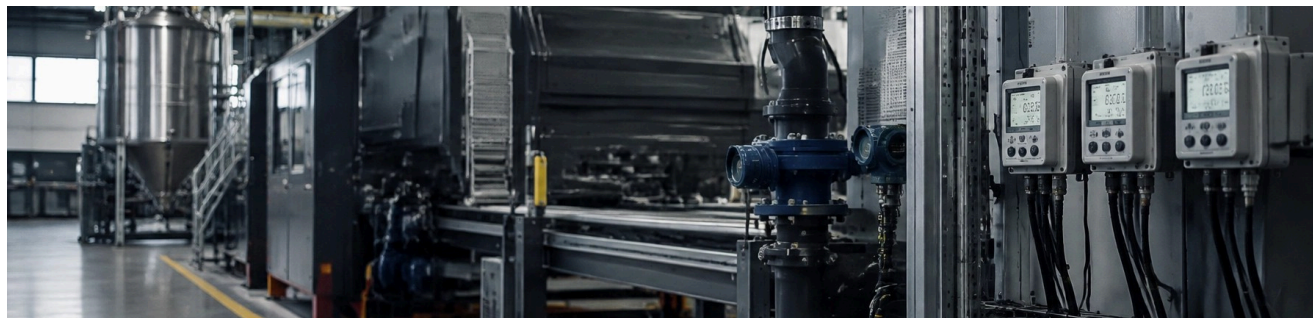


Refrigeration and cooling

For food and drink manufacturers, often the single largest load



For much of the food and drink sector, refrigeration is the biggest electrical load on site, often bigger than process heat. UK sector sources commonly put it at 30 to 50% of electricity use in food and drink manufacturing, and higher still for frozen and low-temperature sites. It is also a load that quietly grows: controls drift, doors leak, ice builds up, and the plant compensates by running harder and longer.

Where the waste hides

Pattern	What's happening
Setpoints colder than needed	Every degree colder costs money, each unnecessary degree of cold adds roughly 2 to 4% to refrigeration energy consumption (Carbon Trust). Check stored product requirements against actual room settings.
Door discipline	Open doors, damaged strip curtains, lights left on in cold stores, doors propped during loading. Each one adds load the plant then has to remove.
Controls that drifted	Defrost schedules running more often than needed, anti-sweat heaters always on, back-up plant running alongside duty plant.
Maintenance gaps	Dirty condensers, iced evaporators, low refrigerant charge and head pressure that never floats down all force longer compressor running.

Heat you've already paid for

Rejected condenser heat is a free heat source for space heating or water pre-heating if the pipework allows it. Before any heat pump or heating project is specified on a refrigerated site, ask whether heat recovery should come first, it changes the sizing of everything downstream.

Sign of a leak: if your overnight electricity baseline never drops, refrigeration is usually one of the reasons, and sometimes the only one worth questioning.

Practical checks

- Compare room setpoints with what the product actually requires, and relax them where safe
- Log compressor running against half-hourly data: refrigeration shows up as the overnight baseline
- Check defrost schedules against door traffic and product turnover, not the calendar
- Inspect door seals, strip curtains and evaporator icing at the next routine visit
- Confirm floating head pressure control is enabled where the plant supports it
- Ask whether condenser heat could be recovered before specifying any new heating plant

Worked example (illustrative): a chilled store whose refrigeration plant uses 300,000 kWh a year. Relaxing the setpoint by 1°C, if the stored product genuinely allows it, typically trims 2 to 4% off refrigeration energy (Carbon Trust): 6,000 to 12,000 kWh, or roughly £1,500 to £3,000 a year at 25p/kWh, from a controls change that takes an afternoon. Check the product specification first; then watch the half-hourly data confirm it within days.

Where this fits the bigger picture

Refrigeration is where the monitoring principle earns its keep: the compressor bank is usually visible in half-hourly data as a distinctive overnight plateau, so a one-week look tells you how hard the plant is actually working while everyone sleeps. Any setpoint or controls change is cheap, fast and verifiable in the data within days, a textbook first measurement and verification exercise.

Remember: the cheapest source of capital is the energy you are wasting.



About Hawley Energy

Hawley Energy is an independent energy consultancy based in West Yorkshire. We turn energy compliance pressure into measurable progress: data analytics and reporting (Enerlyse), transparent procurement (Baseline Power), coordinated project delivery and flexible financing (PowerPacks), with one point of contact and complete accountability. Certified to ISO 9001, ISO 14001 and ISO 45001, and led by a CIBSE-accredited ESOS Lead Assessor, we replace guesswork with evidence-driven insight. The cheapest source of capital is the energy you are wasting.

Talk it through: no pressure

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30-minute call · I love a challenge



Sources: Carbon Trust refrigeration guidance; industry maintenance good practice. Sector load shares are typical ranges, not guarantees; savings depend on plant type and condition.
A Hawley Energy session resource, part of the free WYMS manufacturer pack at hawleyenergy.co.uk/wyms. Last verified: 20 October 2026.