

Biosus Energy CHP Case Study

“Salmon factory spawns new cost-efficient low-carbon infrastructure”



Biosus Containerised solution is craned into position at factory

Aims:

Combined Heat and Power system to provide power and heat and substantially reduce electrical power costs onsite.

Location:

Aberdeenshire

Customer:

Leading Fish Producer

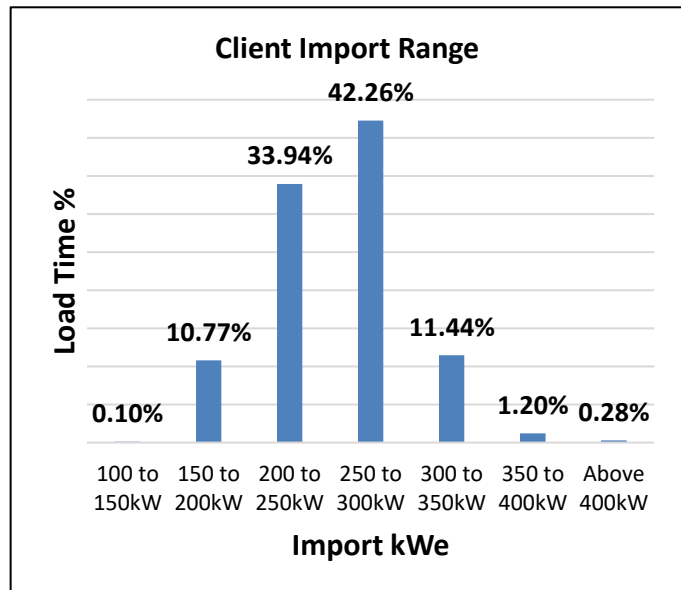
Overview

The aim of the project was to deliver an efficient solution for the replacement of an oversized gas boiler, as well as providing sustainable power to offset current electrical loads. This system provides 125 to 500 kW_e and 200kW_{th} of heat.

Description of Project

The factory has an annual power use of around 2.2 GWh. Our analysis of the half hourly data found that the power followed a trend of baseload which could be covered by one system and a peak which could be covered by a second unit. With lower consumption on Sundays. Using this information and a detailed analysis of annual heat load measurements, we concluded that a twin-set CHP unit would provide the flexibility we needed.

The project had a few challenges; space was tight, so we had to overcome space restrictions and allow the customer to make storage space under our unit. We also had to reconfigure the plumbing to supply heat to multiple calorifiers throughout the factory and replace a steam main with system that could withstand the coastal environment.



Client Benefits

Service

The system is fully serviced and supported by Biosus Energy this includes:-

- Planned CHP maintenance as per the manufacturers and warranty requirements. E.g. oil changes, spark plugs, filters etc.
- 24/7 response to any engine warnings or unscheduled stops.
- Remote cover via 4G and internet alarms.
- Remote login to critical systems including engine ignition and Comap controller
- Gas and power metering
- Monthly reporting on performance and savings.



Technical

- The system has G99/G100 compliance
- Island mode means the grid can be disconnected and the factory can run on the CHP alone. This protects the factory from power outages with millions of pounds worth of stock in freezers.
- Safety systems are integrated into factory alarms for mutual protection.



Financial

- Power and heat savings of £50,000 per year
- Innovative Energy Supply Agreement
 - Biosus provides the gas, so the client has no gas bill.
 - Client is only charged for each kilowatt of power and heat used.
 - Guaranteed Savings versus Grid connection
- System is CHPQA compliant



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