



MANUFACTURING SECTOR SOLAR PV INSTALLATION

Sector: **Manufacturing**
Technology: **Solar PV**
System Size: **400 kWp**

PERFORMANCE & FINANCIAL:

- **Estimated Annual Generation:**
340000 kWh
- **Payback Period:** 4.3 years
- **Return on Investment (IRR):** 25%
- **20-Year Return:** £1.8m

ENVIRONMENTAL IMPACT:

- **Annual Carbon Savings:**
71000kg CO₂
- **Equivalent to:**
 - ✓ 110 tonnes of industrial coal
 - ✓ 12,280 trees planted

Conversion factors based on UK Government greenhouse gas data, June 2023: 1 kWh = 0.20707 kg CO₂; Industrial Coal = 0.32262 kWh/tonne; Tree Planting = 0.036 kW/tree

PROJECT OVERVIEW

A manufacturing company sought to enhance energy efficiency and reduce operational costs through a solar PV installation. The company produces significant amounts of industrial materials and required a solution tailored to high energy consumption needs.

Following a comprehensive technical review, site survey, and feasibility study, the project included the following key measures:

BENEFITS

System Design

Custom-engineered electrical and mechanical solar PV layout utilizing high-efficiency 400W solar modules.

System Installation

Full supply, installation, commissioning, and grid integration (G99 compliance).

Real-Time Monitoring

Ensuring optimal system performance post-installation.

Additional Benefit

The local distribution network operator approved 100% energy export capability with the integration of advanced monitoring equipment.

SOLUTIONS

This solution enables the company to forecast energy costs, reduce reliance on grid electricity, and achieve long-term sustainability goals while making a significant contribution to reducing carbon emissions.