

ST. GEORGE'S CHURCH ASHTEAD, SURREY



INTRODUCTION

St. George's Church in Ashted embarked on a solar energy project to harness clean energy, reduce operating costs, and demonstrate a commitment to environmental stewardship. The project was awarded following a competitive tender process, recognising the technical strength, cost-effectiveness and proven reliability of the proposed solution.

OUTCOMES

This 132-panel system is one of our most valued installations, combining technical precision with a flawless, visually integrated finish. With a predicted generation of around 52,000 kWh per annum, the system is set to save over £13,000 per year – with further value from export income – delivering lasting financial and environmental benefits for the Church.

SYSTEM COMPONENTS

- ✓ **Solar panels:** 132 x Jinko 435W panels (57.42 kWp) – providing high-efficiency generation across multiple elevations.
- ✓ **Inverter & optimisers:** 50kW SolarEdge Synergy Inverter with SolarEdge S500 optimisers – for panel-level optimisation and performance monitoring.
- ✓ **Mounting system:** K2 Solid Rail – with roof hooks and Redtip hookstops to reduce stress on roof tiles.
- ✓ **Pigeon-proofing:** SolaSkirt® for the pitched arrays and SolaMesh for the flat roof – preventing pigeons nesting while delivering a sleek, concealed finish across the site.





St. Georges Church, with its rich heritage, now embraces a future-oriented approach... The 57 kWp solar array not only

reduces the church's environmental impact but also serves as a symbol of responsible energy use within the community, bridging the gap between tradition and innovation.

We're keen to respond to the Church of England's challenge for our buildings to be 'net zero' by 2030. The solar panels project was our most ambitious so far, so we knew we needed to find a really good company to do the work. (They) were very friendly and approachable, and were always mindful of the busy-ness of the site, being willing to work around the timings of the various events going on in the café and centre.

The panels look great on our roof, and the whole system is running very smoothly. In 2024 we hope to save 9.4 tonnes of CO₂ and repeat this for many years to come.

Liz Marlow - Chair of the Church's Caring for Creation Committee

IMPLEMENTATION

- Assessment:** The design process began with a detailed site survey, taking into account the steep pitch and structural characteristics of the church's multiple roof elevations.
- System design:** Arrays were strategically planned across six roof sections to optimise solar gain while maintaining the building's visual integrity.
- Mounting system:** K2 Solid Rail was used across all roof areas, with plain roof hooks and Redtip hookstops on the five pitched roofs to distribute weight and reduce stress. The flat roof array was mounted to the lower stainless steel roof using standing seam clamps.
- Solar panels:** 132 x Jinko 435W panels (57.42 kWp) were installed across the six roof elevations.
- Pigeon-proofing:** SolaSkirt® was added to the pitched arrays, for a seamless black edge, concealing visible mounting components. The flat roof array was finished with SolaMesh for added protection against birds and debris.
- Integration:** All panels were fitted with SolarEdge S500 optimisers and wired back to a central SolarEdge SE-50k three-phase inverter, maximising system performance and energy conversion.
- Monitoring:** A small display screen was installed in the reception area, showing live data from the SolarEdge monitoring platform.

ANNUAL OUTPUT



52,000

kWh CLEAN ENERGY

ANNUAL REDUCTION



14

TONNES OF CO₂

ANNUAL SAVINGS



£13,000

ELECTRICITY & EXPORT



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