

SOLAR CASE STUDY: PROPERTY AND CAMPUS SERVICES, UNIVERSITY OF MELBOURNE



Unlike some other environmental improvements, installing solar is a visible achievement.

Energy efficiency just isn't sexy. Harry Troedel, Sustainability Manager of implementation with the University of Melbourne's Property and Campus Services, knows all too well that efforts to cut emissions can be largely invisible to staff and the general public. "Changing the set points on the air conditioning or a variety of other building efficiency measures that may actually make a big difference, nobody sees," he says. "Not a lot of people walk around, look up and go, oh, cool! That's an energy efficient light!"

Solar panels, on the other hand, are tangible proof of an organisation's commitment to environmental values. Harry says that was one of the main drivers for installing a 30 kW solar system on the roof of the university's Property and Campus Services building in December 2013.

Features:

Comprising 113 panels, each rated to 265 W, the solar system is expected to generate approximately 15 per cent of the building's electricity needs. The panels are orientated north, east and west, ensuring more consistent power generation from early morning through to late evening.

The two SMA Sunny Tripower inverters are fitted with Tigo optimisers to monitor the output and keep the system operating at maximum efficiency.

"We can look at every single individual panel and check its performance," says Harry.

The university also installed additional sensors and displays so the engineering department can research the system's output relative to heat and further their understanding of optimising the performance of solar systems.

Location:

631–645 Swanston Street

System Size:

30 kW

Estimated Annual Production:

34.8 MWh

CO2 Avoided Annually:

45.9 tonnes

Solar inverter:

2 x SMA Sunny Tripower

Solar panels:

113 x 265 W

Mounting system:

Clenergy tin interface kit

Funding model:

Internally funded

Installation date:

December 2013

Installer:

Corospark

CITY OF MELBOURNE ECO-CITY

Business case and funding:

At the beginning of the process, a tender was sent out to four installation companies. The winning company, Corospark, went with panels from Canadian Solar, one of the world's largest solar manufacturers.

The system cost approximately \$98,000, not including the additional components needed for the engineering department to conduct research on the panels. Without these additional costs, the payback period would have been seven or eight years. (The additional costs have stretched that out to 11 or 12 years, but there's a significant educational benefit for the university.)

Other benefits:

A solar installation is something worth shouting from the rooftops – or the foyer, as the case may be. When visitors enter the Property and Campus Services building they're greeted by a solar panel with a note explaining that the system on roof will avoid 1084 tonnes of carbon dioxide emissions over its lifetime.

The rooftop solar system is clearly visible to the neighbouring apartment blocks along Swanston Street and to the university's staff, and Harry hopes that it will set a positive example for the community. "People might say the uni has put thirty kilowatts on the roof, so I'm going to put my three kilowatts on the roof," explains Harry.

Harry is setting a positive example himself. In his role he has helped to deliver more than 32,000 tonnes of carbon emission reductions since 2008, which amounts to annual savings of more than \$3 million in energy bills for the university.

In April 2014 the Climate Alliance, sponsored by Fujitsu, named Harry as Business Leader of the Year "in recognition of exemplary leadership and action by an Executive in the area of managing the opportunities and risks of climate change".

melbourne.vic.gov.au/solar



Harry Troedel (pictured middle) inspects the new solar installation system.