



solarhub

COMMERCIAL CASE STUDY



SOUTHERN PLUMBING PLUS

99.9KW PV SYSTEM



Background

Southern Plumbing Plus is an independent supplier of plumbing, bathroom and kitchen products in the ACT, southern NSW and north-eastern Victoria regions. Family-owned for more than 40 years, the company hires more than 100 employees throughout their six sites.

Their head office, main warehouses and flagship showroom are in Fyshwick, ACT. This building complex holds around 50 employees, and is visited by thousands of clients annually. The energy demand at this address is predominantly for heating and cooling needs, which is provided by multiple electric air conditioning systems. There is almost no energy consumption in the evening and night, which is usual for commercial buildings like offices and stores with nine-to-five operating hours.

By investing in a solar PV system, Southern Plumbing Plus wanted to reduce their electricity bills for their Fyshwick address, but having a positive impact on the environment was also an important factor in their decision.

Thanks to solar, they are now achieving substantial savings while reducing their carbon footprint, and increasing their energy independence from the grid.

\$31,400 in annual savings
with a **3.1 years** payback

Occasionally, we come across a commercial project where conditions are optimal for a PV solar system. This installation was one of them. The consumption pattern was ideal for solar PV as most of the electricity needs coincided with peak hours of solar production.

After conducting a comprehensive energy analysis, we assessed that a 99.9kW was the best system size to reach maximum profitability. We had just enough space to fit this amount of panels on the warehouse roof, while leaving enough room around for maintenance and repair, if ever needed.

Southern Plumbing Plus was after higher quality, long-lasting components, and therefore opted for SolarEdge inverters. This allows us and the client to monitor each solar panel individually and to intervene if some are underperforming throughout the lifespan of the system. There are also minor obstructions on the roof that shades a few panels in winter, and SolarEdge copes much better against this type of situation compared to basic string inverters.

Being locals ourselves, it was important to select a business from Canberra to design and install our solar PV system. SolarHub's comprehensive knowledge and vast experience made it easy for us to select them. The commercial team has been thorough during all phases of the project and provided us with a punctual and professional service, before and after installation. We are very pleased with the fact that 50% of our energy usage is now self-produced from renewable resources.

Warwick Beutler, Managing Director, Southern Plumbing Plus

Technical Specifications

COMPLETION DATE

April 2018

LOCATION

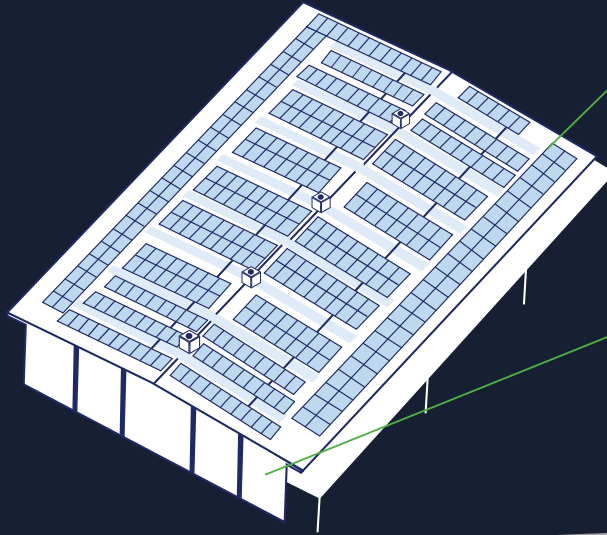
Fyshwick, ACT

PROJECT SIZE

99.9kW

ANNUAL PRODUCTION

140MWh



PANELS

Jinko Eagle 270W
370x panels
60 cells polycrystalline
10 years product warranty

INVERTERS

SolarEdge 27.6kW 3ph
3x inverters
170x P600 optimisers
12 years product warranty

Key Results

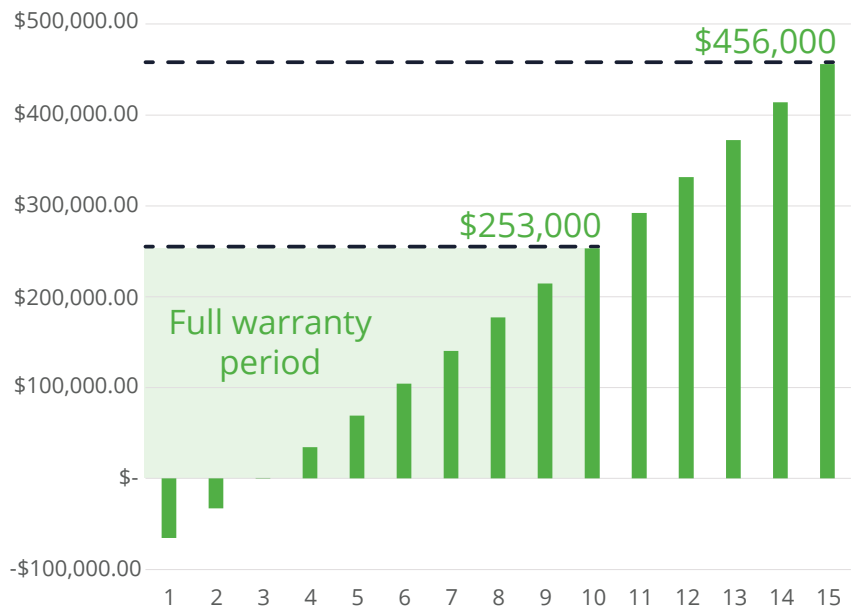
The system being fully operational for more than three years now, we have sufficient data to properly assess the overall performance of the system and compare it to our initial savings and performance estimates.

We predicted that the average daily performance of the system would be **385kWh** a day. In reality, the system is producing **383kWh** a day.

We expected a payback in **5 years**, but because of steep electricity costs, it was achieved after just **3.1 years**. This means that the system has already paid for itself, as of April 2021.

Over the full warranty period of 10 years, we assess a gain of **\$253,000** out of this investment. It is important to note that the total savings could be much higher if the system produces for more than 10 years, which is very likely.

15 YEARS CUMULATIVE CASH FLOW



\$31,400

Annual Savings



50%

Electricity Consumption Reduction



32%

Return on Investment



94 tons

Annual CO2eq Emissions Offset