

Key points:

MCS Charitable Foundation commissioned YouGov to survey MPs for their views on the Government's progress in making our homes fit for the future. The survey found that:

- **Over half (56%) agree** that the 29 million existing homes in the UK must be made low carbon as a UK infrastructure priority, and that should be supported by the treasury
- **Over three quarters (77%) agree** that small-scale renewables should be incorporated into all new build properties from 2022
- **Less than half** of MPs believe the Government is providing sufficient support in any of the following areas:
 - Installing 600,000 heat pumps a year by 2028
 - Providing financial support to retrofit homes
 - Providing a stable long-term grant scheme to reduce the cost of heat pumps and other small-scale renewables
 - Providing information and advice through websites and public facing consumer advertising campaigns to communicate the need for Net Zero
 - Reducing the UK's reliance on carbon-intensive energy sources such as oil and natural gas

What is needed?

Long term policy support to support a low-carbon transition, to include:

- Removing VAT on all domestic renewables and energy efficiency measures for 10 years
- Introducing loans such as Property Assessed Clean Energy (PACE) Loans at 0% interest rates available for all households underwritten by the Government to support retrofitting of existing properties
- Introduce a new long-term incentive/grant scheme of at least 10 years for all domestic renewables and energy efficiency measures, including heat pumps
- Introducing tax credits of up to 30% of the value of capital costs for energy efficiency and renewable energy equipment, capped at £15,000
- Reducing the tax burden on less carbon intensive fuels and removing subsidies and rebates on fossil fuels
- Ban all fossil fuel heating from all new build by December 2023
- Abandoning the blue hydrogen track and redirect the £240m Net Zero Hydrogen Fund to green hydrogen development only

Policy has impact

- Roughly 1-in-3 households in Finland have a heat pump. From 1500 in 2000 to 900,000 in 2018 – they do work in the cold!
- France installed 2.5m heat pumps between 2010-20. The UK managed 250,000 in the same period.
- How did France and Finland achieve this? By introducing many of the policy measures outlined above (see Table 1. for further information)

Introduction

The twenty-nine million homes in the UK account for nearly 20% of all greenhouse gas emissions, primarily as a result of using natural gas for heating. And it is widely recognised that the UK has some of the some of the least energy efficient housing in Europe. Greenhouse gas emission reductions have stalled from existing housing stock, and there is still considerable uncertainty over the standards that the proposed 300,000 new homes a year the Government plans to build by the end of the decade will have to reach. There is, therefore, a considerable challenge in retrofitting existing homes to make them low-carbon, high-efficiency dwellings, as well as ensuring new build are made future proof from the outset, rather than 'retrofit ready'.

The 2019 Climate Change Committee report 'UK Housing: Fit for the future?' stated that the 29 million existing homes across the UK are not fit for the future, and that they:

'must be made low-carbon, low-energy and resilient to a changing climate. This is a UK infrastructure priority and should be supported as such by HM Treasury.'

To meet the Government's climate change and net zero ambitions, this challenge must be addressed. But is existing Government policy providing sufficient support? MCS Charitable Foundation commissioned YouGov to find out what MPs think by asking them a series of questions related to the Government's policy agenda and the verdict is: no.

Survey Findings

Over half of MPs agree with the CCC statement that the 29 million existing homes in the UK must be made low-carbon as a UK infrastructure priority, and that should be supported by the treasury, while over three quarters of MPs agree that small-scale renewables should be incorporated into all new build properties from 2022. This shows considerable cross-party support in Parliament for both the retrofitting of existing homes to make them fit for the future, and the strengthening of building regulations to ensure new builds are net zero ready from the outset.

However less than half of MPs believe the Government is providing sufficient support to reach our net zero targets in any of the following key areas:

- Installing 600,000 heat pumps a year by 2028
- Providing financial support to retrofit homes
- Providing a stable long-term grant scheme to reduce the cost of heat pumps and other small-scale renewables
- Providing information and advice through websites and public facing consumer advertising campaigns to communicate the need for Net Zero
- Reducing the UK's reliance on carbon-intensive energy sources such as oil and natural gas

This is clearly a worrying set of findings, given the recent publication of the Government's Net Zero and Heat and Buildings Strategy, along with the high-profile hosting of COP26 in Glasgow. Arguably, the climate change and net zero agendas have never been higher in either the political or public domain – yet over half of MPs don't believe the Government is able to deliver on its promises based on current policy.

Implications

A brief look at the Heat and Buildings Strategy shows where some of the MPs misgivings around Government policy may lie. The strategy is setting an 'ambition' to phase out installation of new natural gas boilers from 2035, along with ensuring all new buildings in England are net zero ready from 2025. As part of this, funding of £450 million over three years has been provided to support the

installation of up to 30,000 heat pumps a year. However, this is both not enough funding nor of a long enough duration to provide long-term security to allow the heat pump sector to grow and reach the Government target of 600,000 installations a year by 2028. More worryingly, hydrogen is still very much in the Government's plans for domestic heating, as the strategy claims:

"Hydrogen offers the potential to repurpose the gas network to a low-carbon alternative. This, in combination with hydrogen-compatible appliances, could offer a virtually like-for-like replacement for the natural gas appliances that we use today."

However, research prepared for the Government¹, along with peer-reviewed research from Stanford University², Imperial College London³, University College London⁴ and the University of Oxford⁵ has shown:

- It is not simply a 'like for like' swapping out of a gas boiler for a hydrogen boiler – home surveys, new meters and appliances will be required, and new pipework in the home to accommodate hydrogen may also be required – all of which will be very disruptive to residents
- Blue hydrogen heat cost of 9.95 p/kWh, with natural gas cost constituting 50% of the total - significantly more than current gas heating costs – and with significant risks of future rises due to the volatility of wholesale gas markets
- Heat pumps require four times less electricity per unit of heat than green hydrogen.
- The heat cost of a green hydrogen-based system is double that of heat pumps.
- Hydrogen will require significant government support to be competitive in addition to other costs Government will need to pay. E.g. new grid infrastructure and the CCS facilities required to support a hydrogen strategy
- The greenhouse gas footprint of blue hydrogen may be more than 20% greater than burning natural gas or coal for heat and 60% greater than burning diesel oil for heat

Yet these counter arguments against hydrogen are missing from Government messaging around decarbonising heating.

More worryingly, as recently as March 2021, the Environmental Audit Committee's report on energy efficiency in existing housing⁶ observed:

'Emissions reductions from the UK's 29 million homes have stalled, which makes a comprehensive programme of home energy efficiency even more urgent. The failure of Government schemes yet to address this challenge adequately is therefore both disappointing and of great concern'

The report highlights several policy failures and stresses the need for Government to:

'set long term targets, with appropriate support mechanisms of multi-year duration, to give businesses certainty and not change the goalposts along the way'

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/699685/Hydrogen_Appliances-For_Publication-14-02-2018-PDF.pdf

2 <https://onlinelibrary.wiley.com/doi/10.1002/ese3.956>

3 <https://pubs.rsc.org/en/content/articlelanding/2020/ee/d0ee02016h#!divAbstract>

4 <https://www.sciencedirect.com/science/article/abs/pii/S030626192101343X?dgcid=author>

5 <https://www.creds.ac.uk/wp-content/uploads/CREDS-Heating-steam-methane-reformed-hydrogen.pdf>

6 <https://committees.parliament.uk/publications/5171/documents/52521/default/>

It seems that the majority of MPs still do not think sufficient action has been taken to address those issues. In relation to decarbonising heat, this is despite the issues being identified and policy measures to address them proposed in reports written for the CCC in 2013⁷, the Department of Energy and Climate Change in 2013⁸ and 2016⁹, and its successor the Department for Business, Energy and Industrial Strategy in 2017¹⁰ and 2020¹¹.

What is needed?

The survey results show that a majority of MPs would support a policy landscape that stretches beyond the three-year view of the spending review. We want to see that policy landscape include:

- Removing VAT on all domestic renewables and energy efficiency measures for 10 years¹²
 - a measure the YouGov survey shows is supported by half of Conservative MPs
- Introducing loans such as such as Property Assessed Clean Energy (PACE) Loans at 0% interest rates available for all households underwritten by the Government to support retrofitting of existing properties
- Introduce a new long-term incentive/grant scheme of at least 10 years for all domestic renewables and energy efficiency measures, including heat pumps
- Introducing tax credits of up to 30% of the value of capital costs for energy efficiency and renewable energy equipment, capped at £15,000
- Reducing the tax burden on less carbon intensive fuels and removing subsidies and rebates on fossil fuels
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Policy has impact

Research by MCS¹³ analysing the policy landscape in France, Germany and Italy (see Table 1.), combined with an analysis of the number of heat pump installations in each country (see Figure 1.) shows that the introduction of a range of financial and regulatory measures resulted in a clear, measurable impact on the number of heat pump installations in each country. By providing a long-term, stable policy landscape and decreasing upfront costs to homeowners through grants, subsidies, loans and reduced VAT rates installation numbers have shown a clear upward trend from 2013 across France, Germany and Italy.

⁷ Frontier Economics and Element Energy 2013 'Pathways to high penetration of heat pumps' available at <https://www.theccc.org.uk/wp-content/uploads/2013/12/Frontier-Economics-Element-Energy-Pathways-to-high-penetration-of-heat-pumps.pdf>

⁸ DECC (2013) 'The Future of Heating' – available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/190149/16_04-DECC-The_Future_of_Heating_Accessible-10.pdf

⁹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/498962/150113_Delta-ee_Final_ASHP_report_DECC.pdf

¹⁰ Vivid Economics & Imperial College 2017 'International Comparisons of Heating, Cooling and Heat Decarbonisation Policies' – available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/699674/050218_International_Comparisons_Study_MainReport_CLEAN.pdf

¹¹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943712/heat-pump-manufacturing-supply-chain-research-project-report.pdf

¹² The MCS report 'Making Zero Carbon = Zero VAT' sets out the arguments for doing so – see https://static1.squarespace.com/static/5aafe1e7620b85e2e8c9ba88/t/6177bd4f52d15354d905861e/1635237202139/MCSCF+-+Making+Zero+Carbon++Zero+VAT+24+Oct_.pdf

¹³ <https://mcs-certified.com/addressing-the-key-barriers-to-widespread-heat-pump-adoption-a-response-to-beis/>

Table 1 Key policy measures in support of energy transitions in France, Germany and Italy

France	<ul style="list-style-type: none"> • 1999-present: reduced rate of VAT (5.5% compared to 10%) on energy efficiency products • 2009-present: 0% 'eco-loan' of up to €30,000 available for energy efficient residential renovations to finance retrofitting pre-1990 built properties • 2010-present: Habiter mieux – program targetted at alleviating fuel poverty through grants of up to €60,000 for energy efficiency upgrades • 2012-present: 'Regulation Thermique' – all new single-family dwellings must achieve primary energy consumption less than 50 kW/m² per year. In practice, this effectively removes direct electric heating from all new builds • 2014-present: reducing tax on less carbon intensive fuels and removing subsidies and tax rebates on fossil fuels • 2014-present: CITE (Tax Credit for Energy Transition) – up to 30% of capital costs of energy efficient and renewable energy equipment with a limit of €16,000
Germany	<ul style="list-style-type: none"> • 2014-present: National Action Plan on Energy Efficiency – consumer information, advice and financial incentive campaign to increase uptake of energy efficiency measures • 2015-present: CO₂ Building Modernisation Programme – low-interest loans and subsidies of up to €30,000 for energy efficient residential renovations • 2016-present: introduction of building standards requiring 25% reduction in primary energy consumption and 20% in heat transfer loss • 2026 – banning the installation of oil heating systems in new and existing buildings (with some exemptions for certain building types)
Italy	<ul style="list-style-type: none"> • 2007-present: Energy Efficiency Tax Rebate Programme – tax credits that began at 45% and are now 110% (until 31/12/21) of the costs incurred in retrofitting energy efficiency measures • 2013-present: Renewable energy for heating and cooling support scheme – up to 40% of investment costs repaid in annual instalments of between 2-5 years

As the French, Italian and German examples show, and as the IEA notes in its analysis of the global heat pump market¹⁴:

'...subsidies have proven effective to offset the upfront cost of heat pumps and initiate market dynamics that accelerate their uptake in newly built buildings. Removing this financial support could considerably impede higher heat pump adoption, especially of ground-source heat pumps.'

In 2019 France was achieving a sales rate of 13.7 heat pumps per 1000 households, while Norway had the highest sales rate in Europe at 47.8 heat pumps per 1000 households. By comparison, the UK had the second lowest at 1.2 sales per 1000 households¹⁵.

¹⁴ IEA (2020), Heat Pumps, IEA, Paris <https://www.iea.org/reports/heat-pumps>

¹⁵ EHPA (2020) 'European Heat Pump Market and Statistics Report – 2020'

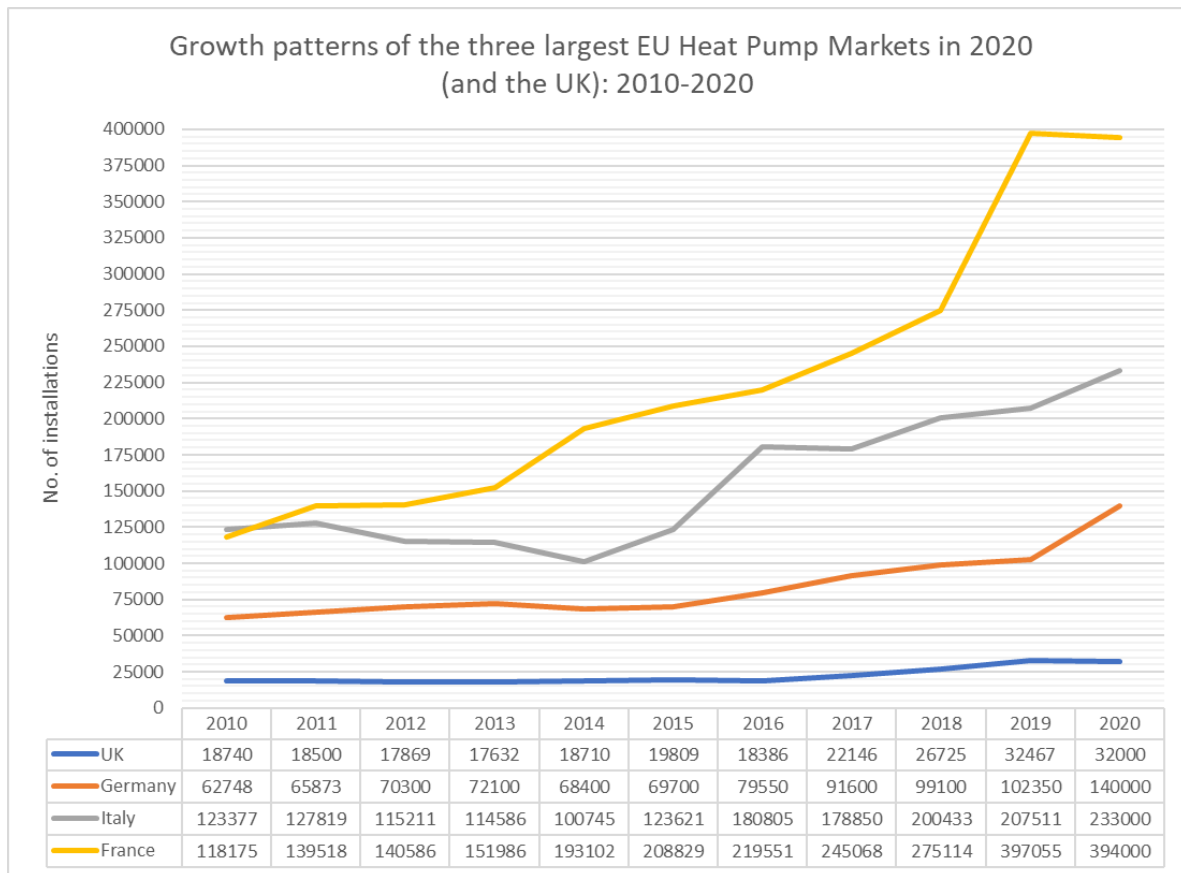


Figure 1 Comparison of heat pump installations 2010-2020 - France, Germany, Italy and the UK¹⁶

Conclusions

To reiterate the YouGov survey findings:

- Over half agree that the 29 million existing homes in the UK must be made low carbon as a UK infrastructure priority, and that should be supported by the treasury
- Over three quarters agree that small-scale renewables should be incorporated into all new build properties from 2022
- Less than half of MPs believe the Government is providing sufficient support in any of the following areas:
 - Installing 600,000 heat pumps a year by 2028
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 - Providing a stable long-term grant scheme to reduce the cost of heat pumps and other small-scale renewables
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Given the lack of support among MPs for the Government's plans to make our homes fit for the future, we urge the Government to revisit them and introduce long-term policy measures that have

¹⁶ EHPA (2020) 'European Heat Pump Market and Statistics Report – 2020'

proven successful across Europe. Policy has impact. We want to see measures that have proven effective across Europe introduced in the UK as soon as possible. In particular:

- Removing VAT on all domestic renewables and energy efficiency measures for 10 years
- Introducing loans such as such as Property Assessed Clean Energy (PACE) Loans at 0% interest rates available for all households underwritten by the Government to support retrofitting of existing properties
- Introduce a new long-term incentive/grant scheme of at least 10 years for all domestic renewables and energy efficiency measures, including heat pumps
- Introducing tax credits of up to 30% of the value of capital costs for energy efficiency and renewable energy equipment, capped at £15,000
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The urgency of the climate emergency, so recently and powerfully highlighted at COP26, doesn't afford us the luxury of poorly planned measures that will do little to address the challenge of making our homes fit for the future.

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MCS Charitable Foundation

Our vision is a world where everyone has access to affordable and reliable renewable energy and zero carbon technologies – for the benefit of our environment, our communities and the general public. As a Foundation we work to increase public confidence, awareness and access to renewable energy and zero carbon solutions across the UK. We support education and engagement programmes, fund research and facilitate innovative solutions to drive widespread adoption. In addition, the Foundation oversees the [Microgeneration Certification Scheme \(MCS\)](#) which defines, maintains and improves quality standards for renewable energy at buildings scale.