CASE STUDY

Solar Installation at Futures Housing Group, Derbyshire

the greenway Solar

OVERVIEW

Futures Housing Group's operational depot in Alfreton, Derbyshire has been equipped with a high-performance solar PV and battery storage system designed to reduce energy costs, lower carbon emissions, and improve energy resilience across its core infrastructure. Designed for a live operational environment, the 83.85kWp system supports high daytime electrical demand while maximising self-consumption through intelligent energy storage and load shifting.

WHAT WAS INSTALLED

130	Aiko Stellar 1N+ 645W N-Type ABC, 72 Cell, Silver Frame, Dual Glass solar panel
2	SolaX Series Box for TP-HS3.6 Battery
20	SolaX TP-HS3.6 3.6kWh Li-ion
2	SolaX X3 Ultra 25kW 3ph hybrid inverter

THE CHALLENGE

Futures Housing Group's depot operates as a live, high-activity environment, supporting maintenance teams, vehicle movements, materials handling, and office-based functions throughout the day. Delivering a solar installation within this setting required careful planning to maintain operational safety, manage work at height, and avoid disruption to daily activities. In addition, the depot's high daytime electricity demand created both an opportunity and a challenge: the system needed to prioritise intelligent energy use rather than exporting excess generation. Maximising return on investment was therefore critical, with a clear requirement to optimise self-consumption and avoid wasted midday solar production.

Futures Housing Group

OUR SOLUTION

The Green Way Solar Ltd designed and delivered an 83.85 kWp commercial solar PV system spanning two roof aspects, integrated with 72 kWh of SolaX battery storage and dual three-phase hybrid inverters. The system uses 130 Aiko Stellar 645 W N-Type panels for high efficiency and long-term performance, paired with two SolaX X3 Ultra 25 kW hybrid inverters to provide advanced control and future flexibility. Installation works were carefully phased around depot operations, with controlled access zones, sequenced lifting activities, and close coordination with site management to ensure safe vehicle and staff movement. Strategically programmed battery storage captures surplus daytime solar

generation and discharges it during evening and early morning demand, reducing grid reliance and maximising on-site energy use.

RESULTS

The project delivered substantial benefits for Bedford Trade Frames.

The completed system is designed to generate approximately 65,600 kWh of clean electricity each year, meeting up to 63% of the depot's electricity demand through integrated solar and battery operation. By prioritising self-consumption and load shifting, the system significantly reduces imported grid electricity while improving overall energy efficiency. Financially, the installation is expected to deliver a first-year benefit of around £10,600 through bill savings and export income, with a projected payback period of approximately six years. Environmentally, the system will reduce carbon emissions by around 13.6 tonnes of CO_2 annually, supporting Futures Housing Group's wider decarbonisation strategy across both its housing stock and operational estate

Money Saved in 1st Year

↑ £10,600

Renewable Energy Generation

↑ 65.6 mWh

WHY CHOOSE THE GREEN WAY SOLAR?

Our role in the Futures Housing Group project demonstrates our expertise in delivering sustainable, high-quality solar installations that support building owners and developers in meeting their energy and sustainability goals. With a focus on innovative design, efficient installation, and long-term performance, we helped transform Futures Housing Group into a model of sustainable commercial real estate.

CONCLUSION

This project demonstrates The Green Way Solar's capability to deliver complex commercial solar and storage installations within active, high-risk operational settings. By integrating high-efficiency PV with large-scale battery storage, Futures Housing Group can now meet up to 63% of the depot's electricity demand using renewable energy, significantly reducing reliance on the grid. The system is projected to generate approximately 65,600 kWh annually, deliver strong financial returns with a payback of around six years, and cut carbon emissions by approximately 13.6 tonnes of CO_2 each year. The Alfreton depot installation plays a key role in Futures Housing Group's wider decarbonisation strategy, supporting both cost efficiency and long-term sustainability across its operational estate.