



**£485,237**  
Annual energy costs

**3,836 kg**  
Savings identified

## Case study: ESOS Food Manufacturer

### Background

We were approached by an international food manufacturer with over 500 employees in the UK across 3 sites. We were tasked with reviewing the company's organisational structure, assessing eligibility to comply with ESOS Phase I, and if required, to guide them through the compliance process. The UK production sites had an energy bill of over £4 million. In addition to the obvious ESOS compliance objectives, our goal was to identify practical energy savings opportunities.

### Challenge

Most of the client's energy is consumed in production related processes. We therefore needed to balance energy improvements with production priorities. Being a highly complex chemical plant, we also needed to deploy chemical engineering experts to ensure that we could deliver the outcomes in a reasonable timeline, while remaining cost effective. ESOS also requires that we understand the organisational structure in full, to be able to document Responsible and Significant Undertakings. With an overseas parent company, this was not as straight forward as it could be.

### Quick Facts

Global manufacturing plant in the foods industry  
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Manufacturing plant heavily reliant on steam and chill systems  
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162GWh pa of energy consumption on site  
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Energy viewed as a major cost of production  
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Compliance obligations under CCA and EU ETS  
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Extensive SCADA systems and sub-metering across the plant not integrated  
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[See the solution overleaf](#)

## Solution

We began with a data mapping process to collect all energy consumption data including transport fuels. This enabled us to determine which elements of the portfolio needed to be audited in order to ensure at least 90% coverage. It turned out that the main production site was responsible for 94% of the overall consumption. From this we proposed a compliance strategy involving 1 ESOS Audit, agreed investment criteria, and reviewed existing projects. We then completed a 5 day site audit using two engineers.

## Results

We identified 8 energy saving projects that met the investment criteria with potential to deliver 12.1% energy savings, or £485k. 5 of these projects have since been implemented with savings achieved being within 80% of what was identified during the initial ESOS Energy Audit.

In addition to the practical energy savings opportunities identified, the client complied with ESOS on time and with no risk of non-compliance.

## About Us

Optimised Energy is a full service energy consultancy. We are equipped not only with the best people and technology to serve our clients, but we also maintain key partnerships to supplement our team in specialist areas. These include areas such as electrical installations, chemical or heavy process engineering, and the development of complex onsite generation plants. We know our strengths, and how to serve our clients best by supplementing them in key areas.

**"For us, ESOS was a real eye opener. We knew savings opportunities existed, but this process enabled us to fully quantify the benefits and subsequently deliver savings for the business. We are pleased to have taken more than just compliance from the experience."**

### Projects Identified

- Boiler load management strategy
- Boiler blowdown control improvements
- Steam trap survey and remedial works
- Burner replacement
- Fuel switching of Heavy Fuel Oil
- Blowdown heat recovery
- Utilisation of sub-metering
- Refrigeration heat recovery
- Change Management programme.

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Projects delivered

-12.1%

Savings identified

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