Considering a switch to greener home heating?

Helpful facts and information

Homeowner guide

We’re here to help you make the best green heating choice

Whether you’re looking to reduce your gas bills, carbon footprint or wondering how long gas boilers will last, this brochure will give you a clear and honest picture to help you make the best choice.

For the latest information on the future of home heating, please visit **worcester-bosch.co.uk/future-of-heating**

Are boilers being banned?

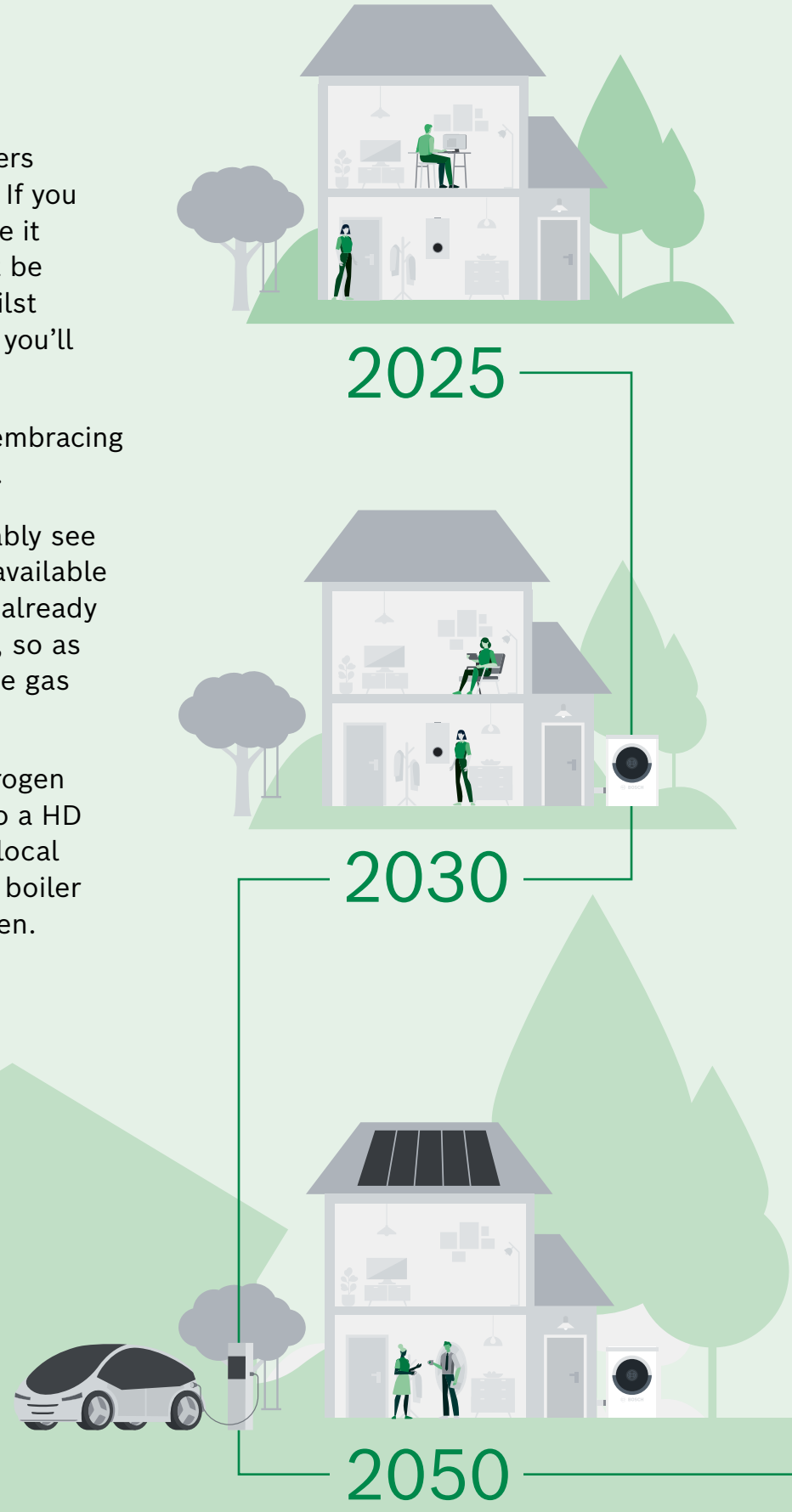
No. Gas boilers **will not be** banned from 2025.

Despite all the rumours, gas boilers are not being banned from 2025. If you buy one now, you'll be able to use it until the end of its life. You won't be asked to remove or replace it whilst it's still working. Even after 2025 you'll be able to buy a gas boiler.

2025 will see **new build homes** embracing renewable heating solutions only.

From around **2030** we will probably see **hydrogen** become more readily available as a fuel option. Our boilers are already able to run on a hydrogen blend, so as the government slowly greens the gas grid, they will continue to run.

Future boilers will be 100% hydrogen ready, taking a similar concept to a HD ready TV – it will only take your local installer an hour to convert your boiler if your street switches to hydrogen.



Why heat pumps and why now?

The UK is aiming to be net zero by 2050, which means considerable reductions in greenhouse gases.

To be able to meet that target, a lot of changes will need to take place in the home – starting with the way we heat them.

Heat pumps are one of the most effective ways to reduce your carbon footprint, without sacrificing a warm home and hot water.

The government has set a target to install 600,000 heat pumps every year, by 2028.

78%
of homeowners said they were aware of heat pumps when surveyed*

40%
of people asked in 2021 said they would consider fitting a heat pump**

Around 50,000 UK homes in 2021 had heat pumps installed, compared to 1.7 million boilers.

*Survey undertaken by YouGov with approx. 2,000 people. 78% is based on April 2022 survey result
**Sample size of 500 homeowners

How do heat pumps work?

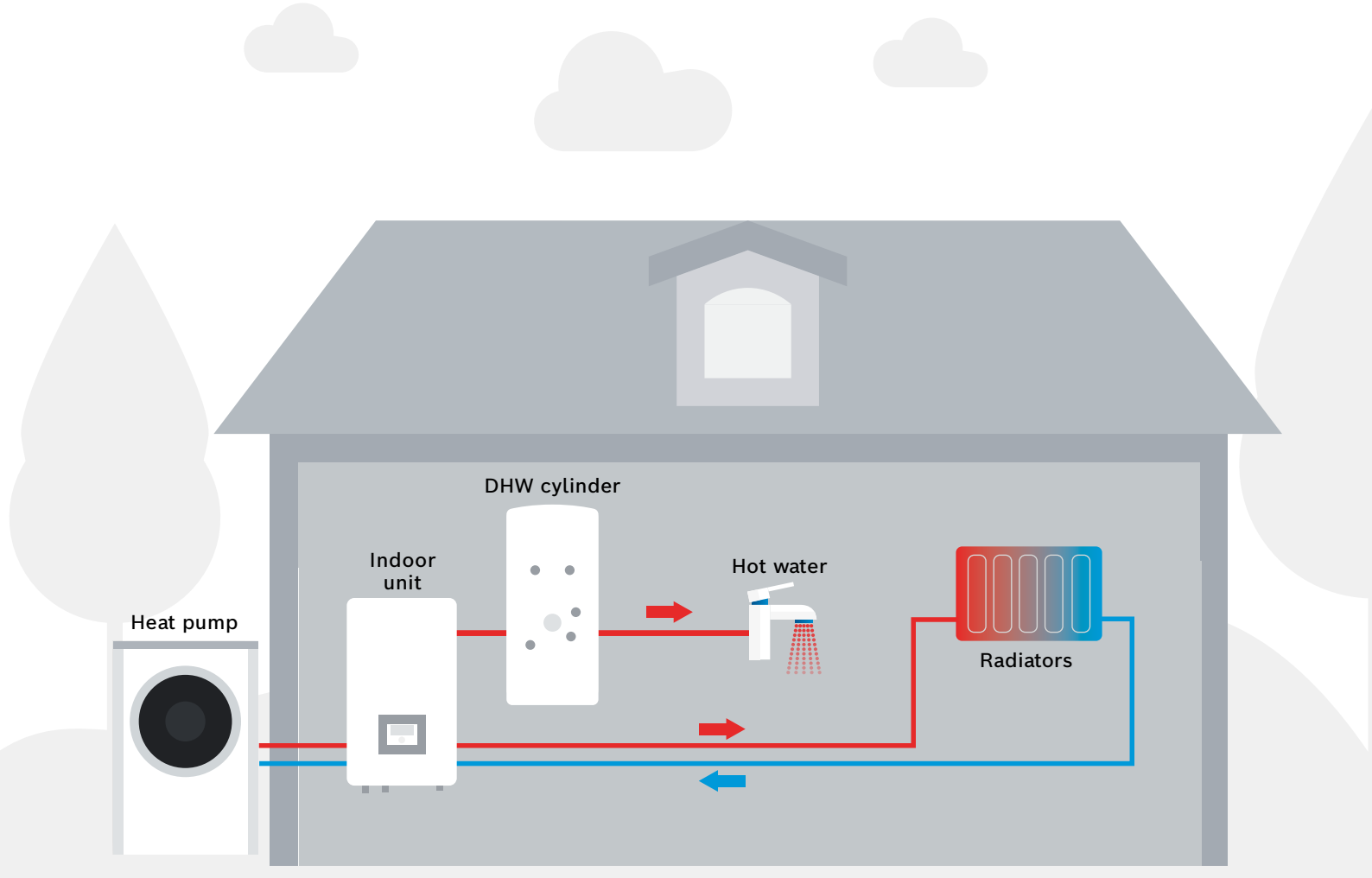
A heat pump is a reliable source of low carbon heat.

It's estimated that around 40% of British homes could already benefit from a heat pump – which would make a massive difference to the country's greenhouse gas emissions.

Heat pumps take energy from the air outside and convert that energy into heat, to be used for your home's heating and hot water.

A heat pump only uses electricity to run the components, including a fan, a compressor (which increases the heat of the air) and a circulating pump. If that electricity is from renewable sources, it's a totally carbon-free way to heat your home and the only by-product of the process is water.

Our air to water heat pumps are 'Quiet Mark' certified. With operating levels as low as 38.5 decibels* (similar to a modern fridge) they work peacefully in your home.



*Based on our 7400iAW model

What is a hybrid system?

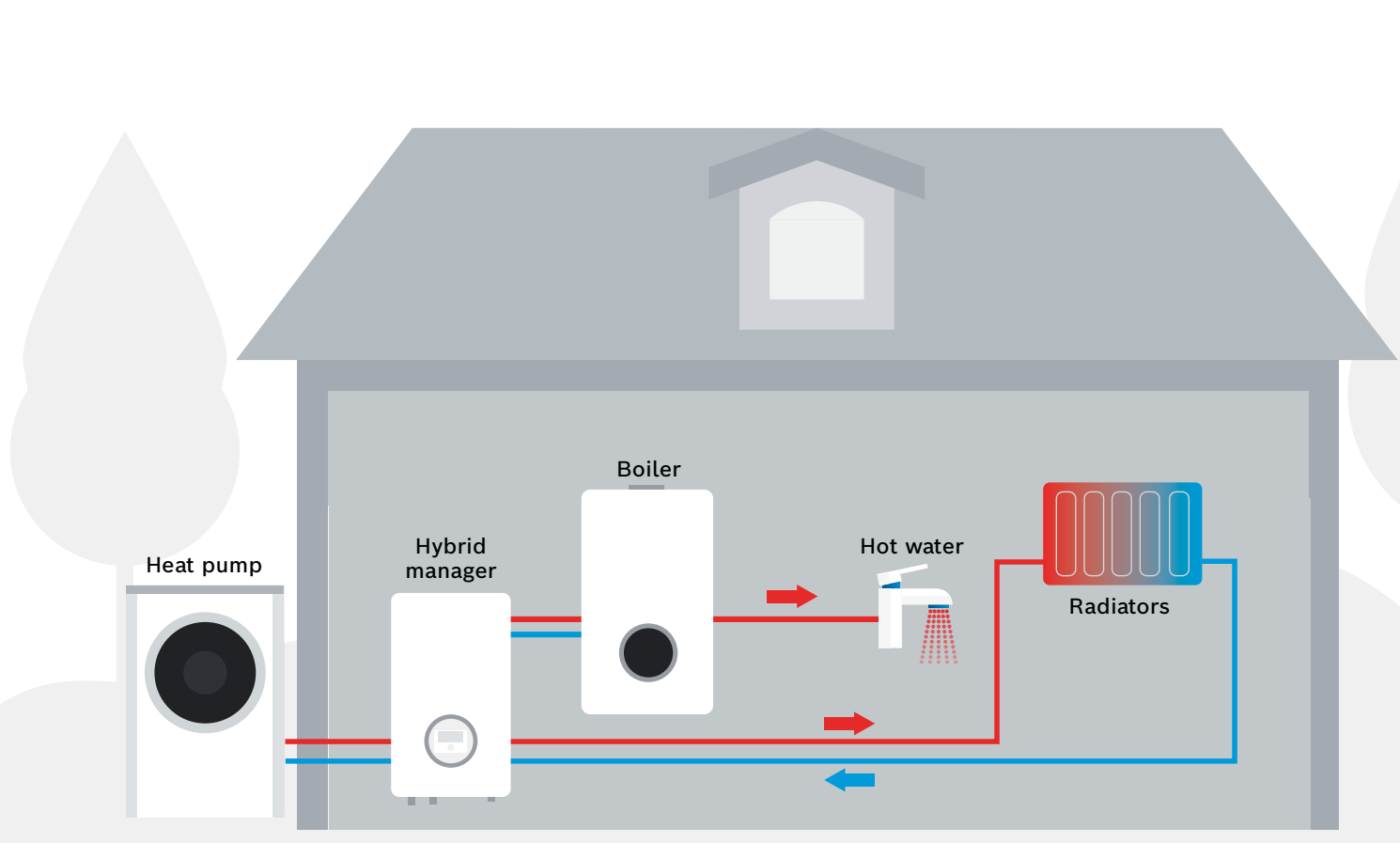
A hybrid system works just like a hybrid car – it combines existing and new lower carbon technologies to deliver the best of both.

In our case, a hybrid system combines the benefits of the heat pump, which takes renewable energy from the outside air, with an existing or new combi boiler.

Whilst delivering comfortable heating and hot water, the system automatically works out the most efficient way to heat your home. It takes into account the temperature outside, as well as energy costs, and decides whether the boiler, heat pump or a combination of the two should be used. This delivers the best possible balance between keeping bills low, reducing carbon emissions and most importantly giving you a warm home, all year round.

A hybrid system is a great option for less thermally efficient properties, like a period home for example. For these property types, the cost of upgrade work needed to benefit from a pure heat pump solution may prove too expensive.

Your property can be fitted with a hybrid system with less additional work required to the piping inside the home and radiators. A hybrid system also allows you to improve the insulation and draught-proofing of your property over a longer period, whilst delivering carbon savings immediately.

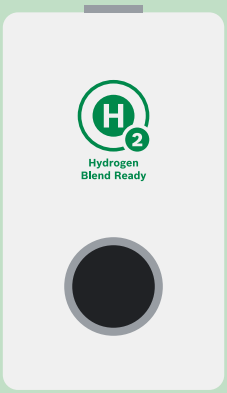


How do greener heating systems compare?

It's important that you make the right choice for your home. So we've taken a look at the benefits, costs and the bigger picture when it comes to greener heating.

Gas (hydrogen blend ready) & oil boilers

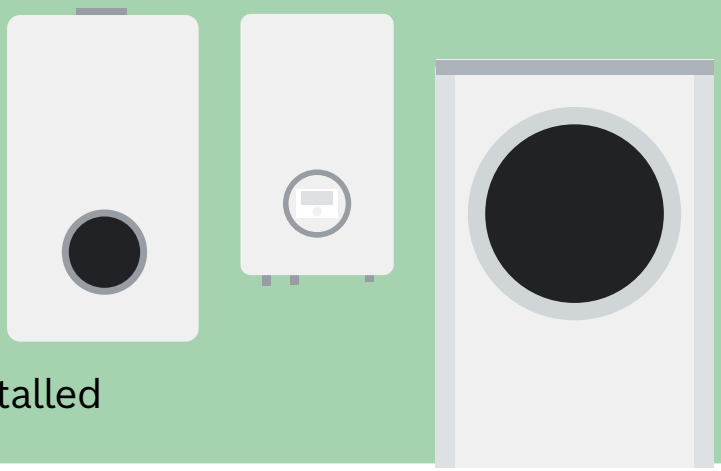
from £2,400 installed



1

Hybrid systems

from £6,750 installed



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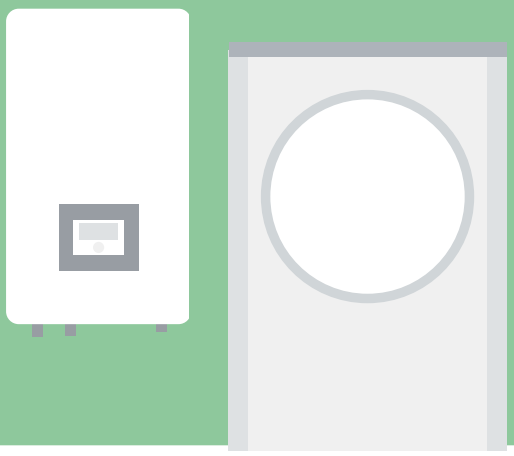
Heat pumps

from £8,900 installed

(from £3,900 with £5,000 Boiler Upgrade Scheme available in England and Wales*)

Home Energy Scotland have an interest free loan available.**



3

*Subject to eligibility and availability, learn more on our website
**For further details visit Home Energy Scotland website

	1 Gas (hydrogen blend ready) & oil boilers *The **convenient** choice*	2 Hybrid systems *The **best** of **both***	3 Heat pumps ***The greenest choice***
Installed costs	**£2,400** for gas[1] **£4,700** for oil[2] Installation cost based on a straightforward boiler replacement plus thermostatic radiator valves. Will vary based on property and system type.	**£6,750 – £8,500** with a new boiler[3] Cost based on a 5kW heat pump. Retrofitting a hybrid heat pump to an existing boiler system can be significantly cheaper. Cost will depend on the extent of home alterations needed.	**£3,900 – £9,500** with funding (see below) **£8,900 – £14,500** without funding[4] Cost based on outdoor and indoor unit and includes cylinder and controls. Cost will depend on the extent of home alterations needed.
Home alterations	**Unlikely** It depends on your existing boiler and if it needs to be relocated.	**Unlikely** This depends on your current system. In most situations any impact should be minimal.	**Likely** Radiator sizes, piping and insulation all come into play here.
Running costs	**Annual running costs** **£1,816 per year** for gas Comprising: **Gas** 16,000 kWh[5] @10p per kWh[6] =£1,600 per year Gas standing charge £102[6] per year **Electricity** 40 kWh[8] @34p per kWh[9] = £14 per year **Servicing** £100[11] per year **£1,856 per year** for oil Comprising: **Oil** 16,000 kWh[5] @11p per kWh[7] = £1,760 per year No standing charge **Electricity** 46 kWh[8] @34p per kWh[9] = £16 per year **Servicing** £80[11] per year	**You're in control** Hybrid systems will optimise between gas and electricity prices and heating demands; running costs can range between a heat pump and a boiler. **Gas standing charge** £102[6] per year **Servicing** £80[11] per year	**Annual running costs** **£1,843 – £1,945 per year** Comprising: **Gas** £0 for heating If you still have another mains gas appliance, you will need to pay for this with up to £102[6] standing charge per year. **Electricity** 16,000 kWh[5] with CoP of 3 = 5,333 kWh[10] @34p per kWh[9] = £1,813 per year **Servicing** £150 every 5 years[12]
Funding	Not widely available (funding available to low income households via the Affordable Warmth Scheme)	Home Energy Scotland have an interest-free loan available.[13]	Home Energy Scotland have an interest-free loan available.[13] £5,000 Boiler Upgrade Scheme available in England and Wales.[14]
Lifetime costs (based on 15 years)	**£29,640 – £32,540** excl. any repairs **Lifetime expectancy** 12 – 15 years	Cost varies dependant on gas and electricity costs and usage. **Lifetime expectancy** 12 – 15 years	**£31,545 – £37,145** with funding, excl. any repairs **£36,545 – £42,145** without funding, excl. any repairs **Lifetime expectancy** 15 years

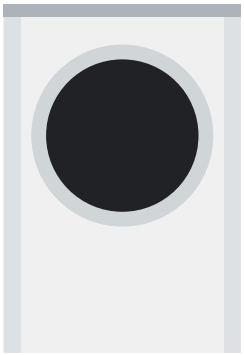
1. Based on a Greenstar 4000 30kW combi replacement ordered via FastTrack
2. Based on a straightforward oil boiler replacement, Energy Saving Trust
3. Based on research from Department for Business, Energy & Industrial Strategy, Hybrid Heat Pumps, December 2017
4. Based on government research stating the average cost of an air source heat pump, 2020
5. Based on typical three bedroom semi-detached home annual heating and hot water consumption, Oftec
6. Based on 10p per kWh, standing charge is 28p per day (x 365 days = £102.20p to nearest pence) Ofgem
7. Based on average usage costs, Nottingham Energy Partnership
8. Gas boiler based on Greenstar 4000 annual consumption, Oil boiler based on Heatslave II annual consumption
9. Based on electricity costs at 34p per kWh, Ofgem
10. Heat pumps measure efficiency by CoP – A CoP of 3kW heat is generated from every 1kW of electricity input
11. Based on average boiler service costs, Checkatrade
12. Heat pump servicing based on Air Source Heat Pump Servicing Cost 2022 Price Guide UK, TradesmenCosts
13. Available to people in Scotland to make their homes more energy efficient, or install renewable technologies – further details on the Home Energy Scotland website
14. Subject to eligibility and availability, learn more on our website

Prices based at October 2022

Considering the environmental impact of heating systems?

Not only do heat pumps help us with the cost of bills, but they also save energy and help households to reduce emissions.

By choosing a heat pump compared to a band G-rated boiler:



Each year
you could save...

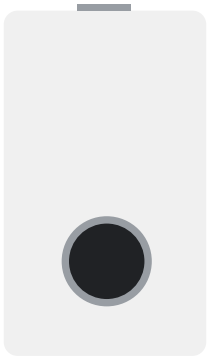
CO_2 **3,200kg** of CO_2*

Which is equivalent to...

Driving **1,402 less miles**

or planting **120 trees**

If a heat pump isn't a viable option for you, it could be worth upgrading your boiler, especially if you have an older G-rated model:



Each year
you could save...

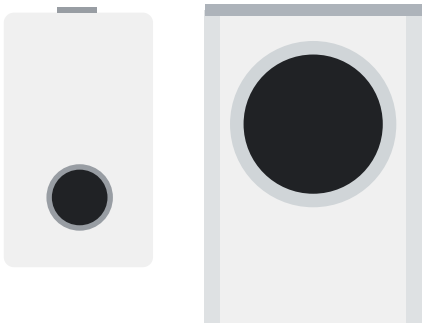
CO_2 **1,720kg** of CO_2**

Which is equivalent to...

Driving **753 less miles**

or planting **64 trees**

Or, perhaps the best of both worlds:



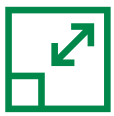
Using a hybrid heating system with a boiler would result in an improvement of around **87%** carbon reductions compared to just a boiler†.

Do even more to reduce your impact on the environment by **combining heat pumps with solar PV panels**, to make your home more self-sufficient and eco-friendly.

*Savings based on figures as of October 2022, Energy Saving Trust
**Savings based on fuel prices as of October 2022, Energy Saving Trust
†Hybrid systems, using low carbon sources. Results are part of ongoing tests to determine their carbon reductions and environmental impact

Are there alterations needed if I choose a heat pump?

Everyone's home is different. If you're thinking about a heat pump, make sure you've considered the following:



Space

You will need space outside, on a hard surface, for the heat pump. Plus, space inside for the indoor unit to go on the wall, as well as a hot water storage cylinder. This will take up more space than a combi boiler.

Remedial work

Some radiators and plumbing will not work so well with heat pumps. You may need to have new ones installed, which could involve lifting floorboards to access pipes.

Heat loss

Most importantly, your home needs to be able to retain the heat generated from a heat pump with the right level of insulation and draught-proofing.

Keeping your options open

If installing a heat pump isn't an option for you right now, then a hybrid system could be a good solution. They require less alterations to your property – as long as your radiators and pipework are the right size.

Space outside is needed for the heat pump, as well as space inside for the hybrid unit – these will be is connected to your existing or new boiler.

Please see page 6 for more information on hybrid systems.

What's likely to be right for my property?

✔ Boiler ✔ Hybrid

Pre-1919 Victorian mid-terrace

Not typically built with any insulation in floors, walls or the roof – but being a terrace is an advantage.

✔ Boiler ✔ Hybrid

1946–1954 terrace

It's likely that the floors will be poorly insulated but there will be some insulation in the walls and roof.

✔ Boiler ✔ Hybrid ✔ Heat pump

Mid-century detached

The floors and roofs will have limited insulation, but cavity walls are likely to be insulated.

✔ Boiler ✔ Hybrid ✔ Heat pump

Modern semi-detached

Most modern homes will have been fitted with well-insulated floors, walls and roofs.

Frequently asked questions

About heat pumps

Q Will my heating habits have to change with a heat pump?

Heat pumps work most efficiently when running for longer periods and with a much lower heating flow temperature. The heating system runs in a ‘steady state’ and tops up the heating rather than turning it off and on again. If the system is turned off, the heat pump would have to work harder to get back up to temperature and will therefore use more energy.

Q Are heat pumps noisy?

Our heat pumps are ‘Quiet Mark’ certified and work peacefully in your living space. Compared with general household noise levels, our 7400iAW model operates at 38.5 decibels – a volume similar to that of a modern fridge.

Q Will I need to turn off the heat pump in the summer?

No. In the warmer months, the outside weather sensor will signal to the indoor unit that the heating is not required, but the outdoor unit will continue to run to fulfil all of your hot water needs.

Q Will a heat pump work in sub-zero temperatures?

Yes! Heat pumps can work in temperatures as low as -20°C. They are well-established in Europe, particularly Scandinavia, and deliver consistent comfort throughout the cold winters.

They may need to use slightly more energy in extreme weather like frost and snow, but even in these conditions they are approximately three times more efficient than a traditional gas boiler. Condensation in heat pumps can freeze when the temperatures drop, but they have a defrosting function so even this isn’t a problem!

Q Will I notice that the radiators are cooler to the touch than when run on a traditional gas or oil boiler?

Radiators will feel cooler but this is because they are running at around 20°C less than a gas or oil boiler. This is normal. As your home should be able to hold the heat in, it won't need as much heat to warm the room, the heat pump is continually topping up the heat.

Q Can heat pumps work with underfloor heating?

Yes they can! Heat pumps work more efficiently on lower temperature heating systems such as underfloor heating.

Q Can a heat pump be connected to an existing system?

Yes. Sometimes a heat pump can be connected to an existing system with minimal changes*. Quite often we find the radiators and pipework need upgrading to work on lower temperatures.

Q Do I need to have planning permission to have a heat pump installed?

Mostly, no. Since 1st December 2011 the installation of air source heat pumps on domestic premises has been allowed. This means you do not need to apply for planning permission, as long as specific limits and conditions are met.

Please check with your local council and their current policy, especially if you live in a listed building or conservation area.

Q How long does it take to install a heat pump?

Typically, it can take between three to seven days depending on your circumstances and if any alterations need to be made to your home.

Your installer can give you a time frame based on your home.

*Please seek professional advice from your installer

Other frequently asked questions

About future 100% hydrogen boilers

Q Is hydrogen a safe fuel?

There are numerous trials taking place across the UK which are looking at hydrogen gas and its uses in the home, many of which Worcester Bosch are involved in.

These include ‘HyStreet’, a test site in Northumberland, where more than 200 tests have been completed to research the safety of converting homes and gas networks to hydrogen.

The UK government funded project, ‘Hy4Heat’, included an extensive programme of work to prove the safety of hydrogen in homes. This work is now informing the development of new installation standards for hydrogen, as well as training and qualifications for engineers.

In Gateshead, the ‘Hydrogen Home’ project has two homes that have been specifically built to showcase hydrogen in operation. This demonstration includes boilers, cookers and fires, all running on hydrogen.

Q What does the term 20% hydrogen blend ready mean?

Nearly all gas appliances that are in use today, including our boilers, are able to run on a mixture of hydrogen and natural gas. This is called a blend and sees up to 20% of the fuel source powering the appliance being hydrogen gas, with the remaining 80% being natural gas.

Q What research is being undertaken into hydrogen gas?

Additional research was undertaken at Keele University, where around 150 boilers were running on up to a 20% hydrogen blend for around 18 months. There was also a trial of 668 homes in Gateshead where a 20% blend was injected into the gas grid.

In the future, a 300-home trial is planned in Fife, which will see a switch from natural gas to 100% hydrogen.

This will be followed by two village trials in the North East and North West of England converting around 2,000 homes to 100% hydrogen.

All trials are working towards one goal: gathering and building evidence, as well as confirming what we already know, to help increase confidence in hydrogen as a fuel source and technology.

Q What are the benefits of a hydrogen boiler?

A hydrogen boiler is a great way to decarbonise heat and offers a like-for-like replacement for a current natural gas boiler.

From a day-to-day usability standpoint, a hydrogen ready boiler doesn't require any behaviour change and will provide the same level of comfort as an existing natural gas appliance.

Q When will 100% hydrogen ready boilers be readily available?

Depending on the success of trials and the government's hydrogen timeline, from 2030 – 2035 the use of 100% hydrogen gas for wholesale use into the gas grid is a possibility.

This will give homes across the UK the opportunity to upgrade to lower carbon technologies. Also during this time, gas boilers will be removed from the market in favour of hydrogen ready boilers – these boilers can run on natural gas today, as well as hydrogen in the future.

Useful numbers

Consumer Technical Helpline (Pre & Post Sales)
Tel: 0330 123 3366
Email: technical-advice@uk.bosch.com

Customer Service

Service Enquiries
Email: service-enquiries@uk.bosch.com
or telephone 0330 123 9559

Guarantee Registration
Your installer should always undertake the registration of your boiler on your behalf.
If you have a query please call 0330 123 2552

Live Chat www.worcester-bosch.co.uk/support/customer-support

Share

We would love to see your new boiler and heating system.

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