

Flue gas heat recovery

Capturing waste heat

What is it and what are the benefits?

A flue gas heat recovery system can make boilers more efficient by capturing and re-using heat energy that would otherwise have escaped out of your flue or chimney.

All boilers which burn fuel to produce heat create exhaust gases, and these need to be expelled outside. However, as these gases are hot (about 200°C), as much as 35% of the heat being produced by the boiler can be wasted.

If you have a gas boiler fitted since 2005 or an oil-fired boiler fitted since 2006 then you almost certainly have what is known as a **condensing boiler**. This kind of boiler has built-in a 'flue-gas heat recovery system' which forces the flue-gas to condense into liquid water. When this happens, the water releases heat which is 'recycled' by the boiler. The liquid water (or condensate) produced by this process is very mildly acidic (about the same as tomato juice) and is channelled safely into an outside drain.

This system also uses the hot flue to pre-heat the cold water being fed into the boiler. This means the boiler does not need to work as hard to provide you with hot water.

Flue gas heat recovery systems significantly improve the performance of condensing boilers, with many achieving efficiencies of 90% and above. This means they use less gas (or oil), saving you money on your bills.

What if you don't have a condensing boiler?

Standard boilers do not have a built-in heat recovery system and their efficiency can be as low as 65%. You could increase the efficiency by either installing a flue gas



Don't waste the heat coming out of your boiler flue

heat recovery system into the boiler or, more commonly, attaching one to the top. If you choose this option, you'll need space above your existing boiler to fit the system.

These systems, sometimes referred to as 'passive flue gas heat recovery systems', tend to cost around £600, but you could save up to £100 on your fuel bills each year. That means it should pay for itself in about six years.

You can find systems recommended by the Energy Saving Trust on their website: www.energysavingtrust.org.uk

It should only take a few hours for a qualified heating engineer to fit a flue gas heat recovery system. We advise getting three quotes, and always ensure that the engineer is on the Gas Safe Register.

To find installers near you, contact the Gas Safe Register on 0800 408 5500 or visit www.gassaferegister.co.uk Also see our factsheet 'Upgrading your boiler – More heat for your money'.



St James Court
St James Parade
Bristol BS1 3LH
0117 934 1400
www.cse.org.uk
info@cse.org.uk

Charity: 298740
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The Centre for Sustainable Energy is a national charity that helps people change the way they think and act on energy.

Our Home Energy Team offers free advice on domestic energy use to householders in Bristol, Somerset, Wiltshire, South Gloucestershire and Dorset.



Contact us

PHONE 0800 082 2234

EMAIL home.energy@cse.org.uk

WEB www.cse.org.uk/loveyourhome

TWITTER @cse_homeenergy