VITAL ENERGi

CASE STUDY

Loughborough University

DISTRICT HEATING

PROJECT SUMMARY:

CLIENT
Loughborough University

PROJECT
District Heating

TIMESCALE:
1997 - Present

CONTRACT VALUE:
£2.7 million

OVERVIEW

Over the past 15 years, Vital Energi has carried out a number of district heating pipework projects on the University's behalf in order to help it to reduce its carbon emissions. We use the highest quality products including the most thermally efficient District Heating pipe available, in order to maximise carbon emissions reduction for the University. Our specialist team has also installed the Band Muff fusion welded jointing system, which is exclusively available from Vital Energi in the UK, and significantly extends the design life expectancy of district heating pipes.

THE BENEFITS:

- > CO2 emission reduction
- > Reliable and secure energy supply
- > District heating enables the efficient transportation and use of heat
- > Greater thermal efficiency
- > Lower energy costs

CHALLENGE

The overall goal of its Carbon Management Programme is to cut 43 per cent of its campus CO2 emissions by 2020, which is equivalent to reducing CO2 emissions by 12,685 tonnes.

The University's CO2 emissions target is a significant challenge but offers Loughborough the opportunity to develop a truly sustainable campus and be a leader in environmental sustainability within the academic sector.

Vital Energi used the highest quality products inlcuding the most thermally efficient District Heating pipe available, in order to maximise Carbon emissions reduction for the University.

THE SOLUTION

Vital Energi has worked with Loughborough University for more than 15 years repairing, upgrading and improving its district heating system which has resulted in significant energy and maintenance savings.

Working directly for the University, as its preferred contractor, Vital Energi has carried out a number of projects including replacing the old heating mains and linking the district heating systems located on the Central and East Park areas of the campus.

On all projects Vital Energi has used the most thermally-efficient pipes available and the Band Muff joint system which is unique to Vital Energi in the UK. In total, Vital Energi has installed around 7km of district heating pipe at Loughborough University.

Between October 2006 to March 2007, Vital Energi installed 350 metres of underground district heating pipework to connect an existing 500kW CHP engine to the library building and student accommodation buildings as well as providing heat to power the absorption cooling system which feeds the Pilkington library air conditioning system.

Between May 2010 and August 2010, Vital Energi designed and installed around 900 metres of replacement district heating pipework as part of the Towers project which connected seven university buildings, including two student accommodation tower blocks, to the main energy centre.

Between June 2010 and September 2010, Vital Energi designed and installed an additional 2400 metres of replacement district heating pipe to connect the main energy centre to 12 university buildings, including catering establishments, student accommodation and a new Design Centre. Connection to the design centre took place from March 2011 to April 2011. This phase also included future-proofing the district heating network so it could be extended to other parts of the campus when required.

In September 2010, Vital Energi carried out alteration works to existing mains at the Hazelrigg building during refurbishment works, and new chiller mains pipework, and alteration to existing mains at the Hazelgrave building.

Between May 2011 to September 2011, Vital Energi designed and installed a further 230 metres of district heating pipe to connect the main energy centre to the Leisure Centre and main plant room for distribution to the student quarter. Connection to the Leisure Centre was carried out from November 2010 to March 2011. Vital Energi upgraded the existing pipework within the main energy centre and installed new pumps, and connections for a new CHP, in order to accommodate all the improvements to the network that have been made.

THE CONCLUSION:

Vital Energi has developed a long term partnership with Loughborough University as its preferred district heating supplier and has carried out a number of district heating pipework projects aimed at improving the University's energy infrastructure and helping it to reduce its carbon emissions.

CONTRIBUTING TO REDUCING CO_2 EMISSIONS BY

43%

The relationship has developed as a result of Vital Energi's proactive approach and prompt response to providing repairs to the University's existing district heating pipework. Vital Energi was also able to accommodate the University's requirements that all work be carried out with minimal disruption to the University timetable, including during exams, which meant that projects had to be successfully delivered within tight timescales.