



WORTHING CIVIC QUARTER HEAT NETWORK - WASTEWATER HEAT RECOVERY

Overview

In December 2020, Worthing Borough Council engaged Recirc Energy to undertake a feasibility study assessing the potential use of wastewater heat recovery (WHR) as a low-carbon heating solution for the Worthing Civic Quarter Heat Network (WCQHN). Once complete, the WCQHN scheme aims to exploit the latent waste heat in a municipal sewer to deliver 3MW to 6MW, which will be used to provide heat into a newly-built district heat network responsible for heating for nearly 30 public sector buildings in central Worthing.

£11M
CAPEX

3MW
WHR

28 GWh /
annum

Key Objectives

- Provide overview of existing sewer condition
- Use real-time data to assess the abstractable energy capacity from a WHR system
- Identify most effective wastewater source connection location
- Determine permissions required to access the wastewater source
- Develop WHR system concept-level design
- Outline market-available WHR technology options
- Provide general CAPEX, OPEX and REPEX cost models

The Recirc Solution

Leveraging extensive experience in WHR, Recirc played a pivotal role in delivering expert advice regarding the WCQHN sewer energy capacity in support of Worthing Borough Council’s ambitious carbon reduction strategy. Recirc provided consultancy-based services including flow and temperature monitoring, provision and evaluation of technology options, heat pump selection, scheme constructability, and provide cost and risk advice.

Recirc is also acted on behalf of the Council for their interface with Southern Water and advised on the Heads of Terms for a potential Use of Sewer Agreement.

In order to support the project scope, Recirc commissioned the installation of specialist sewer flow and temperature monitoring equipment in December 2020. The equipment provides around-the-clock monitoring and enables Recirc to analyse and report on the flow conditions in the sewer. Recirc generated an interim energy analysis report which was appended to the Council’s Heat Networks Investment Program (HNIP) application.

This is an ongoing project that will run through December 2021 and will provide the Council with expert advisory services and data that will be used as supporting information for potential investment partners with the aim of reducing risk and uncertainty. Upon completion of Recirc’s evaluation, Worthing Borough Council will be equipped with the information required to support the procurement process, effectively derisking sewer heat recovery as a viable option for the WCQHN and enabling them to achieve aims of developing a heat network with one of the lowest carbon footprints in the UK.