



POULTRY PROCESSOR

This poultry processing and retail business is one of the largest in the UK and once boasted the largest manufacturing facilities in Europe. The company is steeped in tradition and renowned for its high quality produce and household name. Innovation is the backbone of the process – and recent rebranding and continuous improvement strategy has enabled them to constantly meet demand and keep up with foreign competitors.



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THE PROBLEM

The meat and dairy processing industry is in a race to the bottom to decrease costs and improve process efficiency. Poultry processing is subject to strict controls and health and safety standards, which have to be consistently met whilst maintaining output. The company enlisted Crowley Carbon as their energy partner to meet their ambitious green targets before 2020 and to reduce waste and improve energy efficiency.

THE CHALLENGE

- Minimise energy consumption
- Maximise microbiological control
- Optimise downstream productivity
- Reduce Energy used in downtime
- Optimise loading

INDUSTRY SPECIFIC ISSUES

- Sub-optimum loading
- Least efficient chiller first
- Peak load occurring during peak electrical cost
- Doors open longer than required
- Wash down just before loading
- Poor defrost management
- Poor fan control
- Excess condensation



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THE SOLUTION

HEAT PUMP INSTALLATION

Heating – The installation of the thermal server heat pump captured heat from borehole water and reduced the dependency on mains water and heating requirement. Altogether this has reduced the energy use by as much as 30%.

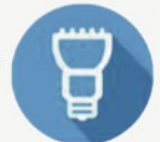
Boiler resizing and consolidation



HEATING



COOLING



FULL LED
RETROFIT



C³ CARBON CONTROL CENTRE

TOTAL ENERGY
MANAGEMENT

REFRIGERATION

Intelligent sequencing of refrigeration compressors with our state-of-the-art refrigeration EMS. Glycol rebalancing in order to maximise coil surface area and therefore maximise cooling capacity

TOTAL ENERGY MANAGEMENT

EMS – Connected our Sky Spark energy savings tool to onsite SCADA and our central monitoring system (C³). Applied software analytics to years of historical data to identify control opportunities. Correlated energy data with non-EMS data (weather, production volumes, etc) to enable real-time monitoring of KPIs. The following influencing factors are taken into consideration:

- Ambient temperature
- No. of birds processed
- Weight of birds processed
- Includes CHP electricity generated
- Includes Thermal Server consumption

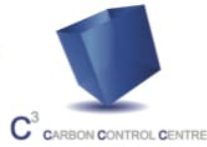


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C³ SUBSCRIPTION SERVICE

1. Energy mapping
2. Live & historical energy monitoring
3. Energy reporting and quarterly reviews
4. Multi – site comparison
5. Energy consumption forecasting



THE RESULT

Overall Savings Contracted: £1,491,757

- **Electrical Savings:** £380,120
- **Thermal Savings:** £180,810
- **Lighting Savings:** £62,296

Capital Costs: £2,485,000

Financed: In House

Payback: 1.6 years

25% Increase in Process Efficiency



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