



Coolnomix Case Study

Oscar Mayer

Report compiled by Shaun Nugent, Director, Emissis.

Reducing carbon emissions locally and globally



Oscar Mayer specialise in making and developing retailer labelled prepared foods for the top UK grocery retailers

Coolnomix Model

1 x AR-01 for refrigeration use
+
1 x MID smart meters with GPS capability for remote monitoring

Direct Annual Savings



kWh

3,209.5 kWh



863kg CO2



£515.02 p.a.
26.1% energy saving
ROI of 12 months

Coolnomix®

Reduce the energy consumption of your air-conditioning and refrigeration without affecting the output you need. Our technology is maintenance free and can be easily installed by our qualified engineers with no disruption to your operation. You can expect up to 40% energy saving on your air-conditioning and up to 30% on your refrigeration.

We keep your people, equipment and produce cool, and your energy budget from overheating

Client

Oscar Mayer specialise in making and developing retailer labelled prepared foods for the top UK grocery retailers across four sites in the UK. Their clients include Asda, Sainsbury's, Co-op, Waitrose, Morrisons, Tesco, Aldi, Greggs, Subway and more leading brands.

They have key sustainability requirements including reducing the energy usage of their factories to improve the environmental sustainability of their business and the products they produce.

Overview

The purpose of the trial was 'proof of concept' and to identify the potential for reducing both carbon emissions and direct energy consumption with the installation of COOLNOMIX - a unique patented intelligent thermostat.

Emissis carried out a 15-day trial on 'Fridge 21' located in one of the food preparation areas of Oscar Mayer, Chard, Somerset.

Trial

On the 04/03/2020 a COOLNOMIX unit was installed and connected to an internal cooler in Fridge 21. The cooling system was supplied by Coolers and Condensers Ltd.

To measure the energy consumed by the cooler an MID smart meter, with remote connectivity, was connected to the external condenser.

Data recording commenced at 00:02 on the 05/03/2020. COOLNOMIX was operational until 13/03/2020 (8 days) at which time it was turned OFF 13/03/2020. COOLNOMIX was bypassed (turned off) and the cooling systems operated as 'normal' for 7 days until 20/03/2020.

During the 15-day trial, the metered half-hourly and 4-hourly data was collected and analysed.



Results

Daily

COOLNOMIX active (ON) reduced daily energy consumption by 26.1%, (see Figure 1), providing a reduction of 8.3kWh per day.

This saving is based on using 200.4kWh over 204 hours with COOLNOMIX active (ON) and 204.2 kWh over 152 hours with COOLNOMIX inactive (OFF).

Daily energy consumption (kWh) and saving with COOLNOMIX

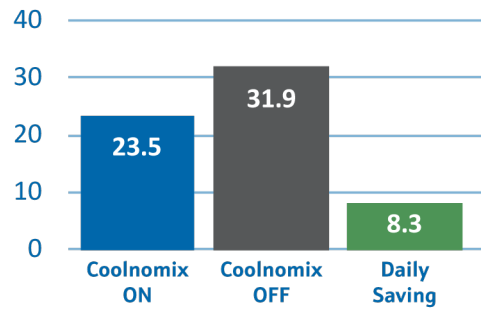


Figure 1: Daily energy consumption and saving

Annual energy consumption (kWh) and annual saving with COOLNOMIX

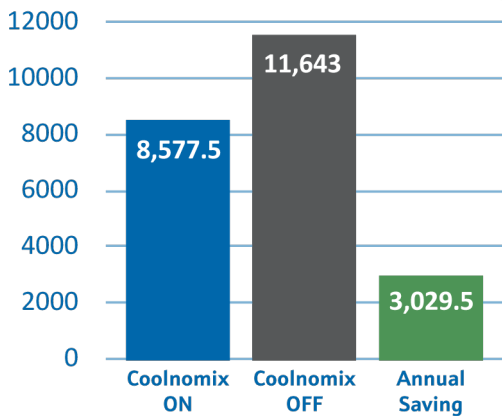


Figure 2: Annual energy consumption and savings

Annual

The calculated 8.3kWh daily saving with COOLNOMIX equates to annual energy savings of 3,029.5kWh (see Figure 2) which is equivalent to a carbon emissions reduction of 863kg CO₂.

The annual savings were calculated on an average daily consumption showing:

- COOLNOMIX (ON) consumption averages 23.5kWh
- COOLNOMIX (OFF) consumption averages 31.9kWh

COOLNOMIX will reduce your carbon emissions by 863kg per annum

Summary

One COOLNOMIX unit was installed and the data proved the technology's worth against just one cooler in Fridge 21 at the Chard site. Full rollout across the entire estate's fridges, at the four UK operational sites, COOLNOMIX would reduce carbon emissions by 388.3tn CO₂ and reduce energy consumption by 1,363MWh; equating to a cash saving of £231,759 at today's electricity supply price with a payback of 12 months.

Over 10 years Oscar Mayer would achieve:

CO ₂ reduction	Electricity reduction
3,883tn	13.63GWh

Rental Option

Off balance sheet - zero deposit

Monthly figures:

- Saving £42.92 per device
- Rental from £12 per device
- Net benefit £30.92 per device

Rollout across 4 sites:

- Monthly benefit £13,914
- Annual net benefit £166,968



We're ahead of the game

We deliver a powerful suite of solutions that reduce your carbon emissions, save you money with lower energy bills and generate revenue from being a more flexible energy user with the help of today's leading technology.

See our COOLNOMIX brochure and videos

See our other solutions

COOLNOMIX

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