

CASE STUDY

Mansfield District Council

An affordable response to hard-to-heat homes



With new build projects only contributing a small percentage of the buildings in existence when the government's carbon reduction target deadlines are reached, the retrofitting of energy efficient boilers is becoming increasingly important.

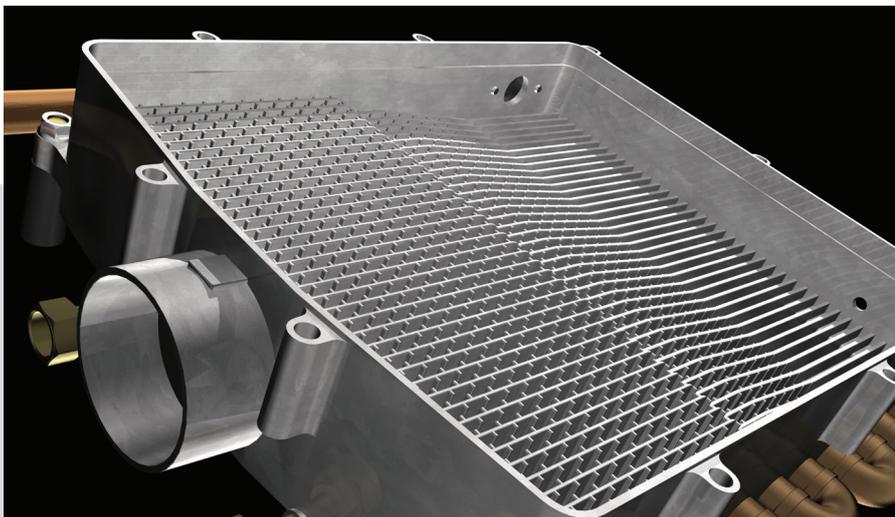
Mansfield District Council has a portfolio of 5,493 properties – a mix of houses, bungalows and flats – and 50% of them were built before 1960 so they are classed as hard-to-heat homes. Since 2010 the Council had been upgrading properties with loft, cavity and external wall insulation, but its inefficient g-rated boilers and ageing coal-fired district heating systems were becoming very unreliable and the Council were having to deal with a minimum of 200 emergency breakdowns a year. This, plus rising fuel bills, was frustrating for tenants, 12.6% of whom were already in fuel poverty, and expensive for the Council.

As part of Mansfield District Council's Urban Regeneration Programme, developed in response to the declining economy and growing unemployment levels (currently at 5% compared to the East Midlands Average of 4.1%), it was investigating retrofit options that would improve efficiency and reduce the Council's spiralling maintenance and service costs.

Ultimate retrofit solution

The Intergas brand was unknown to Mansfield, but after being seeing the range of boilers at the CIH Conference and Exhibition in Manchester in 2014, Intergas was invited to demonstrate the boiler's energy saving credentials and product benefits to the Head of Housing and the Repairs Service Managers. After scrutiny of the product, Mansfield District Council engaged Intergas Heating to supply 200 HRE combination boilers annually, replacing those boilers beyond economic repair. A further 100 HREs would be installed each year as part of its boiler replacement programme. The Council's engineers would first need to be trained on Intergas installation and maintenance.

To date 200 HRE boilers have replaced old uneconomic boilers; a further 190 have been installed in homes that have been taken off the Council's coal-fired district heating systems. There's another 100 to go, and this will be done once National Grid has confirmed the gas infrastructure can handle the demand in the area.



The game-changing design of the 2-in-1 heat exchanger means all the parts that stick, leak or let you down aren't there.



The Council's heating engineers have all received Intergas training to become PI certified installers.

A collaboration that's delivering results

Using a standard "average" UK gas usage figure of 16,500 kW per property, taking the properties off district heating has reduced carbon emissions by 16.5%. Breakdowns are now down by 98% and tenants' energy bills for heat and hot water are lower too. Two tenants who were formerly using the district heating system are now paying at least 65% less than they used to:

- Mr Hanstock, living in a 2-bed bungalow in Wallis Road, who has had an Intergas HRE for a year, says his energy bill is now only £25 a month, when formerly it was £80 a month.
- Mr Smith, living in a 1-bed flat in Sandy Lane, has had his boiler for only three months but already says that his energy bill has been reduced by £59 a month to only £25 a month.

Speaking about the collaboration, Hayley Barsby, Director of Communities for Mansfield District Council said, *"Working in partnership with Intergas Heating has enabled us to provide an energy efficient solution that benefits a large number of people. Tenants benefit from lower energy bills, and we can address the issues of climate change and protect the environment by employing efficient solutions in our housing stock; this system also allows us to keep maintenance costs low."*

Less to go wrong

Reliability, simplicity and ingenuity are combined in the Intergas heat exchanger which is not only unique, it was the key reason for the boiler's selection by the Council. Made from copper and aluminium, the heat exchanger has never had a mechanical failure since its introduction over 20 years ago. Its design means that all the parts that tend to leak, stick or let you down aren't there: there's no diverter valve, valve motor, auto air vent or secondary hot water plate heat exchanger. And, as there are only 12 components, there's less to go wrong.

It condenses 100% of the time in both heating and hot water modes, reducing emissions and shaving up to 5% off energy bills over other condensing boilers. It will work at a pressure of only 0.2 bar and vacuum insulation keeps energy losses to a minimum and ensures whisper-quiet operation.

Futureproof design means the boiler works with the Council's changing needs. There are five boilers in one: sealed system, heat only, open vent, open vent combi and multipoint water heater. It also works with LPG, solar PV and solar thermal systems.

New build benefitting from the latest technology

For the past year the Council has also been installing the latest range of Intergas boilers, the Eco RF, in an exciting new development just north of the town centre called Poppy Fields. Poppy Fields is a refreshing departure for accommodation you might regard as "sheltered". A mix of sensitively designed flats, bungalows and houses, with every conceivable support available, now have all the benefits of the HRE, with the support that its unique remote management facility provides. Software built in to the boilers monitors all aspects of performance and communicates directly with the Council's repairs and maintenance team, providing an additional layer of care for more vulnerable tenants.

Mansfield District Council's objective to achieve long term fuel efficiencies for tenants, without stinting on comfort, is already on target.

Reverse top: Mansfield town centre
Reverse bottom: Revolutionary 2-in-1 heat exchanger
Top: Heating engineer servicing Intergas boiler

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GAME CHANGER