

# Upgrading and replacing your boiler

## More heat for your money

Investing in an efficient boiler is likely to save you money after just a few years

Is your boiler more than 10 years old? If so, replacing it with a new high-efficiency model will save you energy and money ...

Today's central heating boilers are much better than the old ones. They can heat water more efficiently, meaning they use less gas or oil to do the same job. This saves energy and will save you money.

Building regulations specify that if you're replacing an old boiler the new appliance must be A-rated for energy efficiency and will almost certainly be one of the new-style condensing boilers.

### What is a condensing boiler?

Condensing boilers are more efficient because they extract the heat from the exhaust gases (or 'flue gases') that all boilers produce. What makes this possible is a second heat exchanger where the water vapour in the flue gas condenses into droplets of liquid water, releasing heat as it does so. The condensed liquid water drains away through a pipe installed specifically for this purpose. Non-condensing boilers simply expel the gases into the air and the heat is wasted.

You'll notice that the vapour that comes out of a condensing boiler's flue forms a visible plume of 'steam' (actually a mixture of water vapour and other gases). This is perfectly normal and is an indication that the gases are cooler than those vented by non-condensing boilers.

### Combination boilers

Condensing boilers come in both combination and regular models. A combination (or 'combi') boiler will provide your central heating and produce hot water on demand, firing up when you turn on a hot tap in the kitchen or bathroom.

A regular boiler will do your central heating, but rather than produce hot water on demand it will heat a quantity of water which is held in a storage cylinder until required. Some boilers only run the central heating and don't provide hot water at all, in which case an electric immersion tank or another form of water heating is required.

Based on a semi-detached home that uses mains gas, upgrading from a G-rated boiler to an A-rated condensing boiler with full heating controls (e.g. timer/programmer, room thermostat and thermostatic radiator valves) can save you £435 each year on heating bills. The savings are even greater for larger properties and for heating systems that run on oil which is more expensive than gas.

## What is flue gas heat recovery

If you have a non-condensing boiler, you could fit a flue gas heat recovery system, which is a device that captures and re-uses heat that would otherwise have escaped out of your flue or chimney. This makes boilers more efficient. All boilers that burn fuel to produce heat create exhaust gases, and these need to be expelled outside. These gases are hot (about 200°C), so as much as 35% of this heat is wasted when the gases are expelled.

This system also uses the hot flue to pre-heat the cold water being fed into the boiler. This means the boiler doesn't need to work as hard to provide you with hot water. Flue gas heat recovery systems significantly improve the performance of boilers. This means they use less gas or oil, saving you money on your bills. For more information, see [www.cse.org.uk/mechanical-ventilation-with-heat-recovery](http://www.cse.org.uk/mechanical-ventilation-with-heat-recovery).

## Having a new boiler installed

If you decide to go for a new boiler, you should get at least three quotes from qualified heating engineers. These should be on the Gas Safe Register or registered with OFTEC for oil-fired systems as it is illegal and also potentially extremely dangerous for someone who is not fully qualified to fit a central heating boiler.

Both Gas Safe and OFTEC have lists of registered installers which you can access by phone or online. An installer registered with a competent person scheme will also be able to self-certify that the work is compliant with the building regulations:

**Gas Safe Register** is the official list of gas engineers who are registered to work safely and legally on gas appliances. Always check your engineer is on the Gas Safe Register.

**0800 408 5500** | [www.gassaferegister.co.uk](http://www.gassaferegister.co.uk)

**OFTEC** represents the interests of homeowners, registered technicians and trade association members, providing advice and information on oil fired heating and cooking.

**0845 65 85 080** | [www.oftec.org](http://www.oftec.org)

**Competent Persons Schemes** were introduced to allow individuals and enterprises to self-certify that their work complies with the Building Regulations as an alternative to submitting a building notice or using an approved inspector. [www.competentperson.co.uk](http://www.competentperson.co.uk)

Your new boiler should have a power-flush (or a mains pressure flush for some models) to remove sludge and other deposits from the system which could damage the new boiler. The installer may also add lime scale inhibitors or water softeners to prevent the build up of lime scale. The boiler should be serviced annually to ensure that it stays in good working order and maintains its efficiency.

## Plan for replacement

No one wants to go without heating and hot water in the winter, so it makes sense to plan the replacement of your boiler rather than wait for it to break down. It also means that you can shop around for quotes rather than having to get an emergency replacement in a rush. And remember, heating engineers are busier in the winter, so if your boiler breaks down then, you may have a long wait before someone can fix it.

But before you spend money on a heating system, make sure your home is well insulated; an insulated home keeps the heat in better so you may be able to get by with a smaller (and cheaper) boiler. Measures like loft and cavity wall insulation are extremely cost effective and can pay for themselves in just a few years. If you'd like to replace your boiler with a heat pump, take a look at the Boiler Upgrade Scheme for what you need to know: [www.gov.uk/apply-boiler-upgrade-scheme](http://www.gov.uk/apply-boiler-upgrade-scheme).



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We're a charity (298740) supporting people and organisations across the UK to tackle the climate emergency and end the suffering caused by cold homes.

Our Home Energy Team offers free advice on domestic energy use to people in central southern and southwest England.

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