°RECIRC ENERGY

Capacity 700 kW

Avg. Temp 19.3 °C

SCOP 3.3

University of Reading - Whiteknights Campus

Turning Waste into Warmth

Pioneering Wastewater Heat Recovery to Support Reading's Zero Carbon Pathway

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Overview

In June 2025, the University of Reading partnered with Recirc Energy to investigate how the wastewater heat flowing beneath campus could power its journey to net zero. The *Whiteknights Campus Wastewater Heat Recovery (WCWHR)* project is exploring how heat from the University's private sewer network could supply up to 700 kW of low-carbon energy into its heating and hot water system — a major step on the University's Zero Carbon Pathway.

Project Objectives

- Assess existing sewer condition and energy potential
- Measure real-time wastewater flow and temperature data
- Identify the most effective connection points
- Define permissions and technical requirements
- Assess next steps

"This project demonstrates Reading's commitment to practical, data-driven innovation in the race to Net Zero."

Dr. Joe Short, Recirc Energy

Recirc Energy's Role

Recirc Energy brings deep expertise in wastewater heat recovery (WHR), combining technical analysis with strategic guidance to help the University make informed, low-risk investment decisions.

- Continuous Monitoring: Specialist sensors installed within the sewer network gather flow and temperature data every 15 minutes for a full annual cycle.
- Expert Evaluation: Interim and final reports quantify available energy and model feasible recovery solutions.
- Design & Feasibility: Advice covers technology selection, constructability, cost, and risk management.

The study runs through July 2026, generating robust, evidence-based insights to inform future campus heat decarbonisation planning.

Proposed WHR System (Concept Design)

- Sewer connection with integrated pumping and self-cleaning heat exchanger
- Thermal store for balancing heat supply and demand
- Process plant for filtration, heat exchange, and controls
- High-efficiency heat pumps designed for campus load profiles
- Automation and performance monitoring for long-term optimisation

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Impact and Legacy

By turning wastewater into a renewable energy source, University of Reading is:

- Advancing its Zero Carbon Pathway
- Reducing dependence on fossil fuels
- Building resilience against energy cost volatility
- Demonstrating research-led sustainability in action

This initiative provides a replicable model for other institutions aiming to decarbonise heating systems — reinforcing the University of Reading's position as a leader in sustainable campus innovation.

"We are excited to explore with Recirc Energy the potential opportunity to utilise a significant and innovative source of waste heat on campus in support of our Net Zero Carbon ambitions.."

Dan Fernbank, Energy & Sustainability Director

Considering wastewater heat recovery for your project?

Contact Recirc Energy to explore your low-carbon options:
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