

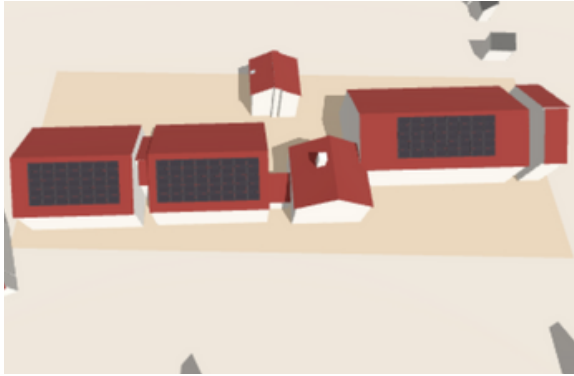


CASE STUDY

Care Home Solar Installation in Luton, Bedfordshire

the **greenway**
Solar

OVERVIEW



Abigail Court Care Home, operated by Luton Borough Council, has invested in a solar PV and battery storage system to cut operating costs and improve its environmental performance. The 46.575 kWp installation combines 115x Viridian high efficiency solar panels with integrated battery storage, providing the facility with clean renewable energy, reduced grid reliance, and long-term financial savings.

THE CHALLENGE

As a residential care facility, Abigail Court required a solution that could provide reliable renewable energy while maintaining the aesthetics of the building and ensuring minimal disruption to residents during installation. With continuous electricity demand and rising operational costs, the challenge was to design a system that maximised self consumption, offered export flexibility, and could integrate seamlessly into the existing site infrastructure.



OUR SOLUTION

The Green Way Solar Ltd delivered a tailored solar and storage system using advanced technologies and a methodical, safety-first approach. The system comprised:

- 115 x Viridian Clearline Fusion in-roof 405W panels to preserve the building's appearance.
- a SolarEdge Synergy 50kW inverter
- a SolaX X3 FIT inverter.
- 4x SolaX 5.8kWh batteries with a total capacity of 23.2 kWh, enabling the care home to store excess generation for use during peak times.
- 58x SolarEdge Optimisers

The system is fully monitored via SolarEdge and SolaX platforms, giving the client real-time visibility of performance and savings.

RESULTS

The installation at Abigail Court Care Home is projected to generate 44,313 kWh of renewable energy every year, meeting a significant portion of the facility's electricity demand and lowering its reliance on the grid. This clean energy production will prevent approximately 9,175 kg of CO₂ emissions annually, supporting both the council's sustainability objectives and national carbon reduction goals. The integration of 23.2 kWh of battery storage ensures that excess solar generation can be stored and used during periods of peak demand, maximising self-consumption and further reducing energy costs. With an estimated payback period of around 11 years and full eligibility for Smart Export

Guarantee payments, the system is set to deliver long-term savings while providing a reliable and efficient energy source for the care home.

Carbon Emissions Saved Annually

↓ 9,175kg CO₂

The Green Way Solar delivered the installation with accuracy, efficiency, and a strong focus on safety. The system now provides Abigail Court Care Home with a reliable supply of renewable energy, offsetting a

Renewable Energy Production

↑ 65%

significant share of its electricity needs while cutting operational costs. Despite having a mid-week installation, the project was completed on time and within budget, ensuring zero disruption to staff or residents.

From the outset, the project was guided by a methodical, safety-first approach. A full structural assessment confirmed the roof's suitability for hosting the 115 high-performance, in-roof panels. All cabling, inverter connections, and protection devices were installed to the highest standards of compliance and quality. Once operational, the system was integrated with SolarEdge's advanced monitoring platform, giving the Academy real-time insights into energy generation, onsite consumption, and exports to the grid.

WHY CHOOSE THE GREEN WAY SOLAR?

The Green Way Solar delivers smart, reliable energy solutions tailored to your home or business. We combine expert system design, high quality components, and professional installation to maximise performance and long-term value.

From initial consultation to final handover, our team ensures a smooth experience with minimal disruption. Every system is carefully designed to reduce energy costs, lower carbon emissions, and increase your energy independence.



With advanced monitoring, responsive support, and future ready technology, we make going solar simple, effective, and built to last.

CONCLUSION

The Abigail Court Care Home project highlights how solar PV and battery storage can deliver real benefits for public sector buildings. By designing and installing a system that balances energy generation, storage, and export capability, The Green Way Solar Ltd has provided Luton Borough Council with a reliable, future-ready energy solution. The installation not only reduces carbon emissions and running costs but also supports the council's wider commitment to sustainability and responsible energy management.