

CASE STUDY

# Hinchliffe's Farm Shop

## Why SEC heat recovery is outstanding in its field

**Britain's oldest farm shop is harvesting the benefits of new heat recovery technology from leading wholesale group Beijer Ref UK.**

By adding the unique and innovative SEC (Sustainable Energy Controller) to its existing refrigeration set-up, the shop has seen a significant reduction in both operational costs and carbon emissions as it generates free hot water from otherwise wasted heat.

Hinchliffe's Farm Shop in Netherton, Huddersfield, opened in 1974 with a 'pasture-to-plate' philosophy based on sustainable farming methods and the highest animal welfare standards. Those values, first established when Allen Hinchliffe bought the farm in 1929, have helped the shop grow into a highly successful business boasting an in-house bakery, butchery and deli selling award-winning pork pies.



## The Challenge

Due to fluctuating energy prices and increased awareness of global warming, current farmer/director Simon Hirst asked his trusted refrigeration contractor, Huddersfield-based Crowther & Shaw, to explore options to reduce both costs and carbon footprint.

Simon said: **"We have really noticed the impact of soaring energy costs over the last couple of years. With the added pressure of Net Zero targets, we asked Crowther & Shaw if they knew of any energy and carbon saving products on the market. We were introduced to SEC and the benefits and return on investment seemed to be a 'win-win' for us, so we were more than happy to go ahead with the project."**



Matthew Lander, Service Manager for Crowther & Shaw, said:

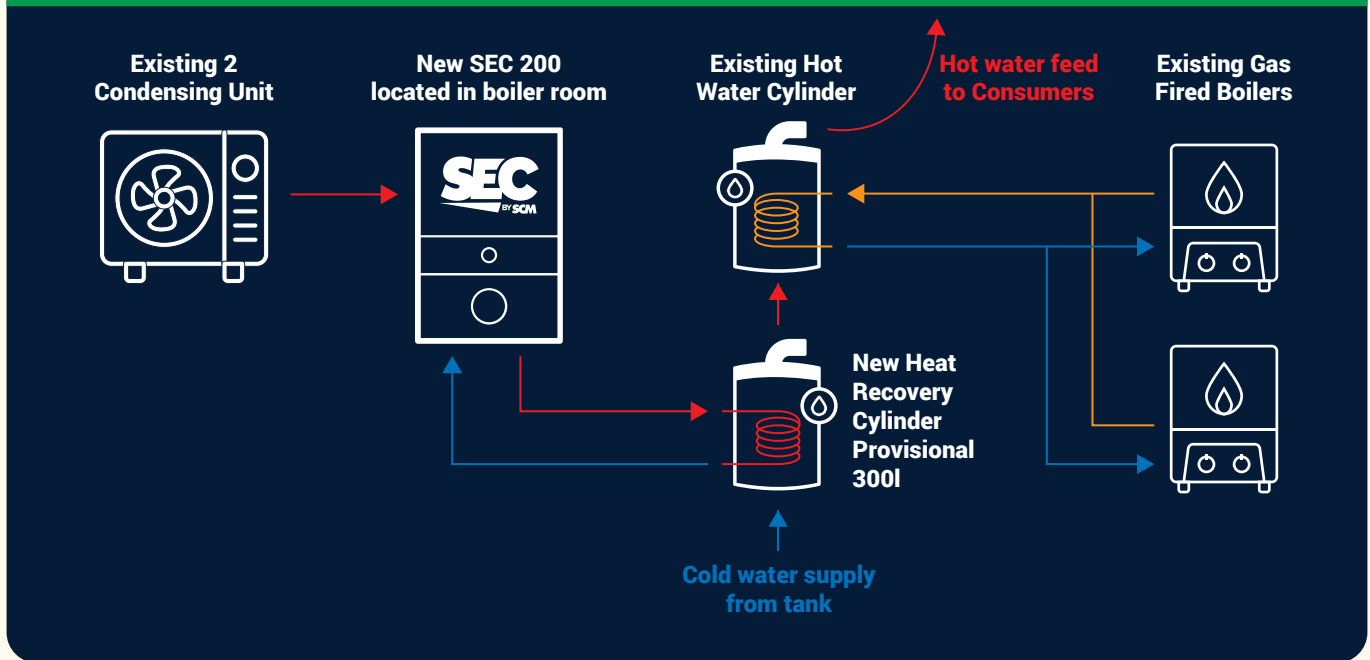
**"Our customer wanted to save money on his energy bills and the SEC unit looked like a great product to achieve this. This site expels a lot of waste heat through its refrigeration systems, so it seemed logical to reclaim this and use it elsewhere."**

## The Project

The Sustainable Solutions team from Beijer Ref UK completed a site survey, and all parties decided that SEC could be retrofitted to the existing refrigeration equipment. All equipment installation and changeover works were completed in the evening when the shop was closed to keep downtime for the business to a minimum.

The SEC-200 unit is connected to the site's existing 20kW refrigeration system to recover waste heat when in operation. The refrigeration condensing unit delivers cooling for multiple display cabinets and operates with variable capacity throughout the day, providing a stable source of heat which would otherwise be rejected to the ambient air. As the shop prepares and produces its own food on site there is also a high demand for hot water, so the potential energy recovery benefits are significant.

For the Hinchliffe's Farm Shop project, SEC has been used as a pre-heat source for the existing gas-fired boiler system



The system has only been operating for a short time but recovered energy is already benefiting the customer and reducing the reliance on gas as a heat source.

Matthew Lander added: **“From the minute SEC went live we could see it working. I look forward to seeing how the product performs throughout the year via the energy meter that is fitted. We have lots of customers that are looking to save money on their energy costs, and this is a great product to achieve that.**

**“SEC is well designed and built. All the parts are labelled clearly within the unit itself, allowing the engineers on site to quickly plan how it will be integrated into the existing systems.”**



**The Solution**

The new and innovative SEC from SCM Frigo is designed and supplied by leading wholesaler Beijer Ref, which has 47 branches in the UK and Ireland, and includes the brands Dean & Wood, HRP, RW Wholesale and DWG.



SEC is designed primarily as an energy recovery unit but can also operate independently to generate hot water when there is no refrigeration demand.

When a refrigeration system runs, SEC harvests all available heat within the system and converts it into free hot water. When the refrigeration system is in a 'thermostat off' condition, SEC uniquely continues to harvest the residual energy still available. It then works directly with the condenser of the refrigeration equipment but does not rely on the evaporator to be working. Instead, using a series of integrated heat exchangers, it operates independently as an air-to-water heat pump to continue to generate hot water.

The unit is available in two versions: SEC100 (2-5kW) which can provide up to 590ltrs of water per day, while the SEC200 (5-10kW) fitted at Hinchliffe's Farm Shop can generate up to 2080 ltrs of hot water per day.

### The Benefits

- Reduced operational energy costs
- Reduced carbon emissions
- Potential future-proof solution as gas boilers are phased out
- Short payback time (typically 6-18 months) for return on investment



Beijer Ref UK's Sustainable Solutions team offers a free consultancy and system design service for anyone considering SEC for a project.

For more information on how heat recovery can contribute towards your Net Zero targets, please contact [sustainableolutions@beijerref.co.uk](mailto:sustainableolutions@beijerref.co.uk)