TITAN ECO

Manufacturers & Distributors of SolaSkirt

DEEPING FEN FARM

BASTON, LINCOLNSHIRE

INTRODUCTION

Deeping Fen Farm, based in rural Lincolnshire, operates a large-scale poultry facility housing tens of thousands of laying hens. With extensive automation for feeding, lighting and egg-handling, the site runs continuously and depends heavily on electricity to maintain optimal conditions.

Titan Eco was appointed to design a solar PV system tailored to maximise roof space, optimise generation and integrate seamlessly with existing systems. The project forms part of the farm's wider commitment to improving energy efficiency and reducing its environmental impact.

SYSTEM COMPONENTS

- **Solar panels:** 224 × JA Solar 410 W modules (91.84 kWp) – high-efficiency panels known for their reliable output and performance in varied conditions.
- **Inverters:** 2 × Solis 3-phase 40 kW inverters – delivering up to 98.7 % efficiency with proven reliability and offering advanced remote monitoring capability.
- **Mounting system:** K2 rail mounting system – corrosion-resistant, precision-engineered and designed for strength and durability.

ANNUAL OUTPUT

86,000

kWh CLEAN ENERGY

ANNUAL REDUCTION

43

TONNES OF CO_2

ANNUAL SAVINGS

£25,000

ELECTRICITY & EXPORT

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IMPLEMENTATION

- **Assessment:** The site was assessed for roof suitability, shading and load capacity, ensuring the system design met both safety and performance requirements.
- **System design:** The system was intentionally designed to be oversized, ensuring optimal generation within the approved grid capacity.
- **Installation:** The K2 mounting rail system was installed, followed by the 224 JA Solar panels and the 2 Solis inverters, which were fully integrated.
- **Commissioning:** Following DNO approval of the connection to the grid, the system was energised, with real-time monitoring enabled to track generation and support ongoing performance optimisation.

OUTCOMES

Completed in just eight working days, the 91.84 kWp solar PV system now generates approximately 85,000 kWh of renewable electricity each year, meeting the majority of the farm's daytime energy demand. This has significantly reduced grid reliance and lowered operational costs by around £20,000 annually, achieving a return on investment of roughly 25 % and a projected payback period of four years.

Real-time performance monitoring provides ongoing visibility of the system output, enabling the farm to track energy generation, identify trends and ensure consistent long-term performance. This transparency helps to maintain operational efficiency and supports informed energy management decisions. The project represents an important step in Deeping Fenn Farm's ongoing commitment to sustainability, combining strong financial outcomes with measurable environmental benefits.