

Written evidence submitted by Heat Pump Association, Heat Pump Federation

The following organisations are submitting the following joint response:

Heat Pump Association: The HPA is dedicated to driving widespread deployment of heat pump technology throughout the UK. Our membership includes the country's leading manufacturers of heat pumps, components, and associated equipment as well as energy companies, certification bodies, installers, and training providers. We currently represent over 80 member organisations working in the heat pump sector, in all stages of the supply chain, with our members representing around 85% of the volume of heat pumps sold in the UK market.

Heat Pump Federation: The HPF lobbies government for long-term policy supporting the electrification of heating and cooling, works to raise awareness, understanding and confidence in heat pump technology across both domestic and commercial sectors and collaborates with government, industry and consumers to make this a reality. The Federation incorporates an Affiliate membership programme for MCS certified installers. Membership currently sits at just under 300 members including electricity suppliers, heat networks developers and operators, and businesses in the commercial supply chain.

Introduction

Decarbonising home heating is a critical component of the UK's broader strategy to achieve net zero carbon emissions by 2050. With the majority (85%) of UK homes currently reliant on natural gas for heating¹, transitioning to low carbon alternatives is both a significant challenge and an immense opportunity. Heat pumps represent one of the most viable and immediate solutions to this challenge, capable of significantly reducing domestic carbon emissions by up to 75%². Heat pumps are more efficient than other heating systems because the amount of heat they produce is more than the amount of electricity they use. The ratio of heat produced for every unit of electricity used is known as the Coefficient of Performance (CoP). So, if a heat pump has a CoP of 3.0, it will emit 3 kWh of heat for every kWh of electricity consumed and therefore is 300% efficient. Heat pumps can achieve CoPs of anywhere between 2.8 and 4.8, depending on use, size, temperature difference, quality of installation and operational conditions.

Current Landscape and the Need for Action

The UK faces a substantial challenge in decarbonising its building stock, with twenty-eight million homes needing to transition to low carbon heating by 2050. Currently, approximately 60,000 heat pumps³ are sold annually in the UK, far below the level needed to meet future targets. Whilst the manufacturing part of the supply chain is well developed, achieving the government's ambition of

¹ Rusi (2024) [Clean Heating is Vital for UK Energy Security](https://rusi.org/clean-heating-is-vital-for-uk-energy-security) | Royal United Services Institute (rusi.org)

² Prices according to Eurostat (2023) [Statistics](https://statistics.eurostat.eu) | Eurostat (europea.eu)

³ HPA (2024) [Statistics - Heat Pumps](https://statistics-heatpumps.org)

600,000 heat pump installations per year by 2028 requires a significant increase in the number of qualified installers and some significant policy intervention.

Central to our recommendations are adjustments to the electricity-gas price ratio (reducing the relative price of electricity), the timely implementation of the Future Homes and Buildings Standard, the removal of red tape surrounding grid connections and planning permissions and continued grant support along with enhancing consumer awareness. Consumer awareness coupled with clear timelines for the phase out of fossil fuel boilers will enhance our energy security whilst reducing carbon emissions.

Rebalancing electricity and gas pricing

HPA analysis⁴ shows that heat pump take-up, and thus decarbonising heat in UK homes, is being held back by energy pricing, with the UK having the highest ratio of electricity to gas prices in Europe, otherwise known as the ‘spark gap’, and the lowest heat pump market penetration rate as a result. This is in part due to an imbalance in policy costs on electricity and gas bills, with policy costs making up 26%⁵ of the average household’s electricity bills and just 2.5% of the average household’s gas bills⁶.

Thus, under current pricing, heat pumps can be seen as failing to deliver running cost savings, with the average household potentially seeing an increase in annual bills of around £155 when switching from a gas boiler to a heat pump, under the July 2023 energy price cap figures. Stagnant electricity pricing policy has meant that the running cost of heat pumps is distorted by the way Environmental and Social Obligations (ESO) are largely attributed to electricity bills, with an estimated 85% of these costs borne by electricity consumers⁷.

To continue to develop the investment case behind a heat pump, evidence suggests⁸ that ensuring heat pumps deliver significant running cost savings compared to fossil fuel boilers is the primary driver for heat pump sales.

Alongside a re-balancing of ESO costs, other measures will need to be delivered to reduce the price of electricity relative to gas. These include:

- The development of a heat pump tariff that offers subsidised electricity to consumers who install a heat pump.
- Heat pumps can operate flexibly which can smoothen heating loads, making energy demand more manageable in combination with intermittent renewables. This heating behaviour can be enabled by the deployment of smart meters and encouraged by improving access to flexible time-of-use tariffs, such as Octopus Energy’s “cosy” tariff⁹. By allowing consumers to have access to discounted electricity when there is surplus supply of renewable energy, they are encouraged to shift their heating load away from times of electricity constraints.

⁴ HPA (2024) [HPA-Accelerating-Heat-Pump-Deployment_Domestic-Interim-Heat-Pump-Tariff.pdf](https://heatpumps.org.uk/HPA-Accelerating-Heat-Pump-Deployment_Domestic-Interim-Heat-Pump-Tariff.pdf) (heatpumps.org.uk)

⁵ Ofgem (2021) [All available charts | Ofgem](#)

⁶ Ofgem (2021) [All available charts | Ofgem](#)

⁷ HPA (2024) [HPA-Accelerating-Heat-Pump-Deployment_Domestic-Interim-Heat-Pump-Tariff.pdf](https://heatpumps.org.uk/HPA-Accelerating-Heat-Pump-Deployment_Domestic-Interim-Heat-Pump-Tariff.pdf) (heatpumps.org.uk)

⁸ IEA (2023) [Global heat pump sales continue double-digit growth](#)

⁹ Octopus Energy (2023) [Introducing Cosy Octopus](#)

- Reform to electricity market arrangements such that electricity prices are no longer mostly set by the cost of producing electricity via a gas combined cycle gas turbine (CCGT) as this causes electricity prices to be consistently far higher than gas prices.
- “Smart” heat pump regulations need to be formalised to allow heat pumps to operate flexibly and thereby maximise efficiencies and lower running costs.
- Sufficient volumes of high-quality installers are needed to meet the rising demand for heat pumps and to lower installation costs faced by consumers.

The price of electricity is widely seen as the single most important factor holding back consumer uptake of heat pumps. Contrast this with the uptake of electric vehicles where significant operational cost advantage is clear.

Clarity of policy and certainty

While the government has published various proposals to phase out fossil fuel heating systems in the Heat and Buildings Strategy and consulted on them, they still have not been confirmed in legislation. This includes requirements for heating in new homes (2025), off-gas grid properties (2035, previously 2026), and on-gas grid properties (2035). The growth of heat pump supply chains and deployment numbers rests heavily on the Government setting timelines for fossil fuel heating phase-out, legislating for them, and sticking to them, as well as acting on the various policy enablers outlined in our response. Furthermore, in September 2023, the government announced that 20% of homes may not be suitable for a hydronic heat pump system, without any evidence to support this claim; we await the consultation on this proposed exemption.

Additionally, the more recent proposal to delay the Clean Heat Market Mechanism (CHMM) furthers this landscape of uncertainty, reducing installer, investor, and consumer confidence. It is vital to use the delayed timings to the introduction of the CHMM to tackle some of the policy barriers and obstacles in relation to the acceleration of heat pump deployment.

Capex support

We recognise the Government’s efforts to subsidise heat pump installation costs through the BUS and we are pleased to see uptake of the scheme increasing dramatically since the grant uplift to £7,500 in October 2023. There was a notable 173% increase in BUS voucher applications between September 2023 and October 2023¹⁰. Current statistics for the year 2023-2024 show that the scheme will carry a significant underspend, as of the end of February 2024 with only one month left of the year 2 budget, around £55m remained in the funding pot – this equates to over seven thousand heat pump vouchers that could have been taken up in 2023-24, with more timely recognition of the need for higher levels of support.

Whilst we acknowledge that the 2025-2028 budget confirmation has attempted to alleviate this happening, more can be done to promote the scheme to ensure current funding pots are spent and not simply returned to Treasury. In addition, just over 3% of BUS vouchers issued are for GSHP¹¹, demonstrating that there is a very significant disparity within the scheme. However, it is pleasing to note the changes announced, on 14th March 2024, which will allow Shared Ground Loop Systems to benefit to a greater extent, by increasing the capacity limit to 300kW to aid in making GSHPs more financially viable. Consideration could be given to interest-free “top-up” loans to better support

¹⁰ DESNZ (2024) [Boiler Upgrade Scheme statistics: February 2024 - GOV.UK \(www.gov.uk\)](#)

¹¹ DESNZ (2024) [Boiler Upgrade Scheme statistics: February 2024 - GOV.UK \(www.gov.uk\)](#)

ground- and water-source deployment, like those offered in Scotland under the Home Energy Scotland Grant and Loan.

We are pleased to see the Government announce the new Local Authority Retrofit Scheme¹² in December 2023 to support the cost of other system upgrades such as radiators, however, would urge that the specific policy details be outlined sooner rather than later. Heat is fundamentally a policy-driven market and choice that most consumers make based on necessity, cost, and ease, thus it is vital to make the lowest carbon heat the lowest cost heat.

Changes to Building Regulations and planning

The Future Homes and Building Standard, and its successful implementation from 2025, could act as a key market driver with all new builds requiring a net zero heating system, it's also expected to have an indirect impact on the retrofit market due to the increased installation of heat pump systems and the expanding supply chain. We eagerly await the Government's response to the consultation and are keen to work closely with government on the key technical details.

Independent research commissioned by Government confirmed that heat pumps are generally rated as quiet, with a majority of those surveyed saying they did not notice a sound.¹³ Thus the Government must amend the current permitted development rights based on this latest research to reduce possible barriers to deployment. We await the Government's response to the consultation¹⁴ on these.

Reform to DNO approvals

The process for DNO approval of load checks needs to be streamlined, as this can often take several months for heat pump installations¹⁵. We welcome the efforts of the ENA to streamline the connection notification process and the launch of the new system for applications planned in 2024. However, there is still no plan to track the time it takes DNOs to approve or to conduct network reinforcement works when connecting a heat pump. This delay can be a huge deterrent for consumers, especially in "distress purchase" situations when boilers have failed during the heating season.

Skilled active installers

Labour costs make up a significant share of the total installation cost, and so driving competition in the installer market will help raise historically stagnant productivity levels¹⁶, and lower installation costs. Additionally, consumers commonly use installers as their de-facto source of information on what heating system they should install. Increasing the number of heat pump installers will therefore increase the chance of installers passing on positive information on heat pumps to suitable homeowners and therefore, increase demand for heat pumps.

Current data shows to meet the ambition of 600,000 heat pump installs per year by 2028, there need to be at least 33,700 installers (FTE) who are competent to perform these installations. HPA analysis suggests that a minimum of 50,200 installers (FTE) will be required by 2030.¹⁷ It has been

¹² DESNZ (2023) [Families, business and industry to get energy efficiency support - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/families-business-and-industry-to-get-energy-efficiency-support)

¹³ DESNZ (2023) [Air source heat pump noise emissions, planning guidance and regulations - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/air-source-heat-pump-noise-emissions-planning-guidance-and-regulations)

¹⁴ DESNZ (2024) [Changes to various permitted development rights: consultation - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/changes-to-various-permitted-development-rights)

¹⁵ Catapult Energy Systems (2022) [BEIS Electrification of Heat Demonstration Project, Home Surveys and Install Report](#)

¹⁶ Nesta (2022) [How to reduce the cost of heat pumps](#)

promising to see a 166% growth in individuals qualified to install heat pumps within the UK from just under 3,000 in 2022 to close to 8,000 in 2023. The Heat Training Grant is supporting the re-skilling needed, and we urge this to continue beyond 2025.

Additionally, we welcome the support announced for the Low Carbon Heating Technician Apprenticeship.¹⁸ However, more work is required to both encourage young people to pursue low carbon heating apprenticeships and encourage experienced installers to take on and mentor apprentices.

Whilst we support the Government's £5m Heat Training Grant¹⁹, we are calling for more to be done to incentivise the upskilling of the existing heating engineer workforce, especially by providing clear future market visibility.

We have long held the view that the existing population of heating engineers, mostly Gas Safe registered, will be key in supporting the transition to decarbonising domestic heating. To support the wide-scale deployment of heat pumps in line with the Government's targets, the design of any heat emitter system, and particularly its ability to deliver sufficient heat at low operating temperatures, is essential to a heat pump working efficiently, irrespective of the scale of the heat loss. We particularly welcomed the Government's commitment to mandatory low temperature training for boiler engineers as outlined in its response to the improving boiler standards and efficiency consultation.²⁰

There are currently no requirements within the Accredited Certification Scheme (ACS) for system design and sizing either to be assessed or as a pre-requisite to an engineer's five yearly re-assessment. We believe that the five yearly requirement for re-certification could prove to be a key opportunity to deliver the retraining, upskilling, or refreshment of installer skills on low temperature heating. The compulsory nature of ACS for Gas Safe registered engineers would make it a particularly effective option – indeed retraining or refreshing the skills of over 120,000 Gas Safe registered heating engineers within a 5-year period.

It should be noted that condensing boilers are also low flow temperature devices and that boiler systems should be commissioned with a maximum flow temperature of 55°C, as is now required under Building Regulations for new build and complete central heating system replacement. Extending this requirement to all boiler replacements would accelerate the pace at which UK homes are prepared for all low temperature heating technologies.

In addition, we are awaiting the publication of updated Mandatory Technical Competency (MTC) documents from the Department for Levelling up Housing and Communities, which underpin the competence and qualification requirements of those working under Competent Person Schemes. The publication of the revised MTCs will support the delivery of a reliable, skilled workforce.

Consumer and installer confidence

The growth in the heat pump market is hampered by uncertainty around government policy. This uncertainty affects both consumer confidence and choice and the willingness of installers to invest in the necessary training and certification.

¹⁷ HPA (2020) [Building-the-Installer-Base-for-Net-Zero-Heating_02.06.pdf \(heatpumps.org.uk\)](#)

¹⁸ IfATE (2023) [Low Carbon Heating Technician](#)

¹⁹ DESNZ (2023) [Heat Training Grant](#)

²⁰ DESNZ (2024) [Improving boiler standards and efficiency: government response \(publishing.service.gov.uk\)](#)

Additionally, more needs to be done in relation to consumer awareness and increasing the availability of information in relation to clean heat technologies such as heat pumps. It is vital to ensure consumers are aware of the difference between heat pumps and a standard fossil fuel boiler in relation to operation, maintenance, system change and impact on the environment, so they feel confident in taking the transition away from fossil fuels. For example, whilst the Government often suggest 'Frontdoor' is a useful website for consumers to find information – it is difficult to locate online, and more signposting should be done such as similar websites in Wales (NEST) and Scotland (Home Energy Scotland). We are supportive of the National Audit Office's recommendation for an overarching long-term consumer engagement plan for the decarbonisation of home heating and would be also interested in how the department monitors the progress/success of its current campaigns, such as the 'Welcome Home to energy efficiency campaign.'

Conclusion

The transition to heat pump technology for home heating is a critical pathway towards achieving the UK's decarbonisation goals. By addressing the outlined challenges and implementing the proposed solutions, the UK can accelerate the adoption of heat pumps, ensuring a sustainable and low carbon future for home heating. The commitment of all stakeholders, supported by clear and ambitious government policies, is crucial to this endeavour.

For more information:

- HPA – <https://www.heatpumps.org.uk/>
- HPF – <https://www.hpf.org.uk/>

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