



MANORMEAD SUPPORTED HOUSING HINDEAD / TILFORD ROAD, SURREY CASE STUDY

PROJECT OVERVIEW

Manormead Supported Housing — a Church of England supported living scheme at Tilford Road, Hindhead — engaged DES Renewable Energy to deliver a robust rooftop solar PV solution to reduce energy costs, improve sustainability credentials and provide long-term operational savings for the site. The project required careful coordination with the Church of England Pensions Board and the Distribution Network Operator (DNO) to ensure safe integration with existing building services.

DES Renewable Energy provided a full end-to-end service: detailed site survey and structural assessment, bespoke system design, G99/DNO application, procurement, installation, commissioning and a comprehensive handover. The project included a SolarEdge firefighter gateway to interface with the building fire alarm system, optimisers for module-level safety and performance, and bird protection across the array. Resident welfare and on-site security were prioritised throughout, with close liaison between all stakeholders to minimise disruption.



PROJECT DETAILS

- Company Name: Manormead Supported Housing (Church of England)
- Location: Tilford Road, Hindhead, Surrey, GU26 6RA
- Solar System Capacity: 67.5 kWp (150 × 450 W panels)
- Installation Type: Rooftop optimised PV array with SolarEdge optimisation and firefighter gateway
- Project Timeline: Survey & design through to commissioning — install commenced late Oct 2025; practical completion early-November 2025
- Key Equipment: Astronergy (CHINT) 450 W panels, SolarEdge SE50K inverter, 150 × S500 optimizers, SolarEdge SE1000 firefighter gateway, EnviroGuard bird protection, rapid shutdown device
- Proposal / System Price: £58,000 (proposal, excl. VAT)





OBJECTIVES

- Reduce electricity costs
- Manormead wanted to reduce its exposure to grid electricity costs and deliver immediate, recurring savings across the supported housing units.
- Improve environmental performance
- The Church of England aims to reduce operational carbon — on-site generation was a practical step toward lowering emissions and demonstrating environmental stewardship.
- Ensure safe building integration
- Because the building is occupied and has an existing fire alarm system, the project required a compliant firefighter gateway and careful third-party coordination to preserve warranties and ensure safe commissioning.
- Deliver low disruption works
- As a residential scheme, the installation had to be managed to minimise disturbance to residents, maintain security and adhere to strict site procedures.



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BESPOKE ASSESSMENT AND DESIGN

INITIAL ASSESSMENT

DES carried out a full site appraisal: rooftop measurement, orientation and shading analysis, occupancy and load review, and a structural engineers' inspection to verify roof load capacity. The survey established optimal panel layout, cable routing and access arrangements.

PERMITTING AND APPROVALS

DES prepared and submitted the G99 application to the DNO, checked planning requirements and ensured all necessary approvals and certifications (MCS, NAPIT, RECC) were in place. Where third-party works were required (fire alarm connection), DES coordinated scheduling and technical liaison to ensure compliance and warranty preservation.



SYSTEM DESIGN

The final design comprises 150 × Astronergy 450 W modules arranged across two roof groups (tilts 40° / 37°; azimuths approx. 110° & 70°), with SolarEdge optimisation and a central SE50K inverter. A SolarEdge firefighter gateway (SE1000-CCG-F-S1) and rapid shutdown device were included to meet site safety protocol and to interface with the building's fire alarm via a volt-free contact. EnviroGuard black metal bird mesh was fitted across the array.



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INSTALLATION AND COMPLETION

INSTALLATION PROCESS

The DES installation team managed scaffold access, roof bracketry and module fitment. Works were scheduled to accommodate GT deliveries (bracketry first; panels and inverters subsequently) and to allow the appointed Church of England contractor to connect the firefighter gateway to the building fire alarm with minimal disruption. All cabling, optimizers and inverter connections were installed in accordance with manufacturer guidance and best practice.

WHERE DES RENEWABLE ENERGY ADDS VALUE:

- Evidence-based site assessment and structural verification to ensure safe, long-term operation.
- Proactive project management — coordinating DNO/G99 and the client to avoid delays.
- Specialist fire-safety integration (SolarEdge firefighter gateway) to meet site-specific requirements.
- Complete compliance and certification (MCS, NAPIT, RECC) and a clear, documented handover process.



TESTING AND COMMISSIONING

Comprehensive testing was completed: insulation and continuity checks, inverter commissioning, optimiser checks, rapid shutdown verification and monitoring integration. DES completed the DNO handover and issued MCS, NAPIT and RECC documentation. The client received a full handover pack with operation instructions, warranty paperwork and monitoring access.



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AT A GLANCE

- 150 × Astronergy 450 W modules — total 67.5 kWp.
- 1 × SolarEdge SE50K central inverter + 150 × S500 optimizers.
- SolarEdge SE1000 firefighter gateway & rapid shutdown device.
- Estimated annual generation: 51,258 kWh.
- Predicted PV self-consumption (PV only): c. 37,103 kWh (c. 39% of the total building's energy will be supplied by the solar system.).
- Projected first-year & lifetime savings shown in quotation — payback approx. 4 years 9 months (project assumptions per client proposal).
- Full MCS, NAPIT & RECC compliance with formal handover documentation.



BENEFITS

- Energy cost reduction & financial resilience
- The system is sized to deliver significant on-site generation that directly offsets grid purchases. The financial modelling in the proposal shows strong first-year savings and substantial lifetime bill reductions versus continued grid reliance — improving budget predictability for the housing scheme.
- Safety & regulatory compliance
- Incorporating a SolarEdge firefighter gateway allowed safe, standards-compliant integration with the building fire alarm system. DES's G99/DNO management and certified commissioning protect both safety and manufacturer warranties.
- Sustainability & stakeholder value
- On-site renewable generation supports the Church of England's sustainability commitments and demonstrates practical carbon reduction — reinforcing stakeholder confidence and public value.
- Minimal disruption & resident care
- All works were planned with resident welfare front of mind: delivery coordination, strict site security and daily housekeeping ensured the site was left safe and tidy at the end of each day.



AT A GLANCE

- Professional design with a clear focus on safety, detailed consultation and thorough customer engagement at all stages.
- 150 x 450w bifacial panel system.
- System generating an average of 51,258kWh of clean energy annually.
- Combined 13 tons of CO2 emissions reduced per year
- Combined equivalent of planting 2,495 trees annually
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TESTIMONIAL

"DES Renewables submitted a very clear and informative tender which included comprehensive details of the proposed costs, design and specification along with details of previous contracts/case studies. The SolarEdge system suggested for our installation came with good credentials and output. DES Renewables were proactive and supportive at all stages of design & installation, they managed the structural checks and DNO application process, along with the health and safety requirements in terms of design and onsite delivery, as well as respecting the residents who live in the building. DES Renewables provided a comprehensive handover at the end of the installation. Overall, a very positive experience."

STEPHEN INGLE

MSc MRICS

Planned Maintenance Manager - The Church of England Pensions Board



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Energy Cost Reduction:

The 67.5 kWp system is expected to generate approximately 51,258 kWh of clean electricity every year, significantly reducing Manormead's reliance on grid-imported energy. By producing a substantial portion of their own power on-site, the supported housing facility benefits from immediate operational savings and a much more stable cost profile. As energy prices continue to fluctuate, the PV array provides long-term protection from market volatility and allows the site to reallocate funds that would otherwise be spent on rising electricity bills.

Environmental Impact:

The installation supports the Church of England's broader sustainability commitments by delivering measurable reductions in carbon emissions. By producing over 51 MWh of renewable energy annually, the system helps cut a significant portion of the site's carbon footprint while demonstrating leadership in environmental responsibility. This investment not only strengthens Manormead's long-term sustainability strategy but also enhances stakeholder confidence by showcasing an active commitment to greener, low-carbon operations — directly benefiting residents, staff, and the wider community.

Financial Returns:

Based on the modelling provided within the proposal, the solar installation delivers exceptionally strong long-term financial value. With a quoted system cost of £58,000, the projected total lifetime electricity bill savings stand at £611,241, generating a net financial gain of £553,241 over the system's expected lifecycle. Under the tariff and export assumptions used in the analysis, the system is forecast to achieve a payback period of approximately 4 years and 9 months. Beyond this point, the installation becomes a profit-generating asset for the facility, continuing to offset costs and contributing to operational resilience.





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