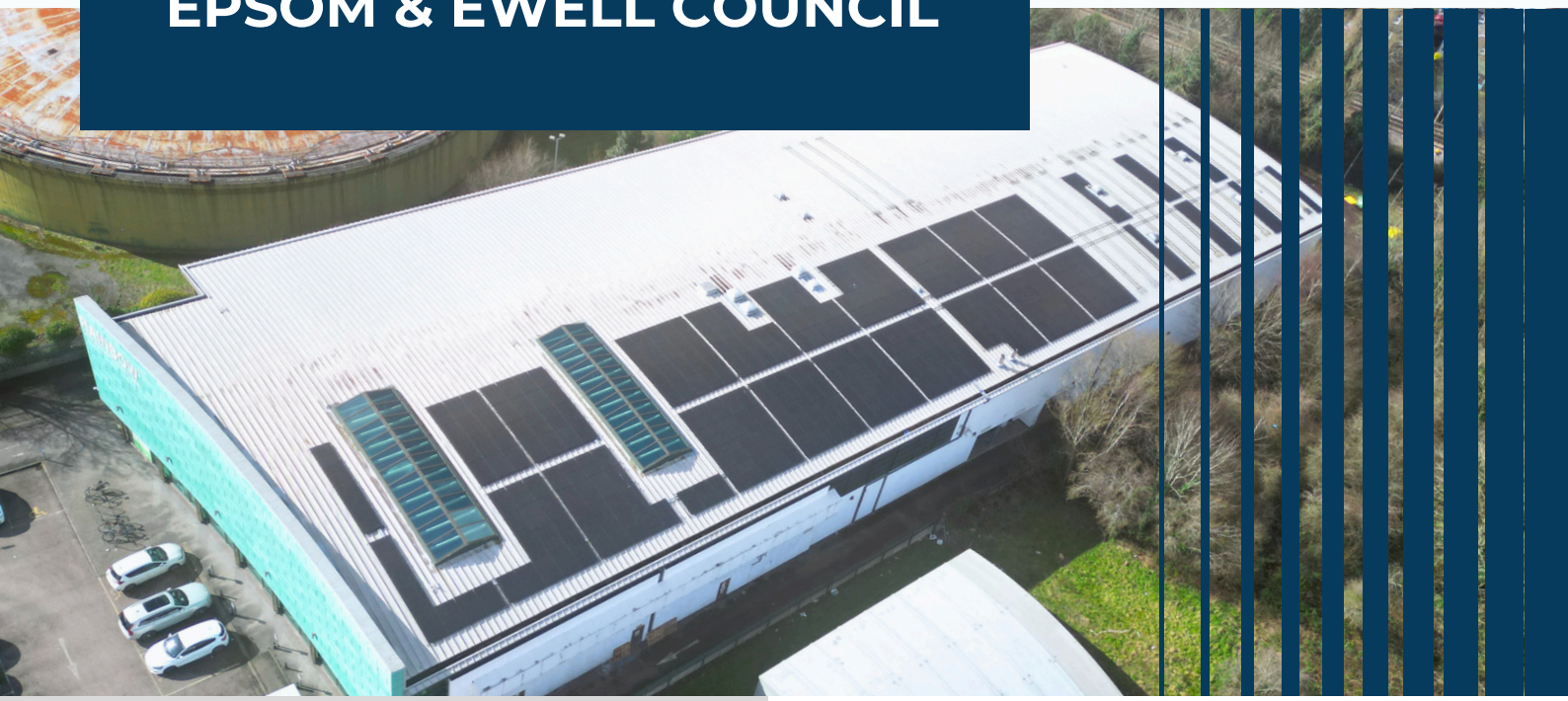
RAINBOW LEISURE CENTRE

EPSOM & EWELL COUNCIL



INTRODUCTION

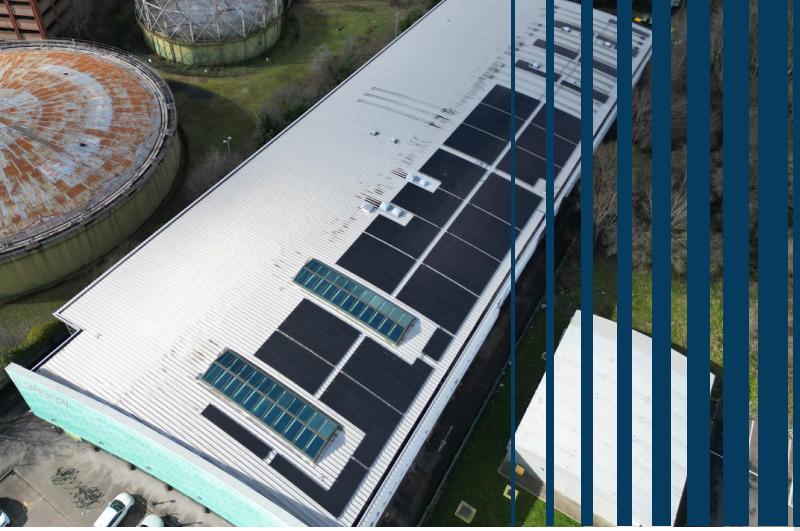
Completed in February 2025, the solar installation at The Rainbow Leisure Centre was commissioned by Epsom & Ewell Borough Council to support its wider sustainability goals - **marking the largest project of its kind undertaken by the Council to date.**

The system was designed to maximise on-site energy generation while maintaining full operational functionality and preserving the building's structural integrity.

This case study outlines the system design, components, and outcomes, demonstrating how solar technology can deliver lasting environmental and efficiency benefits in public sector buildings.

SYSTEM COMPONENTS

- **Solar panels:** 395 DMEGC 450W all-black bifacial panels - selected for their high efficiency and reliability.
- **Inverters:** 2 Solis 80kW inverters (to convert DC electricity generated by the panels into AC electricity for on-site use) - providing high efficiency and seamless integration.
- **Mounting system:** K2 standing seam mounting system - for durability and a secure anchor to the building's roof.
- **Bird-proofing:** Mesh was fitted around the arrays - protecting the system from debris and pests.



The solar installation is a great addition that will contribute to reducing the carbon emissions and energy bills of the Centre and support the Council's drive to becoming carbon neutral by 2035. Our thanks to the Titan Eco team.

Mark Rachwal - Environment & Sustainability Officer, Epsom & Ewell Council

IMPLEMENTATION

- **Assessment:** The project began with a detailed site survey to evaluate solar exposure and structural suitability, factoring in the future construction of a neighbouring building.
- **Preparation:** Standing seam clamps were positioned and installed in line with the K2 Base software layout, followed by the fitting of mounting rails.
- **Installation:** Panels were safely lifted into place and 16 DC strings were routed back to the inverter location.
- **Integration:** Inverters were installed and connected to feed solar energy into the leisure centre's electrical system.
- **Monitoring:** A display screen was installed in the lobby to demonstrate real-time and historical energy generation data to the public.

LOGISTICS

With the building standing at approximately 8 metres tall, safely transporting solar panels and mounting equipment to the roof was a key logistical consideration. Scissor lifts were used to move materials securely into position, maintaining compliance with health and safety requirements.

OUTCOMES

The solar PV installation at Rainbow Leisure Centre demonstrates how renewable energy can be effectively integrated into busy public facilities without compromising daily operations.

By combining high-efficiency components with a carefully phased delivery strategy - including an out-of-hours grid connection - the project sets a strong precedent for future local authority initiatives. It stands as a model for how councils can deliver tangible environmental benefits while maintaining service continuity.

ANNUAL OUTPUT

139,874

kWh CLEAN ENERGY

CO_2 SAVINGS

37

CUT PER YEAR

CARBON OFFSET

1,350

TREES PLANTED

www.titaneco.co.uk 0333 444 2136 info@titaneco.co.uk