



Heating



Hot water



Renewables

# Hydrogen

The road to decarbonisation



**Vaillant**

# Introduction

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**The drive for decarbonisation of heat in UK homes and the Government's 2050 net zero target have focused the heating industry on researching greener alternatives to natural gas.**

Since 1874, Vaillant has been manufacturing heating appliances, adapting its technology as demands on the gas supply have changed, and developing new renewable heating technology with heat pumps.

There is no silver bullet to decarbonising the UK; there will be a mixture of both hydrogen boilers and heat pumps depending on the property.

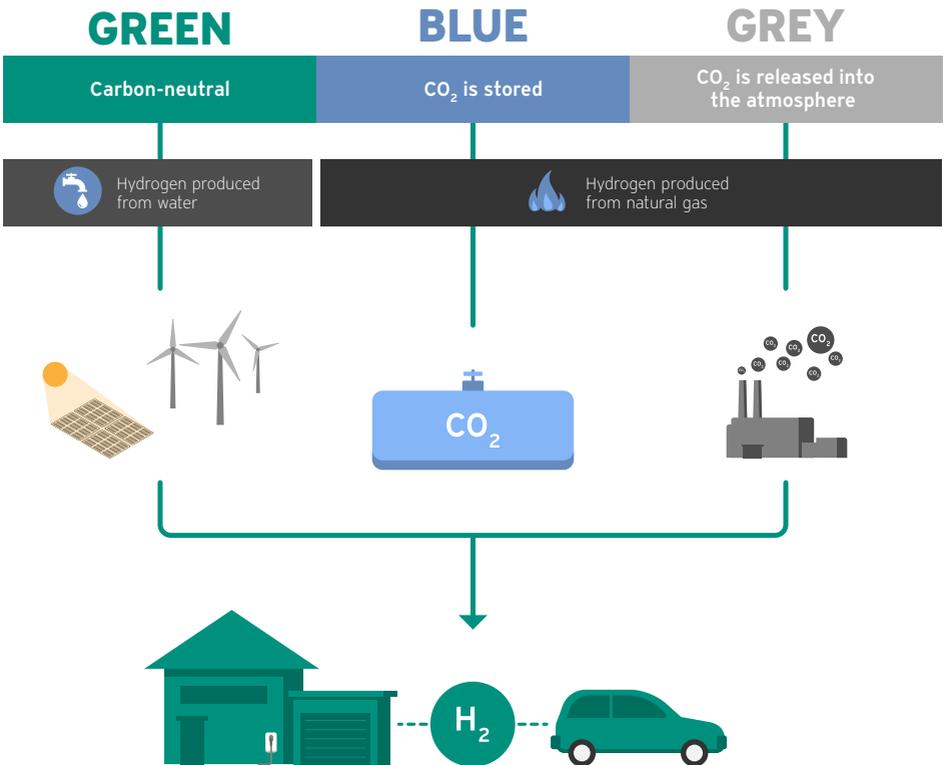


# What is hydrogen?

Hydrogen can be obtained from a variety of substances including natural gas and water.

It is environmentally friendly and green hydrogen is even a climate-neutral energy carrier.

Hydrogen comes in many different forms, but we focus on **Green, Blue, and Grey** - depending of the amount of CO<sub>2</sub> emissions during the production process.



# What's the industry doing to develop hydrogen?

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Hydrogen is the fuel of the future for many different industries such as power, transport, industry, and of course heating. In the heating industry, existing boilers are being tested using up to 20% hydrogen mixed with natural gas which could save up to **7% CO<sub>2</sub> emissions**.

New hydrogen-ready boilers are being developed. Initially, they will work on natural gas, but they can be converted to 100% hydrogen when it's available to the doorstep.



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Significant trial and testing work is underway on many projects around the UK, and boiler manufacturers are part of these project teams. Specifically, Vaillant has been contributing to the **HyDeploy** project that focuses on a 20% hydrogen mixture added to the natural gas infrastructure.



## There have been two parts to HyDeploy:

- **Hydeploy 1** based at Keele University has now concluded. Products used in the trial are now being assessed by Vaillant in both the UK and in the new Johann Vaillant Technology Center in Germany.
- **Hydeploy 2** started this year in Winlaton, Tyne and Wear. This is a larger demonstration trial which will run into 2023.

# What are the milestones?

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**Being at the forefront of technology is something we at Vaillant pride ourselves on, which is why we invest significantly in research and development. With every legislative change that is made, you can be assured Vaillant will be a partner to deliver technology that complies. Vaillant supports our installers and housing developers with training and technical support as the industry migrates to the new technology.**

There is currently much debate and discussion on making gas boilers 'hydrogen-ready' but UK Government stated in the Hydrogen Strategy that they will make a strategic decision on the role of hydrogen by 2026.

However, we will not see widescale supply of hydrogen to the doorstep of UK homes for many years because the UK is awaiting the necessary investment and infrastructure for the development of hydrogen generation. So, put simply, many UK homes may not see hydrogen gas until well past 2030.

Manufacturers are looking to launch hydrogen-ready boilers from 2025. However, the first hydrogen town will be 2030 and so the reality could be that a hydrogen-ready boiler installed in 2025 might see its end of life before hydrogen is supplied to that home.



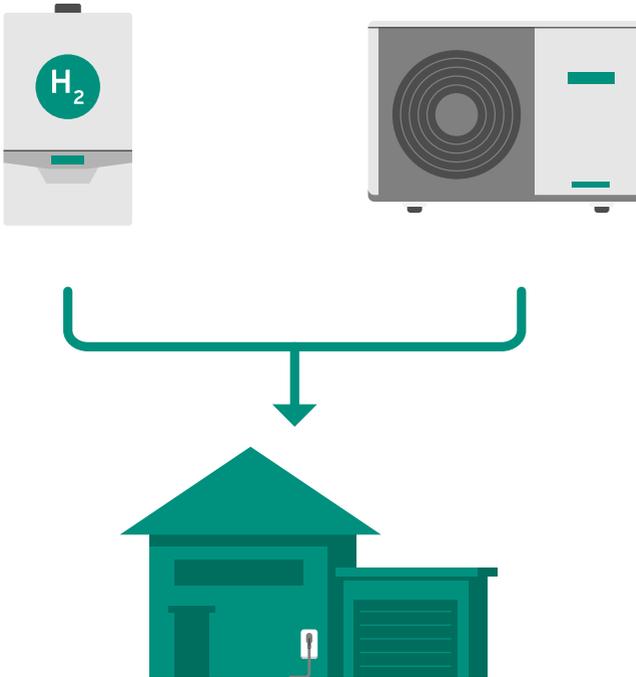
It is proposed that from 2026 all new boilers launched to the market are hydrogen-ready and from 2030 all boilers sold on the market should be hydrogen-ready.

# What do I need to do now?

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**Before we can introduce hydrogen into homes, the industry needs to define the British Safety Standards for hydrogen heating. Once these standards are defined, Vaillant and other boiler manufacturers will be able to provide a hydrogen solution that is cost-effective and reliable.**

Installers and housing developers should be aware of the future changes when discussing customers' and clients' heating requirements. They should be open to all heating technologies including heat pumps which are available today and have the ability to help customers and clients to reduce their carbon emissions and energy bills.



# Contacts

## Renewables

For renewable products aftersales service and commissioning.

Phone: **0345 602 0262**

Email: **aftersales@vaillant.co.uk**

## Technical enquiries

If you have a technical query, you can contact us by phone or email.

Phone: **0344 693 3133**

Email: **technical@vaillant.co.uk**

## General enquiries

If you are unsure of who you need to speak to or you have a general enquiry, our friendly reception staff will happily point you in the right direction.

Phone: **0345 602 2922**

Listen to our [Hydrogen Podcast here:](#)



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Vaillant Group UK Ltd  
Nottingham Road  
Belper, Derbyshire  
DE56 1JT

[www.vaillant.co.uk](http://www.vaillant.co.uk)

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