

MAIDEN LANE ESTATE - WASTEWATER HEAT RECOVERY SYSTEM

Overview

As part of a low carbon heat generation study, Max Fordham and Camden Borough Council commissioned Recirc Energy to complete a feasibility study assessing the viability of a wastewater heat recovery (WHR) system. The system, if adopted, will provide heat to a heating network serving the residents and community centre of the Maiden Lane and York Way Estate, London.

The client's aim is to supply the base heating demand by using a heat pump system, effectively reducing carbon emissions while controlling the price of heat generation. As part of the development's decarbonisation efforts, space heating and domestic hot water supply will be provided to the estate using low temperature hot water via an existing district heat network.

Key Objectives

- Review of heat recovery and interface equipment
- Modelling and review of sewer flow
- Detailing of sewer interfaces and civil works
- Interfacing with Thames Water
- Development of a preliminary project plan
- Development of Energy Centre GA drawings
- Establish OPEX/CAPEX/REPEX models



The Recirc Solution

Recirc's study identified that existing boilers and CHP at the York Way Energy Centre could be used within the new design. The incorporation of existing infrastructure creates a system that significantly reduces CAPEX and OPEX. Recirc also identified the possibility of combining the York Way and Maiden Lane pipework to create an estate-wide DHN across both developments.

This streamlining of the system would increase the distribution of heat, optimising efficiency and leveraging the economies of scale while lower maintenance costs. Recirc provided detailed project costs and an extensive 383-day project programme, providing the client with an accurate forecast of the works.

Recirc proposed a WHR system that included:

- Sewer connection design
- Pumping station
- Pre-screen buffer tank and thermal stores
- Process plant assembly comprising of macerator, filtration, heat exchanger and local control panels
- Heat pumps with project-specific design parameters
- Instrumentation, control and automation panel