



PROJECT SUMMARY:



CLIENT

Shetland Heat and Power

PROJECT

District Heating

TIMESCALE:

April 2008 - Present

CONTRACT VALUE:

£6.5 million

OVERVIEW

Britain's most northerly town, Lerwick is at the forefront of environmentally responsible energy provision. It enjoys its own advanced Waste to Energy plant (WTE) which provides heat and electricity to many of the area's 8,000 inhabitants.

CHALLENGE

Crucial to this venture's success however was the design, specification and implementation of an effective and dynamic distribution system - and it was here that Vital Energi was able to help. As further evidence of the project's

innovative approach, it won the coveted Environment Award for Engineers 2000. This £6.5 million project has since become a benchmark against which many future CHP and District Energy schemes will be measured.

THE BENEFITS:

- > CO2 reductions of 7800 tonnes pa
- > Financial savings of £1.5 Million pa
- > A sustainable and long term solution for the town
- > Thermal hot water storage reduces reliance on fossil fuels
- > Affordable heating and hot water instantly and on demand

▶ Vital Energi designed, built and installed a peak load boiler station, which included its own pump station and a 2 MW boiler and a 6.5MW boiler



“Demand for connections to the Lerwick District Heating Scheme has been greater than we ever envisaged. With a turnover of £1m per year from the sale of heat, it is estimated that some £2m remains in the Shetland economy that would otherwise be spent on imported oil. We are now one of the most successful schemes in the UK and often have people from Britain and Europe visiting our scheme because of the environmental, social and economic benefits it continues to provide.”

NEVILLE MARTIN, DISTRICT HEATING MANAGER, SHETLAND HEAT ENERGY AND POWER

▶ THE SOLUTION

We began by designing in detail a Peak Load Boiler Station, which included its own pump station and a 2 MW and a 6.5MW boilers. We then went on to oversee the construction, testing and bringing on-line of this advanced and highly functional facility. We also put in place the connection between this and the incinerator, and established the necessary cooling systems.

Over the years Vital Energi has supplied nearly 30km of pre-insulated pipework. This network of pipes allows

the transfer of hot water from the boiler station to a large number of local properties - including over 800 homes and 100 community centres, schools, churches and commercial buildings. Following on from this, we sourced and installed state-of-the-art, ultrasonic heat meters, which would measure consumption amongst both Domestic and Commercial users. We also put in place an automatic data collection system for collating readings from each user.

THE CONCLUSION:

Ultimately, the Lerwick District Heating scheme has proven to be a phenomenal success, with demand far exceeding supply. Since the original scheme was installed, Vital Energi's expertise has secured further contracts on the island and we are continuing to add new connections to the scheme for both residential and commercial customers.

REDUCED CO2
EMISSIONS BY

7800
TONNES PA