



UNDERWATER EXPLORERS CASE STUDY

PROJECT OVERVIEW

Underwater Explorers is a dive centre based at Portland Marina, Portland, Dorset (DT5 1FD). To reduce operating costs and strengthen its environmental credentials, it partnered with DES Renewable Energy to install a rooftop solar PV system, with battery storage, that generates clean electricity onsite, lowers energy bills, and supports its long-term sustainability goals.

Underwater Explorers commissioned DES Renewable Energy to install a 27.9 kWp solar PV system across its trapezoidal metal profile roof. The installation comprised 62 x 450 W Astronergy panels connected to a SolaX X3-Ultra 30 kW hybrid inverter, paired with a SolaX Triple Power battery (15.3 kWh). The project aimed to reduce electricity costs, lower carbon emissions, and enhance long-term financial sustainability.

PROJECT DETAILS

Company Name: Underwater Explorers
Location: Portland Marina, Portland, Dorset, DT5 1FD
Solar System Capacity: 27.9 kWp
Estimated Annual Generation: 28,450 kWh
Installation Type: Trapezoidal metal profile roof
solar panels with battery storage
Project Timeline: Delivered in 2025, from survey to commissioning





OBJECTIVES

Reduce electricity costs

Reduce electricity costs and
dependence on grid energy

Improve environmental
sustainability by reducing carbon
footprint

Achieve long-term operational
savings and financial returns

Demonstrate responsible energy
practices to customers, staff and
stakeholders



+44 1202 985888



www.desrenewables.com



info@desrenewables.com

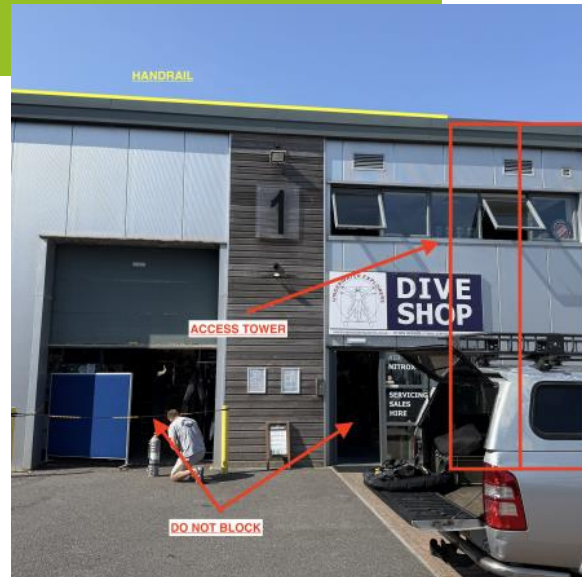
BESPOKE ASSESSMENT AND DESIGN

INITIAL ASSESSMENT

DES Renewable Energy conducted a comprehensive assessment of roof space, structural considerations, sun exposure, and interlocking constraints. This ensured optimal placement and system sizing to maximise energy production and long-term reliability.

PERMITTING AND APPROVALS

DES Renewable Energy ensured compliance with building regulations, electrical standards, and industry best practices. All necessary permits and approvals were obtained to guarantee a fully compliant and safe installation.



SYSTEM DESIGN

The system was designed with 62 x 450 W Astronergy panels across the trapezoidal metal profile roof. Power conversion is handled by a SolaX X3-Ultra 30 kW hybrid inverter, paired with a SolaX Triple Power battery (15.3 kWh) to maximise self-consumption. The system integrates with the site's existing electrical infrastructure for efficient energy management.



INSTALLATION AND COMPLETION

INSTALLATION AND COMMISSIONING

The installation was carried out with minimal disruption to the day-to-day site operations. Panels were securely mounted, connected to the inverter, and integrated with the existing electrical system. Comprehensive testing and commissioning verified the system's performance, functionality, and safety.

WHERE DES RENEWABLE ENERGY ADDS VALUE:

From initial assessment to completed commissioning, DES Renewable Energy provides a turnkey solution that ensures optimal energy generation, regulatory compliance, and sustainable operational savings.



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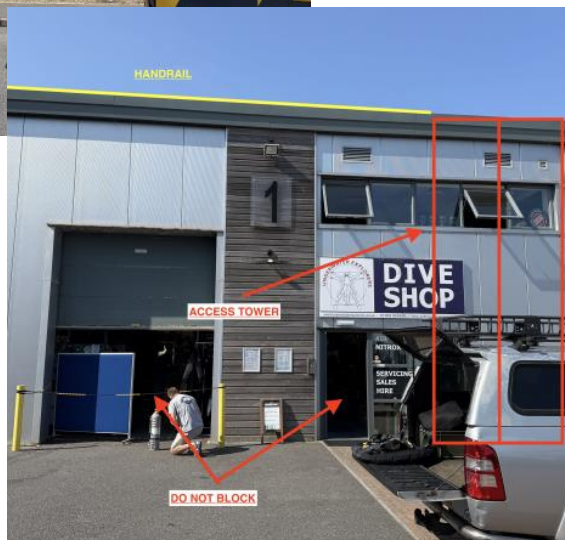
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AT A GLANCE

- 62 x 450 W Astronergy panels on a trapezoidal metal profile roof
- 27.9 kWp total system capacity
- SolaX X3-Ultra 30 kW hybrid inverter with a SolaX Triple Power battery (15.3 kWh)
- 28,450 kWh of clean energy generated per year
- Reduced electricity costs and carbon footprint



BENEFITS

Energy Cost Reduction: Lower electricity bills and reduced reliance on grid energy

Environmental Impact: Around 28,450 kWh of clean energy each year, saving an estimated 5.9 tonnes of CO₂ annually and supporting sustainability goals

Financial Returns: Savings on energy costs contribute to long-term financial sustainability

Public Image: Demonstrates responsible energy practices to customers, staff and stakeholders



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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