

# Powered By The Sun



Did you see what was on the roof?

Council has installed solar power (photovoltaic panels) on this building to generate electricity directly from the sun.



Solar power is the cleanest and most viable form of renewable energy available. By using photovoltaic (PV) panels to convert sunlight into electricity, we are protecting the environment and saving money.

The 16 PV panels at the Centre produce 2.96 kilowatts of power at their peak. They have a long life that will produce over 3000kWh of electricity every year. This will reduce greenhouse gas emissions from the Centre by 2.7 tonnes annually.

## How does PV work?

Photovoltaic panels are made of semiconductors such as silicon. When light strikes the cell, energy from the sun is absorbed. The energy allows electrons to flow freely as a current, and by placing metal contacts on the top and bottom of the cell, the current is made available for use as electricity. Cells are connected together and covered by a glass sheet for protection, thus forming a solar panel.

Power generation varies throughout the day with the majority of power generated at the peak of the day. The solar panels work in all weather but work best on clear, cool days.

## Designing with daylight

The Caretakers Cottage has a passive lighting system that collects sunlight using a light tube lined with highly reflective material.

The light tube directs sunlight into the building, lights up a work area, and helps us reduce energy consumption. Our light tube has a dimmer so we can completely adjust daylight levels in the room with the touch of a switch.

