



Department for  
Energy Security  
& Net Zero

# Wienerberger Broomfleet Industrial Heat Recovery Support Case Study

Industrial Heat Recovery Support (IHRS)  
Programme

March 2023

# Context

*The Wienerberger Group is the world's largest producer of bricks, paving blocks and roof tiles with 14 plants in the UK. The newest factory at Broomfleet (Factory 4) was built in 2005. Previous efficiency work has taken place in this factory but the one area they had not been able to recover energy from was the kiln exhaust system – so they looked to IHRS to help fund a project to recover this wasted energy.*

## How IHRS has supported the project

The IHRS programme offered funding for a Heat Recovery Heat exchanger system on the kiln exhaust of factory 4 which uses the recovered energy to deliver pre-heated air to the dryer and kiln combustion air system. Without the support from the IHRS, it would have been extremely difficult to secure the funding from the companies Capex system, as it would not have qualified on the ROI criteria.

Since going into full operation in August 2022, it is currently recovering and delivering on a monthly basis approximately 525 MWh of energy savings which represents a reduction of over 1020 TCO<sup>2</sup> and the stack temperature being reduced from 230 °C down to desired 140 °C under normal operation.

## Benefits and added value

Working alongside Heatcatcher made the transition from concept to completed installation a smooth process. Support and expert knowledge were available at all stages which included the IHRS application, detailed engineering report to ensure correct specification of equipment, and finally the full project management of the installation and commissioning of the equipment which was already delivering the expected savings.

## Lessons learned

Since the new equipment has been installed and is operational, we have found the whole system to be very versatile and adaptable to process changes such as kiln push rate changes and seasonal ambient air changes with it continually monitoring the combustion air temperature and adapting the fan speed to suit the mass of air required at different temperatures. This has enabled to maintain consistent quality product even when the full heat capacity is not available during these times.

*“This project has demonstrated the benefit of installing heat exchangers to recover the wasted energy for deployment back in the process. This represents a significant step to achieving the ambitious carbon reduction targets Wienerberger has set across the business”*

- *Tim Dudding, Plant manager Broomfleet*



*New external heat exchanger connected and in operation*



*New Insulation being installed on the top combustion air system to reduce heat loss and prevent contact with hot surfaces*



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