



Unlocking Savings with Off-Peak Load Optimisation

£2,940 in Annual Savings Through Smarter Load Timing

At a Glance

- 01 **£2,940/Year Saved**
by Shifting 10% Energy
- 02 **28% Cost Difference**
Day vs. Night Tariff
- 03 **£768/ Year Saved**
by Tweaking Chiller Process
- 04 **Unlock up £3,840/yr**
load shift from 10% to 50%

Issue:

OAK Network's smart audit at a York-based beer manufacturing plant in April 2025 uncovered significant avoidable costs—primarily driven by high-tariff energy usage during peak hours. Operational schedules didn't align with off-peak tariff windows.

The Root Cause:

Energy-intensive operations like fermentation and chilling were concentrated during day hours, when energy rates were £0.2327/kWh. Meanwhile, low-energy tasks were reserved for night hours, wasting cheaper energy potential.

What the data showed:

By shifting just 10% of load to low-tariff periods, the plant could save £245/month or £2,940/year—equivalent to 9 days of electricity consumption. The Process Chiller alone could save £768 annually. Scaling the load shift up to 50% could unlock £3,840/year.

The Solution

OAK recommended smart scheduling aligned with tariff windows using AI tools and sensor-based load profiling—no hardware changes, just smarter planning.

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Issue

overpaying for electricity by not aligning equipment usage with dual tariff windows.



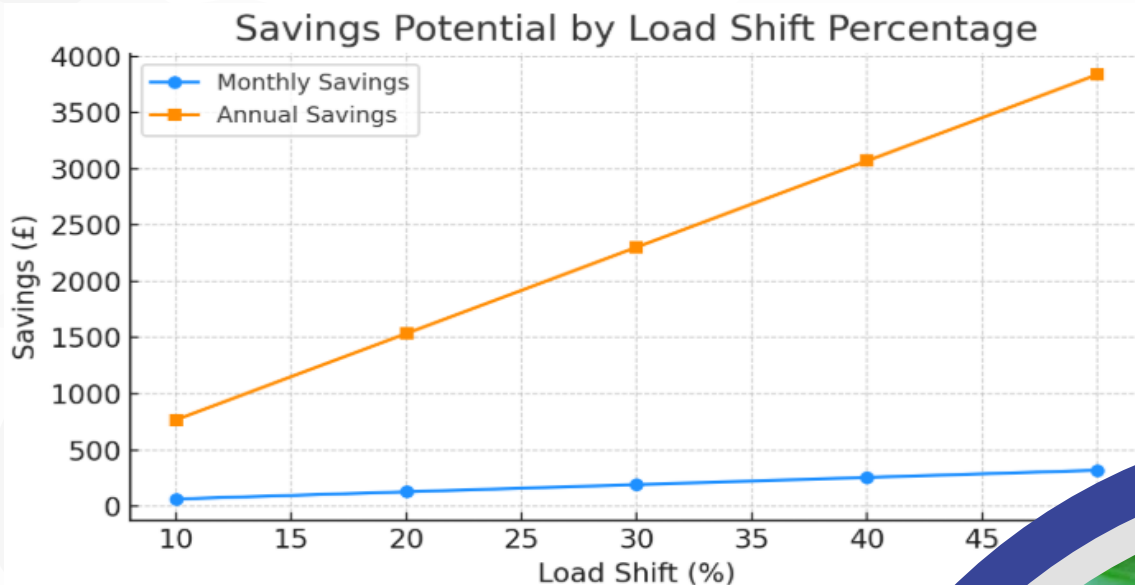
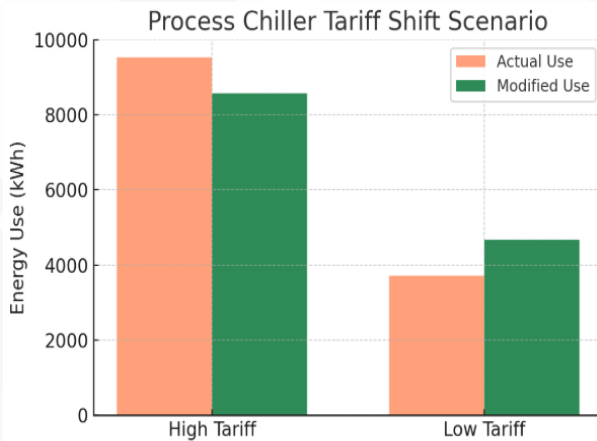
The Root Cause

The plant's high-load equipment was scheduled during expensive daytime tariff hours, while low-energy tasks ran at night, leading to inflated energy costs.

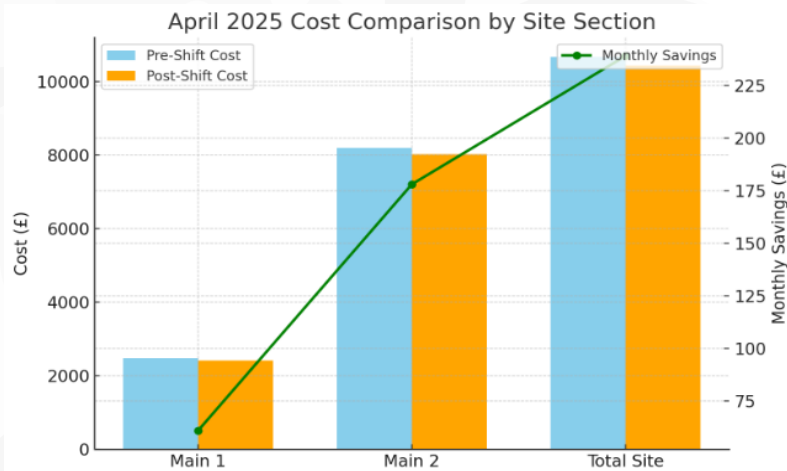
Without syncing operations to tariff windows, the plant unknowingly lost thousands in avoidable electricity spend.

What the Data Showed

- Scaling load shift from 10% to 50% increases monthly savings from £64 to £320 and annual savings from £768 to £3,840.
- Each additional 10% load shift delivers an extra £64 per month and £768 per year in savings
- High tariff energy use decreased by 952 kWh (from 9,525 kWh to 8,573 kWh), while low tariff use increased by 953 kWh (from 3,716 kWh to 4,669 kWh) after the shift.
- This adjustment resulted in
 - savings of £64 per month
 - and £768 per year



Cost Comparison



Shifting operations in April 2025 resulted in total monthly savings of £239, with Main 2 contributing the largest share at £178. Both site sections saw reduced costs after the shift.

Impact

- £2,940/year in preventable energy overspend
- Loss equivalent to 9 full days of electricity use
- Process Chiller alone accounts for ~26% of the waste
- High reliance on peak tariffs limited potential savings

Fix

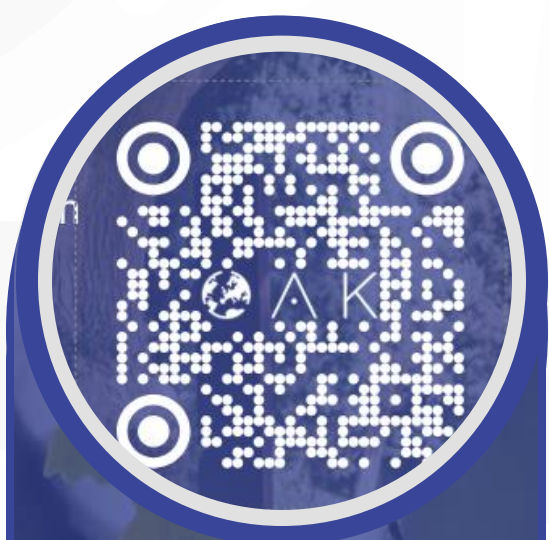
Immediate Actions:

- Rescheduled high-load processes 1–2 hours into night tariff windows.
- Shifted idle operations and cleaning cycles to cheaper timeframes

Optimisation Support:

- Used AI scheduling tools linked to tariff forecasts
- Installed sensors to dynamically shift non-essential loads
- Scheduled monthly performance audits

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