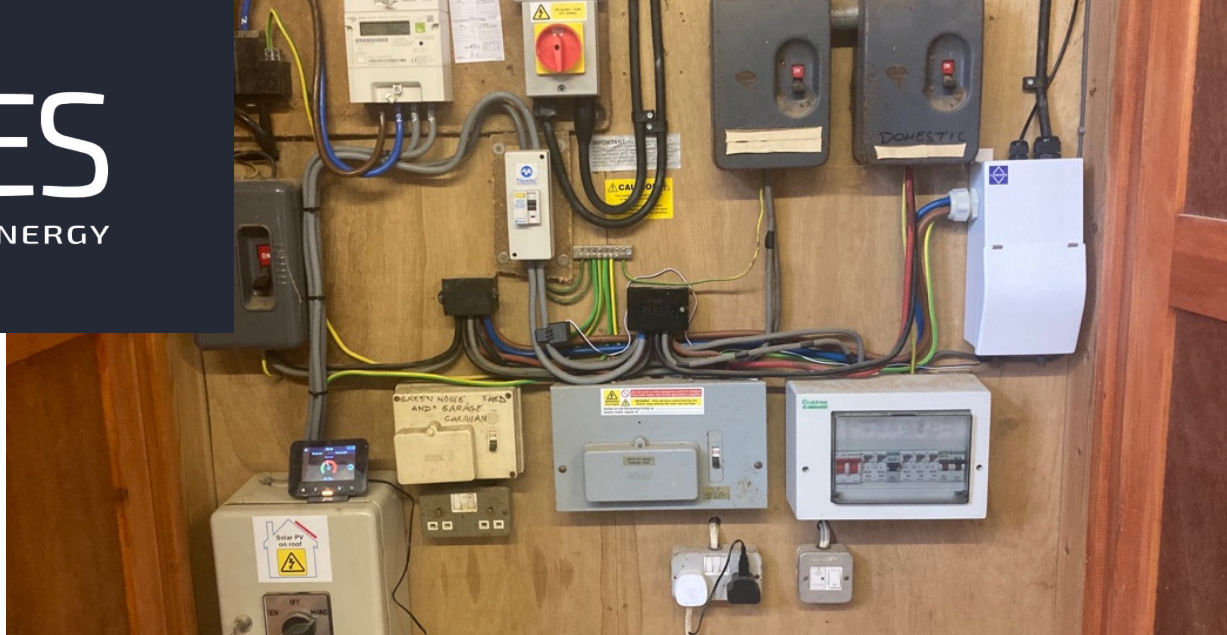




COOMBE CARAVAN PARK CASE STUDY

PROJECT OVERVIEW

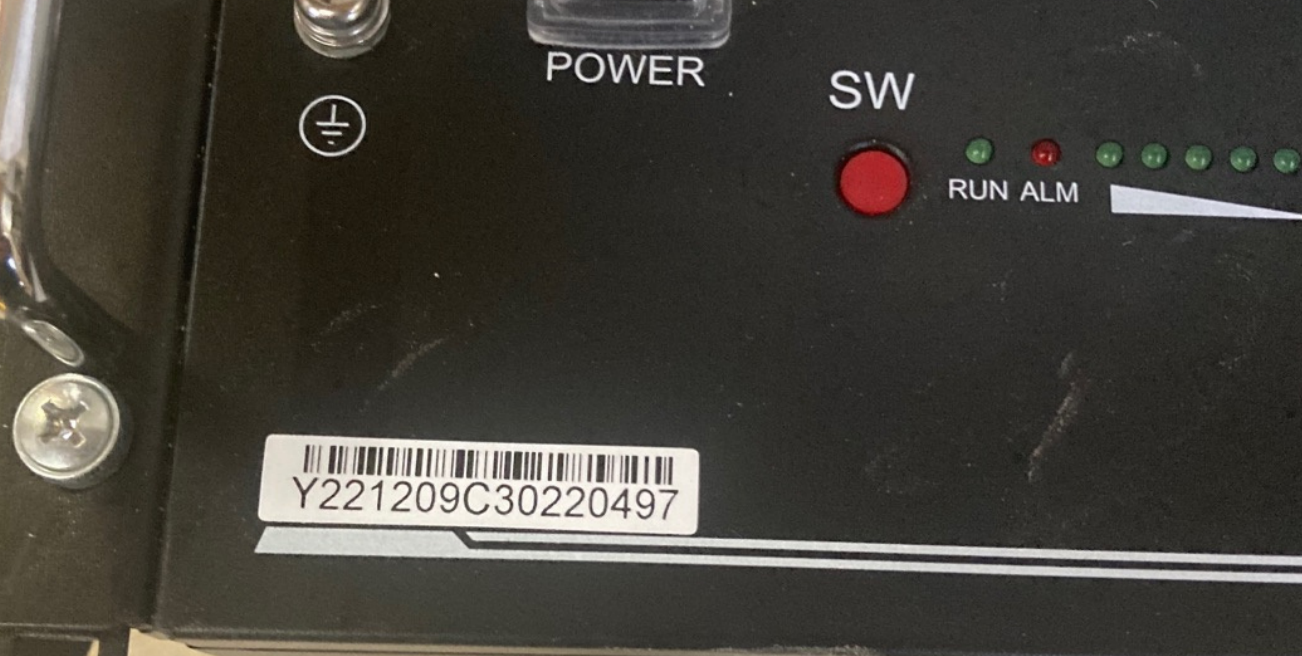
Coombe Caravan Park is a family holiday and touring park near Salisbury, where electricity demand peaks through daylight hours and across the summer season. DES Renewables designed, installed, tested and commissioned a solar PV system with battery storage, working around shading from an adjacent roof and conservation area constraints.

Coombe Caravan Park appointed DES Renewables to install rooftop solar PV with battery storage at its park in Netherhampton. The array is an East–West split, fully Tigo-optimised so shading from an adjacent roof is managed panel by panel. Six 48V Pylontech batteries store surplus generation, and DES commissioned the system onto a cloud monitoring portal.

PROJECT DETAILS

Company Name: Coombe Caravan Park
Location: Netherhampton, Salisbury SP2 8PN
Solar System: East–West split, Tigo-optimised
Battery Storage: 6 x 48V Pylontech batteries
Installation Type: Roof-mounted solar PV and battery
Project Timeline: Installed and commissioned 2023–2024





OBJECTIVES

Reduce electricity costs

- Reduce electricity costs at a site with high daytime and summer-peak demand
- Store surplus daytime generation for use later in the day
- Overcome shading from an adjacent roof without losing output
- Work within conservation area constraints and awkward rear access
- Give the owners clear visibility of generation through remote monitoring



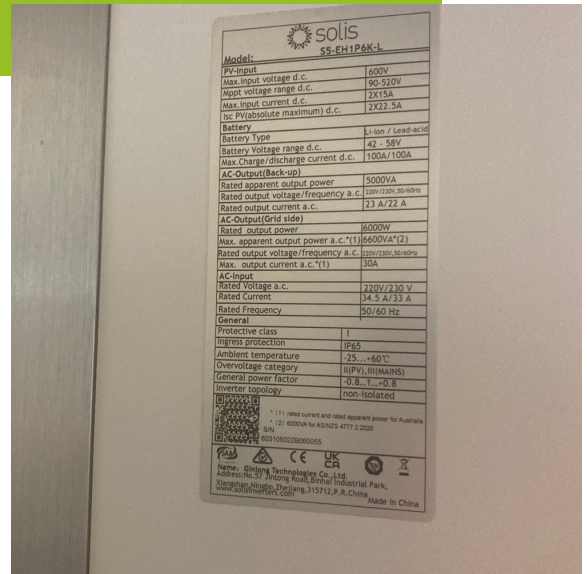
BESPOKE ASSESSMENT AND DESIGN

INITIAL ASSESSMENT

DES assessed the roof space, orientation and the shading cast by the adjacent roof, along with access for scaffolding at the rear. The site sits in a conservation area grey area, so panel placement was worked through carefully before the design was fixed.

PERMITTING AND APPROVALS

Conservation area constraints and awkward rear access meant scaffolding had to be planned around the building. DES worked to building regulations and electrical standards throughout, with string voltages verified as correct at commissioning.



SYSTEM DESIGN

The array was configured as an East-West split to spread generation across the day rather than concentrate it at midday, and every panel carries a Tigo optimiser so shading from the adjacent roof affects only the modules in shade. Power conversion uses a 6 kW-class inverter, with output above 6 kW clipped, and the DC input limit leaves headroom for roughly five to six further panels.



INSTALLATION AND COMPLETION

INSTALLATION AND COMMISSIONING

Installation was carried out around the running of the park. Panels were mounted in an East–West split with Tigo optimisers, the battery bank connected and the GivEnergy DC isolator replaced with a Keto switch. One Pylontech unit had a faulty BMS, which DES swapped and rebalanced.

WHERE DES RENEWABLE ENERGY ADDS VALUE:

String voltages were verified, a WiFi dongle was fitted and the system was added to the cloud monitoring portal, so the owners can see what the array is producing at any time.



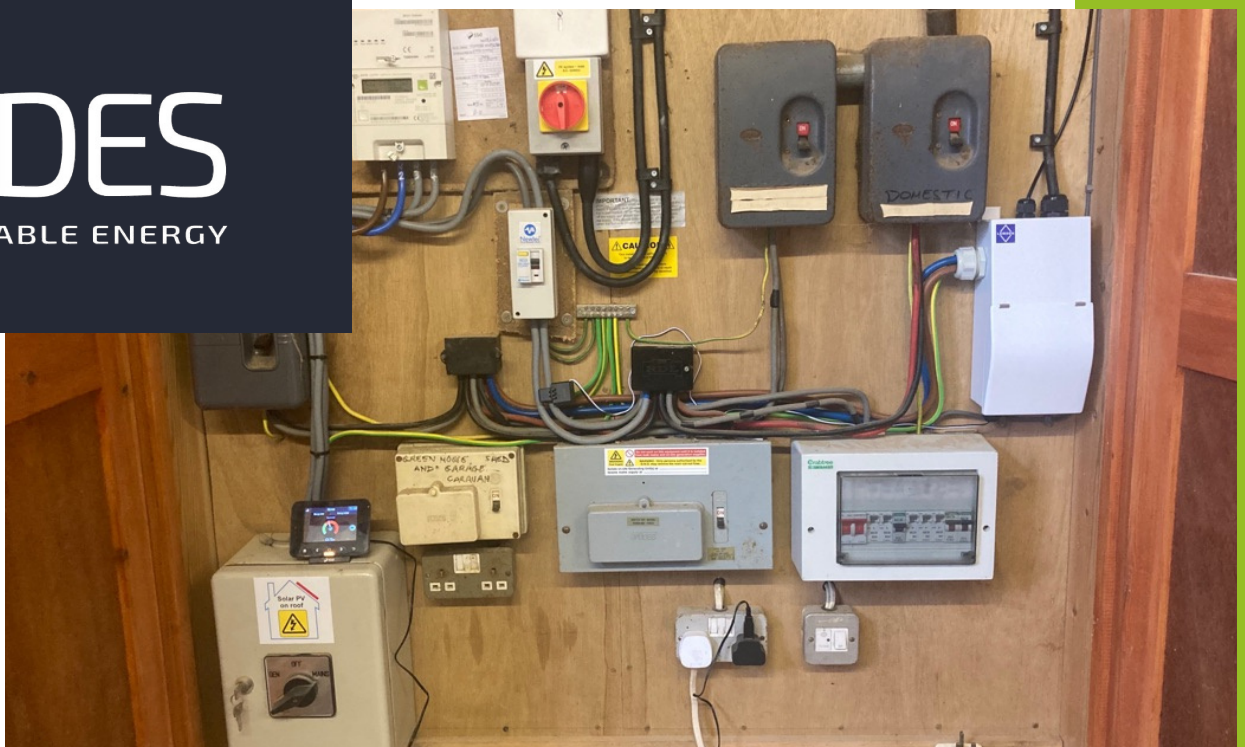
AT A GLANCE

- East–West split array, fully Tigo-optimised for shading
- 6 kW-class inverter, with output above 6 kW clipped
- Bank of 6 x 48V Pylontech batteries
- DC headroom for roughly five to six further panels
- WiFi dongle and cloud monitoring fitted for the owners
- Installed, tested and commissioned by DES across 2023–2024



BENEFITS

- **Energy Cost Reduction:** Solar offsets daytime electricity use across a busy summer season
- **Shading Solved:** Tigo optimisation and an East–West split keep the array productive despite the adjacent roof
- **Evening Cover:** The Pylontech battery bank stores surplus generation for later in the day
- **Visibility:** Cloud monitoring lets the owners track generation at any time
- **Room to Grow:** Spare DC capacity allows more panels later



OUR ACCREDITATIONS

We are MCS Certified which guarantees that our installations have been designed, installed, and commissioned to the highest standard using only MCS certified products.

We are also NAPIT Certified which confirms that we are certified to install and self-certify all of our electrical installations. We also comply with the Renewable Energy Consumer Code (RECC).



Electrical Safety
Register