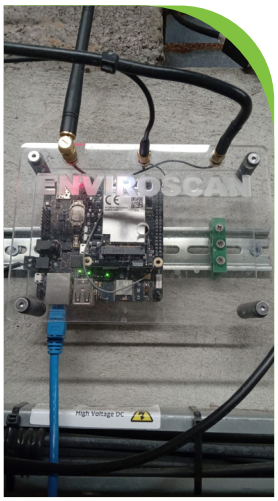
Energy Intelligence from the Sea
Solar Power Management at the Irish Seafood Processing Industry



Arna chomhchistiú ag an Aontas Eorpach
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Background

A seafood processing site in coastal Ireland implemented a Solar Power Management system via BIM's Green Programme in response to rising energy costs and growing sustainability requirements. Like many processors in the sector, the site relies heavily on energy-intensive refrigeration, freezing, and cleaning processes.

With support from BIM and technical guidance from Envioscan, the company installed a 39 kW solar PV system and rolled out BIM's advanced energy monitoring solution. The goal of this approach was to decarbonise their production, reduce ongoing electricity costs and improve visibility, and reduce the carbon footprint of daily operations.

Many of Ireland's seafood processors face similar challenges, including:

- High refrigeration and freezing energy loads
- Daily and seasonal production variability
- Limited technical resources
- Increased demand for sustainability data from suppliers and certification schemes (e.g. BRC, Origin Green)

While the benefits of installing Solar PV are clear, there is often a disconnect between the level of investment in a Solar PV system and the monitoring of electrical power usage within a business. This information is critically important to help businesses reduce their electrical load, which is necessary regardless of Solar PV power generation.

The BIM-supported Solar Power Management system offers such a solution by:

- Monitoring energy consumption in real time
- Optimising solar production and usage

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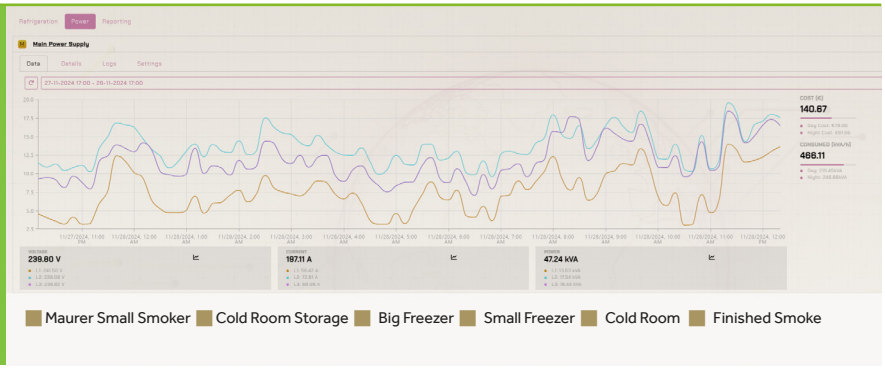

Energy Consumption Monitoring Data

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Actions Taken

The following outlines the main actions taken in the installation of their integrated system:

1. Solar PV Installation - a 39 kW solar PV array was installed with SEAI grant funding.
2. Real-Time Monitoring - sensors were installed across key equipment including refrigeration (blast freezers, compressors), smokers and HVAC systems.
3. Energy Dashboard Installation - staff were given access to bespoke dashboards for tracking energy use, solar generation, and equipment performance.

Since installing the system has been used for:

1. Maintenance Optimisation - early warnings for refrigeration inefficiencies have helped prevent unplanned downtime and product loss.
2. Smart Scheduling – the rescheduling of production and freezing processes to align with peak solar output are being trialled. It is hoped that this will be expanded once more data is gathered and the AI engine that forms the basis of the Solar Power Management system is fine tuned.

AFTER 12 MONTHS OF IMPLEMENTATION:

€5,500 Energy Cost Savings

15% Increase in Solar-Self Consumption

10.50 TONNES Reduction in CO_2 emissions

Three early refrigeration faults cetected

OVER **€4,000** by avoiding product loss

2.5years Payback period

KEY BENEFITS

15–20% reduction in annual energy costs

Reduced reliance on grid electricity

Simplified reporting for sustainability compliance

Staff empowered with live energy insights

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