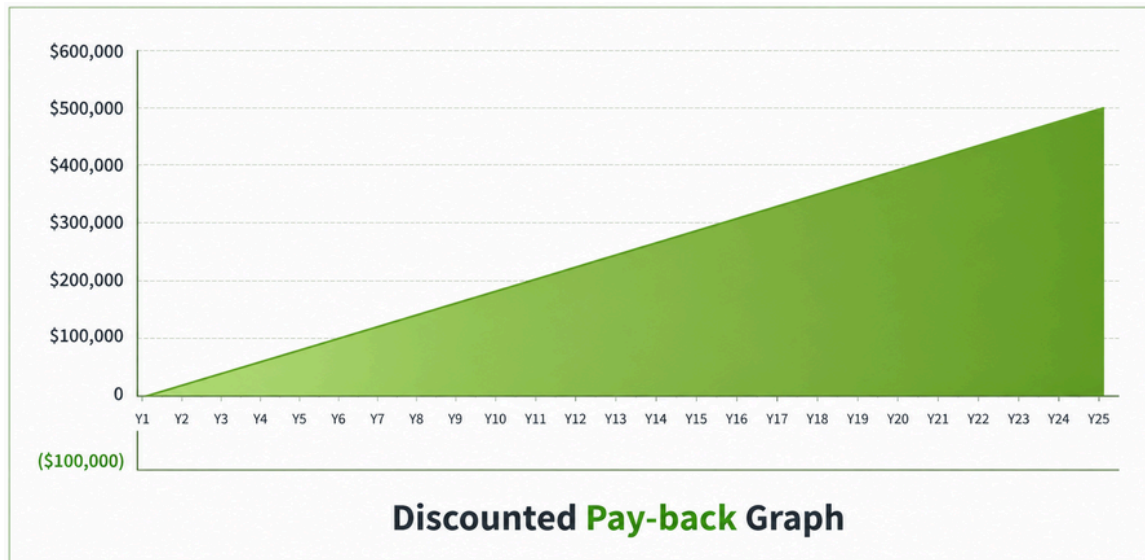
System produced 4.1Mwh in month of March 2014



System produced 183 units on a good sunny day

Payback Analysis

Based on an average of 142 units per day for the 37kW system, and factoring in various other parameters, the system has a rapid return of 2.2 years.



Carbon Reduction



The solar power installation is expected to meet about **30%** of the annual electricity consumption of the hostel.

This is equal to about a carbon footprint saving about **39 tonnes of CO₂ per annum** – equivalent to eliminating the carbon footprint of 7x average Western Australian household's annual electricity consumption.

 Need help? Call our expert team on **08 9456 3491**

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