Economical and efficient

Jennie Ward visited East London to find out how the Oxyvent system has helped make a Victorian terraced house both more comfortable and more energy-efficient

Sue Wheat's Victorian-terraced home in Walthamstow, East London, was typical of many other properties on her street and across the UK, with high ceilings, period features, solid walls, draughts and a fuel-hungry heating system.

As an eco-conscious consumer, Wheat was keen to cut her home's carbon footprint. Since purchasing the property she has upgraded to a high-efficiency Potterton boiler and a wood-burning stove, as well as adding thermostatic radiator valves, a heat recovery unit, internal-wall insulation and draughtproofing to the external doors.

"Our house had no cavity wall, and we experienced a huge amount of condensation – we couldn't even decorate because the house was so damp, the plaster just disintegrated."

Wheat described all the changes she'd made as "simple things", that were "very cheap" in comparison to a lot of renovation options such as PV and heat pumps.

"It's cost us about £7,000 in total," she said, "and we've reduced our carbon footprint by about 52%. One architect I know has made her house zero carbon but that cost her £200,000. Hers is a great example of purist eco-building, but it's not a practical working example for other people to follow. You have to work with what you've got."

Even before the Oxyvent was installed, these upgrades reduced Wheat's gas bills from over £600 per year, down to just £308.

The refurbishment didn't end there, however, and keen to ensure that every possible avenue had been considered, she has now had an Oxyvent energy-saving tank fitted into her existing heating system.

"I was really interested in the Oxyvent system because of the gas savings it could provide," she said.

"Reductions in electricity are one thing – if you get all the lights replaced with low-energy bulbs and are out at work and at school most of the time then you won't have that high an electricity bill. The gas you can't really do much about – we all want to shower, and we have to cook and have a certain amount of heating on."

Oxyvent increases the water flow rate through heating systems

Paul Worswick, director of Oxyvent, agrees.

"It's all very well remembering to turn off your lights and unplug your phone charger when you don't need it," he said. "That's great, but you have to look at the big picture and where the energy is actually consumed.

"A recent report by the Office of National Statistics said the average home uses 58% of its energy for space heating, and 23% for hot water – it's massive."

Worswick believes that rising annual utility bills, which now stand at £1,250 a year (£700 of that devoted to home heating), are likely to encourage people to look for more energy-saving products.

This, he believes, means Oxyvent will appeal to both the consumer and the plumber in several different ways.

"Do you sell it on the fact that it saves you money, or that it heats your house up quicker, gets rid of loads of problems you have, and makes your boiler work better?

"The plumbers are more interested in the fact that it saves them having to go back to bleed radiators and stops complaints about things not working."

In Ireland, where Oxyvent has been on the market for 10 years already, people who had the unit installed were predominantly looking to get rid of the problem of rooms in their home that never heated up properly.

INCREASED FLOW RATES

So how does the Oxyvent system deliver all these features and benefits to the homeowner?

Oxyvent works by increasing the flow rate through the entire system from an average of 1 litre/min to approximately 4 litres/min.

By pushing the water through much faster, the standard 11°C difference between the radiator inlet and outlet is cut to approximately 2°C, allowing all radiators in the building to operate at the same temperature and eliminating cold spots.

This faster flow rate and better radiator performance means boiler temperatures can be set between 60°C and 65°C, rather than the typical levels of 80°C.

Less fuel is then consumed to run the boiler, creating up to 30% fuel savings in radiator systems, 50% for underfloor heating and up to 50% fuel savings for domestic hot water, according to the company.

For condensing boilers in particular, being able to run at lower temperatures means that the appliances will be able to reach condensing mode more often, as this can only happen when the return temperature is below 55°C – a difficult thing for boilers set at 80°C to achieve.


The Oxyvent sits at the back of a kitchen cupboard under the boiler

RADIANT HEAT

By forcing radiators to radiate more of their heat out into the centre of the room, the company also claims that Oxyvent will make the room feel more comfortable to live in, since the heat isn't focused on the walls and ceilings as it is with some other systems.

Radiant heating systems make people feel warmer than standard convection heating, even though the temperature doesn't change.

Worswick said the things that people tend to notice, as well as their bills dropping, is "how much quicker things warm up and how it feels different.

"The analogy I use is the same as standing in the shade or in the sun on a hot day – the temperature is the same, but because the sun is radiating directly on to you, you feel warmer."

Research carried out by Dublin University found that people felt 30% more comfortable in a room heated by an Oxyvent-fitted system running at 63°C, compared to a standard system without Oxyvent set to 74°C.

When an Oxyvent tank is installed, it also removes a lot of air from the system – another common cause of efficiency losses through corrosion and blocked waterways.

Oxyvent says there is then no need to bleed radiators regularly, and by cutting the build up of sludge the need for powerflushing is reduced.

Oxyvent was invented by plumber Tim Cremin, who said: "As a plumber I was tired of fixing heating systems because of recurring and unavoidable issues such as poor flow rate, the need to balance the system, pump cavitation, thermal shock and, of course, the presence of air in the system.

"Our clients know they won't have to fix central heating problems because the Oxyvent system addresses the cause of those problems."

LOOKING FOR INSTALLERS

Oxyvent is currently looking for installers across the country to join its installer network, so that it is ready to cope with the expected increase in demand for the product in the coming months.

Preferred installers will be listed on Oxyvent's website – another good way for plumbers to gain new business. HVP 287

OXYVENT: FACTS AND FIGURES

- Oxyvent measures 375mm x 295mm x 295mm, and can fit inside a standard kitchen cupboard
- The pressurised unit weighs 28kg
- Oxyvent works with a maximum pressure of 3 bar
- Oxyvent has been independently tested, and holds TUV accreditation
- The system works with all water-based heating systems, both existing and newly-installed, including oil fuelled, gas, solid fuel, radiators and underfloor heating systems
- Oxyvent can be installed by professional plumbers, with no specialist training required.

To watch the Oxyvent unit being installed in Sue Wheat's home for yourself, visit