

GAS-TO-OIL CASE STUDY

Waste processing plant, pyrolysis, UK



Overview

- Econotherm GW940, smooth/finned hybrid pipe through-flow heat exchanger
- 940-kW thermal oil heater; high inlet exhaust temperature catered for by through-flow model
- To feed an ORC engine to generate electricity
- High particulate matter exhaust from furnace; removable panels incorporated for cleaning
- Low fouling, easy cleaning and maintenance, high reliability

Parameters

Exhaust temp in/out

1,000°C/250°C

Thermal oil temp in/out

135°C/280°C

Exhaust/oil mass flow

4,150/9,200 kg/h

Exhaust pressure drop

650 Pa

Energy recovered

940 kW

Recovered energy value

\$189K USD (€175K/year)

Payback period

Three months

Price per kW recovered

\$29 USD (€27)

