

A CASE STUDY

30KW

ONGRID ROOFTOP SOLAR PV SYSTEM ON ADVANTA COMMERCIAL FURNITURE

Kewdale, WA





INTRODUCTION

Advanta Commercial Furniture sought the services of Regen Power Pty Ltd to perform an energy reduction review. The primary focus of the review was to highlight the costs and benefits associated with investing in a solar power electricity generation system, LED lighting and other energy efficiency solutions.

The onsite review component was completed through a walk-through of Advanta's operations to collect information on current electricity tariff charges, consumption patterns, and suitability of energy reduction + efficiency strategies.

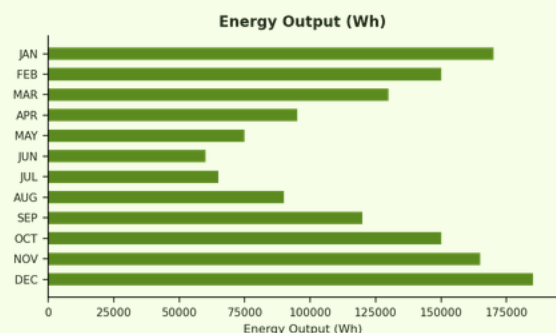
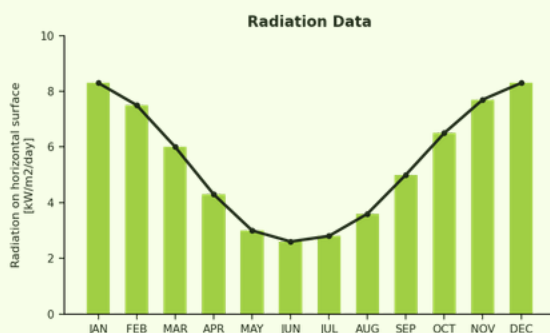


A **30kW Solar PV system** has the potential of generating **~133kWh** (or units) per day. This estimated average solar power generation would offset approximately **64%** of Advanta's annual electricity consumption with a simple payback period of **4 years**.

A **LED Lighting Upgrade** has the potential of saving **~26kWh** (or units) per day. This estimated average energy saving would reduce approximately **12%** of Advanta's annual electricity consumption with a simple payback period of **2 years**.

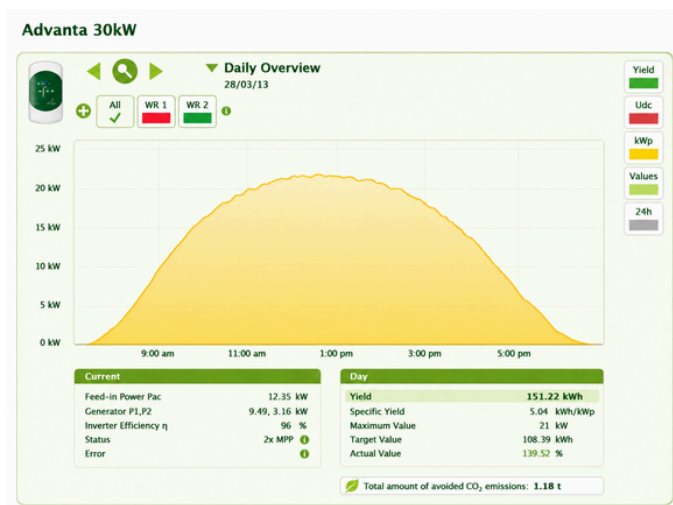
Energy Monitoring and Management has the potential of saving **~12kWh** (or units) per day. This estimated average energy saving would offset approximately **5%** of Advanta's annual electricity consumption with a simple payback period of **1 year**.

An **A/C Hydrocarbon upgrade** has the potential of saving **~3kWh** (or units) per day. This estimated average energy saving would offset approximately **1%** of Advanta's annual electricity consumption with a simple payback period of **4 years**.



PROJECT DETAILS

System size	30kW
No. of PV Modules	120 x 250W HANWHA SolarOne Modules 2
No. of Inverters	x15kW SMA Tripower 15000TL Inverters
Annual Energy Yield	52400 kWh per annum
Estimated CO2 savings	44 Metric Tonnes per annum



SYSTEM DETAILS

The system consists of 120 HANWHA Solar One Polycrystalline 250W/24V solar modules. The modules are supported by a 25-year warranty and are certified by TUV, CE, UL, and CEC worldwide certifications; along with meeting all Australian and European quality and safety standards.

The solar modules are mounted using PV-ezRack universal roof mounting systems supported by 10 years warranty.

SMA Tripower Inverters offers exceptionally high yields with an efficiency of 98.5% and are supported by 5 years warranty.

Regen Power provides 5 years warranty for the installation.

CARBON REDUCTION



Total Site Annual Consumption (CO2e) = 61.3 tonnes CO2e

This is the equivalent carbon footprint of 12 x average WA household's annual electrical consumption, or consuming 24,530 litres of petrol in a vehicle per year.

By implementing Solar Power, LED Lighting, and Energy Efficiency solutions; Advanta Commercial Furniture Facility has the potential to reduce its carbon footprint by **~71%** and save the following annual CO2e:

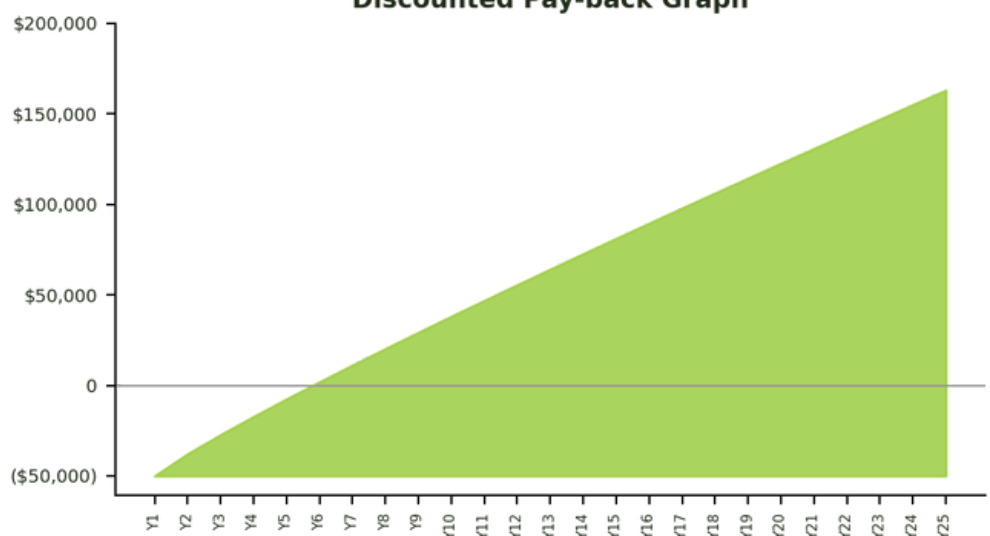
Total Site Annual Saving (CO2e) = 43.75 tonnes CO2e

This annual saving is the equivalent of eliminating the carbon footprint of 8 x average WA household's annual electrical consumption, or eliminating the consumption of 17,500 litres of petrol in a vehicle per year.

PAYBACK ANALYSIS

Based on an average of 120 units of power generated per day for a 30kW system, and factoring in various other parameters the system has a rapid return on investment of **4.6 years**.

Discounted Pay-back Graph



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