Department for
Business, Energy
& Industrial Strategy

A market-based mechanism for low-carbon heat

Summary of responses received and Government response

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Introduction

Background

Heat in buildings is currently responsible for 23% of the UK's greenhouse gas emissions[1] and almost half of natural gas consumption[2]. Decarbonising energy used in buildings is therefore essential both for reducing our reliance on fossil fuels and combating climate change and is central to both the Government's Net Zero Strategy and the Prime Minister's Ten Point Plan for a Green Industrial Revolution.

It also has an important role to play in transforming the economy, creating futureproof skilled green jobs, and helping industrial sectors with exciting growth potential both at home and abroad to thrive. The UK has a proud history in showing how environmental action can go hand-in-hand with economic success, having grown our economy by more than three-quarters while cutting emissions by over 40% since 1990.

The Government's Heat and Buildings Strategy, published in October 2021, set out the policy action we are taking now and our plans to go further to accelerate action to bear down on the energy used to heat buildings and the greenhouse gas emissions from doing so. As the Strategy sets out, a central part of this transformation will be heat pumps, which use significantly less energy than other heating appliances.

The Prime Minister set an ambition to expand the heat pump market towards 600,000 installations per year by 2028 – a strategically important market scale for any pathway to net zero, and a strong foundation for further growth if needed.

This document sets out the Government's response to a first consultation on proposals for a market-based mechanism for low-carbon heat, published alongside the Heat and Buildings Strategy. The consultation was launched on 19 October 2021 and ran until 12 January 2022.[3] This document does not repeat the content of that document in full and the consultation document and this Government Response should be read together.

The consultation set out the Government's plans to establish a platform for an industry-led transformation of the heating appliance market towards low-carbon products, through the introduction of a market-based mechanism, similar to policy mechanisms that have been effective in supporting the emergence of other key supply chains both in the UK and elsewhere. Working alongside measures such as the Future Homes Standard, for new-build

[1] BEIS (2021), 'Final UK greenhouse gas emissions national statistics: 1990 to 2019' (https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-to-2019) and BEIS (2021) 'Energy Consumption in the UK' (https://www.gov.uk/government/statistics/energy-consumption-in-the-uk).
[2] BEIS (2021), 'Digest of UK Energy Statistics 2021' https://www.gov.uk/government/statistics/digest-of-uk-energy-statistics-dukes-2021
[3] BEIS (2021), 'A market-based mechanism for low-carbon heat' https://www.gov.uk/government/consultations/market-based-mechanism-for-low-carbon-heat

properties, the Boiler Upgrade Scheme[4], and the Chancellor's March 2022 announcement of a five-year zero VAT rating for heat pumps, this mechanism will create a market incentive to grow the number of heat pumps installed in existing buildings each year, providing industry with a clear, long-term policy framework for investment and innovation throughout the supply chain.

Summary of stakeholder responses to the consultation proposals

The consultation was published on GOV.UK and we received a total of 67 individual responses from a wide range of organisations, representative and trade bodies, industry professionals, academics and individual members of the public. While not every individual point raised has been captured in this summary Response publication, all the views that were shared with us have been taken into consideration.

A breakdown of the responses we received according to different stakeholder categories is provided in Table 1.

Table 1 – Consultation responses by type or organisation

Respondent type	*Number of responses*
Fossil fuel heating appliance manufacturer (or related trade associations)	7
Devolved Administration / Local Government	4
Energy supplier	9
Specialist heat pump manufacturer (or related trade associations)	8
Non-governmental organisation	15
Other (organisations / private individuals)	24

This Response document sets out a summary of the responses we received to the 30 consultation questions and outlines the Government's position on each issue. Where there are multiple questions related to one issue, a single government response is provided in relation to all the relevant questions on that theme. Some questions received more responses than others.

[4] BEIS (2020), 'Future support for Low Carbon Heat' https://www.gov.uk/government/consultations/future-support-for-low-carbon-heat

In this document, ‘a few respondents’ means fewer than 30% of those who responded to a question (and/or among the sub-group in discussion); ‘many respondents’ means more than 60%; ‘some’ or ‘several’ generally means in the range between those two.

The overall majority of respondents, and the majority in most stakeholder groups, were broadly supportive of the market-based mechanism proposal, while emphasising that wider policy action is likely to be needed alongside to further support the transition to low-carbon heating and the effective implementation of the mechanism itself. This included suggested measures on consumer protections, energy pricing, upfront subsidy on capital investments, and public engagement. Fossil fuel heating appliance manufacturers (many of which supply a range of heating technologies, including heat pumps) and related trade associations, on the other hand, split more evenly between opposition to the proposals and more neutral positions.

There was a clear preference among respondents who supported the policy overall for the consultation’s lead proposal, an obligation on manufacturers of fossil fuel heating appliances to meet a rising standard for low-carbon appliance sales, over the alternative of placing a heat pump obligation on energy suppliers. Respondents said that this would provide the clearest signal to the market and be most likely to contribute to cost reductions.

Central to the arguments raised in opposition to the proposals was that appliance manufacturers have little influence over consumers’ purchasing decisions and that the proposed scheme could introduce unnecessary complexity to the market.

Limiting administrative and market complexity was a common principle in the responses. Another common theme in respondents’ reasoning on different questions was maximising alignment with the core objective of supporting the hydronic heat pump market to scale at pace.

These two themes featured, for instance, in many respondents’ reasoning behind the majority support for:

- keeping the focus on hydronic heat pumps rather than wider range of low-carbon technologies;
- including rather than excluding from scope ‘domestic-scale’ heat pumps installed in non-domestic properties;
- adopting a target straightforwardly focused on units sold and installed rather than average tested efficiencies of appliances; and
- enabling a system of credit-trading rather than less predictable ‘pooling’ arrangements between parties.

Valuable considerations were raised by respondents on how the proposed scheme might directly or indirectly impact on various groups across society. These included the need for strong safeguards and protections to guard against mis-selling of heat pumps to vulnerable consumers or poor-quality installations leading to expensive or insufficient heating. Several respondents also pointed towards further support that may be needed for low-income households, in particular to make the transition to low-carbon heating.

Summary of the government response to stakeholder feedback

We are grateful for the valuable responses to the consultation from respondents across a diverse range of stakeholder groups. We would like to thank everyone who took the time to respond, often with detailed submissions and supporting evidence.

The Government now plans to take forward the lead option in the consultation, which places an obligation on manufacturers of fossil fuel heating appliances. As a market-wide incentive, this will provide firms with the clarity and confidence to invest in opportunities to expand the low-carbon heating market in the UK by making it easier, more attractive or more affordable for an increasingly diverse range of consumers to make the switch to a heat pump, and so significantly reduce their reliance on fossil fuels for heating.

We will focus the mechanism on hydronic heat pumps, as opposed to other low-carbon heating technologies, since this is the supply chain that must expand at pace in order for the UK to remain on track for decarbonising buildings under all strategic scenarios. Other heating technologies have an important supporting role to play in the journey to net zero, but the market for hydronic heat pumps is where the clarity and stimulus to invest that this mechanism can provide are most needed.

To provide maximum clarity for industry and investors, we will develop the mechanism based upon a rising standard for the number of heat pump sales to end-consumers as a proportion of a firm's fossil fuel boiler sales. This avoids the potentially greater risks, complexity or opacity associated with alternatives such as an average tested efficiency standard for heating products. As a market-based mechanism, this standard will be achievable both through direct activities and through trading in credits between parties.

As proposed in the consultation, we intend to focus the scheme on retrofit installations of hydronic heat pumps under 45kWth, including in smaller non-domestic buildings where such 'domestic-scale' appliances are appropriate.

We will continue to develop the detailed design of the mechanism and plan to consult on it prior to implementation. This will include matters such as:

- the treatment of hybrid and high-temperature heat pumps. For instance, we will explore whether a framework of weightings or other incentives – such as differentiating between hybrid and standalone installations – may be required to maximise the impact of the scheme;
- the initial level at which the obligation should be set; and
- the approach to administration and enforcement of scheme compliance.

We will also continue to have regard for the relative impact of this and wider policies supporting heat and building decarbonisation on different groups in society, including the need to ensure that standards and safeguards offer robust protections for all consumers and vulnerable consumers in particular.

Many respondents highlighted the importance of parallel action on wider enablers for the successful implementation of this scheme. We agree that this mechanism only forms part of what is required to develop and expand a thriving heat pump market in the UK. Other enabling actions that we are taking include:

- Working with industry on training and skills for installers and others in the supply chain. Training is already available for existing heating engineers who wish to install heat pumps and can be completed in one week. We are also supporting businesses who take on apprentices, creating opportunities for new engineers to join the workforce.
- Ensuring installers deliver consistently high-quality installations and consumers benefit from appropriate protections. All heat pump installations are expected to comply with Building Regulations, and in December 2021 the Government published updated practical guidance on delivering this standard. The Government also consulted in 2021 on a range of reforms to the UK's competition and consumer protection regime. Building on these steps, we will continue to examine whether further safeguards are needed, including potentially within regulations for the market-based mechanism, to ensure that consumers can make the switch to a heat pump with confidence.
- Working with Ofgem and Network Operators through the Access and Forward-Looking Charges Review and RIIO-ED2 Price Control Framework (2023-2028) business planning process to ensure that the electricity system is ready to meet the increased demand for electricity from heat pumps at lowest cost for consumers, that new connections are delivered in a timely manner, and that costs for network upgrades are fairly apportioned.
- Providing £60 million through our Heat Pump Ready Innovation Programme to support the development and demonstration of heat pump technologies and tools, and solutions for the optimised deployment of heat pumps. We are also providing £10 million through the Green Home Finance Accelerator Competition to support the development of innovative green finance products and services to enable more homeowners to reduce the carbon footprint of their home and improve its comfort.
- Offering high-quality impartial advice through the Government's Simple Energy Advice service and publishing case studies and tools from the Electrification of Heat Demonstration Project in order to empower consumers with the knowledge to make informed choices about the best approach to decarbonising their homes.

The Government is continuing work to develop and assess options for refining the detail of the policy, building on the positions set out here and informed by the rich responses to the consultation. We look forward to continuing engagement with interested stakeholders throughout policy development, and plan to consult further on detailed proposals for the scheme in due course.

A market-based mechanism for low-carbon heat

Lead proposal: an obligation in the heating appliance market

Question 1

Do you have views on the proposal to apply this mechanism to the heating appliance market, basing the obligation on the sale of fossil fuel boilers and applying it to appliance manufacturers?

Summary of responses

We received 64 responses to this question, 48 of which expressed support for the lead proposal of an obligation on fossil fuel heating appliance manufacturers. This included the majority of energy suppliers, specialist heat pump manufacturers, non-governmental organisations, local government organisations and other respondents. Sixteen respondents, including all fossil fuel heating appliance manufacturer respondents, did not support the lead proposal, either opposing or taking a more neutral position.

Those in support of the proposals expressed general support for accelerating action on heat decarbonisation and argued that the proposed scheme would likely drive heat pump cost reductions and help grow the low-carbon heating market towards the ambition for 600,000 installations per year.

There was a broad consensus that a supportive wider policy and incentive framework for heat pumps would be a critical success factor alongside the introduction of the mechanism. The elements of this broader enabling environment most commonly discussed in responses included demand-side measures such as capital support for fabric and/or heating system upgrades to make homes ‘heat pump ready’ or stamp duty incentives for higher-performing homes, the provision of high-quality consumer advice and information, the development of the green finance market and support for industry on training, skills and standards. Other wider policy suggestions included setting a fixed end date for the phase-out of all fossil fuel heating and addressing the relative costs of gas and electricity.

Among fossil fuel heating appliance (and mixed technology) manufacturers and related trade representative associations who responded to the consultation, some (3) were firmly of the view that this policy should be abandoned and offered a range of arguments to support this. Other respondents in this group (4) expressed recognition for why the Government might pursue a market-based mechanism policy such as this, but emphasised conditions and other policy measures that would be needed alongside it. The primary concern emphasised among all these manufacturers was that they have little control over boiler sales. The majority of these manufacturers felt that current weak consumer demand for heat pumps, due in large part to the disparate upfront cost of a heat pump compared to a gas boiler, was a major issue. It was also

felt that a proposal based on collecting data on installations rather than on sales would be too complex and add a significant burden to the boiler manufacturers. A few of these manufacturers also raised concerns about the potential for fraud.

A minority of respondents other than fossil fuel heating appliance manufacturers or related trade associations (5) opposed the introduction of the policy proposals on a number of grounds. One view was that the focus of policy should be on addressing the barriers to heat pump adoption, such as the high running cost of using heat pumps and what they described as implicit subsidies encouraging the use of fossil fuels. Another was that any mechanism should include all low-carbon heating technologies to avoid a risk of leading to inappropriate technologies being installed or increasing costs.

Question 2

Do you have comments on how the market would be likely to evolve once this obligation was in place? For instance, do you envisage that it would be most likely to lead to growth in certain business models or consumer propositions?

Summary of responses

We received 68 responses to this question. Twenty-six respondents, from across all stakeholder groups, raised the view that proper safeguards would need to be in place to mitigate the possible risk that the market-based mechanism leads to an increase in sales of low-quality heat pumps or substandard or inappropriate installations. They also argued that high-quality installer guidance and training would be an integral success factor for the scheme.

Some respondents expressed confidence that the proposals were likely to spur innovation in technology and business models which will reduce the existing barriers to heat pump adoption. Others suggested that manufacturers were likely to develop new marketing strategies and drive innovation to make installations less complex and burdensome. One respondent highlighted that an increase in collaboration across the market was likely, with manufacturers partnering with finance providers to offer green finance options to consumers.

The majority of fossil fuel heating appliance manufacturers were of the view that the current business model, whereby the appliance installer tends to have the primary influence on the consumer’s choice, is unlikely to change as a result of the market-based mechanism. One respondent suggested that the obligation could result in a poor journey for the installer and end-user, as manufacturers will be rapidly changing their business strategies to reflect the obligation demand.

Question 3

Do you have views on how competitive pressure can be maintained to support cost reductions and efficiencies in the heat pump market over time, as have been seen in other sectors? Are there further steps that you feel would be justified to take within the design of this market-based mechanism to support this?

Summary of responses

We received 48 responses to this question. Eighteen respondents from a range of sectors indicated that they expect the market-based mechanism to result in growth in the heat pump market and, through creating competitive pressure as new manufacturers enter the market, eventually result in cost reductions and increased efficiencies of heat pumps.

Fossil fuel heating appliance manufacturers and related trade associations were of the view that an obligation policy would be unlikely to have any substantial effect on reducing the cost of heat pumps. The most cited reason for this, which was also expressed by several respondents from other stakeholder groups, was that a mature, globally commoditised heat pump market already exists, and that therefore significant cost reduction on component parts is unlikely. Some respondents expressed the view that heat pumps are unlikely to achieve price parity with fossil fuel boilers, due to their comparative size, assembly and installation costs, and the additional burden these proposals could place on the supply chain.

Some of these manufacturers noted that heat pump costs were most likely to be reduced in the 2030s, when smaller heat pumps will be required due to lower heat demand as homes become better insulated. These respondents suggested that the focus be on the reduction of the overall installation and running costs of heat pumps, through incentivising more installer training, providing more support for fabric efficiency upgrades, and taking more action to reduce the price disparity between gas and electricity.

Twelve respondents from a range of stakeholder groups raised concerns that, without appropriate safeguards and standards, the policy could lead to manufacturers promoting low-quality heat pumps if these could be sold more cheaply to meet their obligation. Not only would this be detrimental to consumers, they suggested, but it could also drive smaller manufacturers out of the market. These respondents called for rigorous product standards, such as through the Energy-related Products framework and/or the Microgeneration Certification Scheme to prevent this outcome.

Question 4

Do you have views on how future financial support to the heat pump market, such as financial support for certain heat pump consumers, might work most effectively alongside this market-based mechanism, and how reliance on such support can be reduced over time?

Summary of responses

We received 49 responses to this question. The majority of respondents (37), across all stakeholder groups, expressed support for additional financial support measures alongside the market-based mechanism. The remaining respondents did not provide views on the potential role of future financial support alongside the policy proposals.

The most common view expressed by respondents across all stakeholder groups was the need to address the cost of energy to make heat pumps a more viable and attractive consumer option. Respondents argued that there is little incentive for consumers to replace a gas boiler with a heat pump with the current relative pricing of gas and electricity, which several respondents suggested amounted to an effective subsidy on gas. Several specialist heat pump manufacturers suggested that the cost of electricity could be reduced through heat pump specific or 'time of use' energy tariffs.

There was a broad consensus that the heat pump market would benefit from a comprehensive approach to improving the efficiency of the building stock, through supporting fabric upgrades to homes, creating tax-based incentives to encourage property owners to make energy efficiency improvements, and support for consumer grants and low-interest long-term loans to purchase heat pumps.

The majority of NGOs were of the view that any consumer-centred financial support must be prioritised for low-income households. One respondent suggested that grants to cover the full cost of heat pumps should be provided to low-income households, while another argued that the cost of a heat pump should not exceed the cost of a fossil fuel boiler replacement for these households. Another suggestion made by an NGO was to implement a targeted approach within the market-based mechanism similar to that of the Energy Company Obligation (ECO), which would require a proportion of heat pumps to be fitted in low-income households.

Several respondents across all stakeholder groups referred to the Boiler Upgrade Scheme (BUS) as a potential source of funding to support the market-based mechanism. The majority of specialist heat pump manufacturers highlighted the need for further support once the BUS concluded in 2025 and suggested the BUS and Home Upgrade Grant[5] should be extended. One stakeholder noted that the BUS should not have a funding cut-off 'cliff-edge' date as this could have negative impacts on consumer confidence and the supply chain. Most fossil fuel appliance manufacturers noted that the BUS could create an artificial market cap, whereby once the annual grant has been reached in a given year, it may be challenging to persuade more consumers to invest that same year in the absence of the grant.

[5] Sustainable Warmth: Protecting Vulnerable Households in England, https://www.gov.uk/government/publications/sustainable-warmth-protecting-vulnerable-households-in-england

Government response – Questions 1 - 4

We plan to proceed with the lead option in the consultation – a mechanism focused on the heating appliance market – from 2024.

We believe that this is important to provide certainty for investment and innovation throughout the manufacturing and installer supply chain and provide appliance manufacturers with the stimulus and confidence to pursue plans to expand their low-carbon propositions in the UK. Together with the Heat Pump Investment Accelerator competition, announced in the Government's British Energy Security Strategy in April 2022[6], this will also help kickstart the growth of a key industry for the domestic market which also has strong export potential.

We believe this approach is likely to play an important role in stimulating a competitive market in which consumers benefit from a range of innovations and efficiencies that help to reduce costs and enhance value for money. Like many in industry, we are confident that the upfront costs of installed heat pumps will fall significantly in the coming years as the market reaches scale, not least in relation to installation and other non-hardware components of costs associated with each sale.

While we recognise that most boiler sales come when existing systems are reaching the end of their life and are made on the recommendation of an installer, it is clear from engagement with a wide range of stakeholders that there are likely to be a much wider variety of consumer journeys when it comes to heat pumps. This includes partnerships across the market, for instance between manufacturers and energy suppliers or other potential consumer intermediaries, which are already beginning to emerge. We believe that the introduction of this mechanism should help strengthen the conditions for the further development of and investment in these innovative business models and exciting consumer propositions.

As many consultation respondents noted, developing the heat pump market and accelerating the decarbonisation of buildings requires a wide range of measures to operate alongside a market-based mechanism such as this, including further action to stimulate demand.

Policy measures the Government is taking such as financial support for heat pump installations through the Boiler Upgrade Scheme and Home Upgrades Grant are an important part of this. Clear regulatory frameworks for phasing out higher-emissions heating in favour of low-carbon systems like heat pumps, such as the Future Homes Standard, also have an important role. The Government will continue to consider the case and options for further policy action beyond these measures as the Heat and Buildings Strategy set out. This includes the Government's commitment to rebalance the costs placed on energy bills to incentivise electrification across the economy over the course of this decade and ensure that heat pumps are comparatively cheap to run. As set out in the Energy Security Strategy, we will be publishing proposals on this before the end of 2022, taking account of overall system impacts and limiting the impact on bills, particularly for low-income consumers.

6 https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy

Wider action to enable the expansion of the heat pump market is also important. This includes the work we are doing with industry to develop high-quality training and significantly increase the number of trained heat pump installers, and the work that Ofgem, network operators and others are leading to ensure that the electricity system is ready to meet the increased demand from heat pumps.

We also agree with respondents that it is important that there are strong safeguards and protections in place for all consumers so that they can make the decision to install a heat pump with confidence and know that they will be receiving both a high-quality product and a high-quality installation. This becomes all the more important as we look to accelerate the growth of the heat pump market and increase the diversity of prospective consumers. To this end, the Government recently strengthened the guidance in the Approved Document for Part L of the Building Regulations, and also consulted in 2021 on enhancing consumer rights and strengthening the enforcement of consumer law. We will build on these steps to consider what further safeguards and standards may be needed, including whether any specific assurance measures, e.g. in relation to certification schemes, are needed within regulations for the market-based mechanism as those take shape.

Alternative proposal: an obligation in the energy supply market

Question 5

Do you have views on the alternative 'supplier obligation' proposal? If the Government were to pursue this approach, what design considerations would help to make it work best for the energy retail market and for consumers?

Summary of responses

We received 55 responses to this question, of which five supported this alternative proposal and 23 did not. Twenty-seven either did not express a preference or suggested that a combination of both options be introduced.

The five supportive respondents (some fossil fuel heating appliance manufacturers, related trade associations, and others) generally argued that energy suppliers are best placed to advise consumers, with whom they have an existing direct relationship, on heating appliances. Respondents also observed that energy suppliers could support the roll-out of heat pumps with flexible and targeted tariffs that offer lower electricity pricing to households that install a heat pump.

A number of reasons tended to be given by the majority of respondents who did not support this alternative, including the energy suppliers who responded to the consultation. A principal one was that it would likely result in a transfer of costs to consumers in the form of higher energy bills. A few respondents also suggested that since electricity prices are higher than gas prices, consumer trust might be undermined by the appearance of vested interests in suppliers

promoting electric heat pumps. Some respondents also argued that it would not accelerate innovation to the same extent as a manufacturer obligation. The majority of the energy supplier respondents said that they intended to be significant participants in the future heat pump market and to help deliver compelling heat pump-based propositions for customers.

Some respondents suggested that a combination of both proposals be adopted, such as placing an obligation on energy suppliers to offer a specialist heat pump tariff, in addition to an appliance manufacturer obligation focused on heat pump sales. It was suggested that such a tariff could involve the removal of the additional policy costs currently forming part of the price of electricity.

Government response – Question 5

As outlined above, we believe a tradeable obligation focused on the appliance market will be a more effective means of supporting heat pump market growth than an energy supplier obligation.

We recognise that many major energy retailers are intending, or already beginning, to play a role in promoting and supporting consumers to adopt heat pumps and other low-carbon technologies. We would expect that a market-based mechanism, wherever it is applied in the market, will help to improve the investment case for accelerating such propositions. However, not all energy suppliers will necessarily be planning such activities that go beyond energy supply. In such cases, an obligation directly imposed on energy suppliers would represent a more straightforward cost, which would be likely to be passed through to consumer energy bills.

Taken together with the arguments above in favour of an obligation focused on manufacturers in the heating appliance market, we are therefore not planning to bring forward an energy supplier obligation on low-carbon heat at this time, beyond the existing Energy Company Obligation.

Obligation design and tradability

Central target

Question 24

Do you have views on the most appropriate central target for the policy? What metric do you believe would work best to meet the policy aims and design principles?

Summary of responses

There are different models for how the core target of what is measured in a market-based obligation policy such as this could be designed. We sought views on three options in particular. First, a rising standard for heat pump sales, in which a target would be established for manufacturers of heating appliances, setting a minimum proportion of their overall UK heating appliance sales to end-consumers that must be low-carbon heat pump sales relative to fossil fuel appliance sales. Second, an average efficiency option in which a target would be set for the minimum average energy efficiency of all new heating appliances sold by a company and installed in the UK over a given period. And third, a similar option to the second but focused on the maximum average carbon dioxide emissions intensity of a company's appliances sold.

We received 40 responses to this question. Sixteen respondents – across energy suppliers, specialist heat pump manufacturers, non-governmental organisations, and others – were in favour of the rising standard for heat pump sales. These respondents highlighted the need for simplicity for successful implementation of the obligation, with some suggestions that the average efficiency option might be overly complex and not be so easily lent to the trading of sales certificates. These respondents also emphasised this option's explicit alignment with the objective of growing the heat pump market.

Six respondents – a mix of energy suppliers and specialist heat pump manufacturers – were in favour of the average efficiency option. These respondents argued that it would provide a strong incentive for investment in innovation and efficiency upgrades, in contrast to the sales option which might risk the prioritisation of cheaper or less efficient devices. There were some arguments made against this option, including that it would add unwelcome complexity, that it would not be lent so easily to the trading of sales certificates (see Trading Mechanism below), and that it would *'weaken the impact of the policy on growing the heat pump market'.*

Five respondents were neutral on the options provided. Four fossil fuel heating appliance manufacturers and trade associations, who did not support the policy proposals overall, opposed all the target options presented, expressing the view that the party specifying the product to the consumer (i.e. the installers) should be the more effective focus than the manufacturers. Nine respondents did not address the options in their answer.

Government response – Question 24

We are planning to proceed with the development of a rising standard for heat pump sales.

As noted by the majority of respondents who provided a view on the options, it is the least complex of the options, and simplicity of compliance and administration will be a key factor in the success of the scheme. This option also has a more direct, predictable and explicit link to the ambition for 600,000 heat pump sales per year by 2028 in a way that a more open average efficiency or carbon intensity target does not. This improves the clarity of direction for actors across the market. An efficiency target, by contrast, would introduce a risk that the obligation was met, even while the intended expansion of the heat pump market was not fully realised. This would be particularly likely if an unforeseen step-change in appliance efficiency was seen.

We recognise the point raised by some respondents that there might not be the same direct incentive for investment in product innovation or the promotion of the most energy-efficient devices with the sales standard approach. In that regard, we will continue to explore the right balance of policy incentives to promote product efficiency as we take forward policy design. This will include considering both the role of wider policy, such as energy-related product standards, and the option of introducing relevant incentives within the market-based mechanism itself.

Trading mechanism

Question 25

Do you have views on the most appropriate trading mechanism for the policy? What market arrangements, including but not limited to those here, do you believe would work best to meet the policy aims and design principles?

Summary of responses

One of the key objectives of the market mechanism is that a secondary market enables appliances not sold directly by the obligated party to qualify towards meeting their obligation. This is in part to provide greater flexibility to the obligated parties and keep costs down, and in part to strengthen the incentives for the continued development of a thriving sub-sector of specialist heat pump manufacturers. The consultation sought views on two different options for enabling this. Firstly, pooling arrangements, whereby a company falling within the scope of the obligation would be able to enter an agreement with one or more other firms to combine their sales to form and meet a joint obligation for the pool. Secondly, different credit-trading arrangements, whereby a tradeable certificate or 'credit' would be generated by every qualifying heat pump sale, with obligated parties required to hold a certain number of such credits / certificates proportional to meet their obligation in a given period.

We received 33 responses to this question. Twenty respondents were in favour of the credit-trading option, with only one in favour of the pooling option. Eight of the respondents remained neutral on the options, with some respondents arguing that obligated parties might be unlikely to want to trade credits and would likely prefer to pursue sales of their own heat pumps. Six respondents disagreed with the tradability options.

Those in favour of the credit-trading option argued that it would generate an open, competitive, and flexible market, in which all participants would be allowed to gain value regardless of their size. Respondents also observed that similar models, such as the Renewables Obligation, are already accepted and understood by the renewables industry. Views against the pooling option included that it could prove unwieldy in practice and be less likely to encourage a fair distribution of value between parties.

Several respondents noted the success of a certificate or credit scheme would be conditional on credits being priced appropriately to help the growth of the heat pump market. Respondents also suggested that a standardised installation certificate be introduced to collect the required information. One energy supplier recommended that the Government learn the lessons of the Renewables Obligation and previous market-based schemes whereby underperformance in early years was deemed to be the result of certificate price volatility, which was later resolved through reforms which increased cost certainty. Mandating a set penalty for missing obligations was suggested by several respondents as a means of ensuring a clear incentive.

One respondent also argued that credit-trading should not be seen as an indefinite solution, with high-carbon boilers allowed to continue being sold unabated into the 2030s. They

suggested that a sliding scale could be effective in guarding against this, whereby an increasing share of the obligation must be met through an obligated party's own products.

The six respondents that disagreed with the tradability options also disagreed with the overall proposals in the consultation for a market-based mechanism to support the low-carbon heating market. These respondents argued that credit-trading would distort the market, run counter to the principles of open and fair competition, or artificially inflate companies' value depending upon the makeup of their product portfolio.

The one respondent in favour of the pooling option suggested combining pooling with tradeable certificates so that obligated companies would be able to join with other market specialists to achieve the volume of sales required and make up shortfalls by buying certificates. They argued that this might reduce the incentives for companies to rely upon trading to consistently meet their targets and provide more of an avenue for specialists in the market.

Government response – Question 25

Our intention is now to focus on the development of a credit-trading arrangement. This is in order to ensure that the scheme is as open, competitive and flexible as possible for parties in the market, with low transaction costs.

As noted by several respondents, there are a number of reasons that this is likely to be preferable to the alternative of allowing for the formation of pools between parties but not the trading of credits. It is likely that there would be significant market friction as a result of the limited number of players who could potentially form pools. It is also possible that smaller firms might struggle to benefit as readily from pooling arrangements than from a more open and transparent market in traded credits, where bespoke pooling arrangements do not need to be negotiated.

However, as suggested, we will continue to assess the case for providing for the option of pooling between parties in addition to allowing a credit-trading market, rather than as a standalone feature of the policy.

Data collection and differentiation between installation-types

Installations in non-domestic properties

Question 15

Do you agree with the proposal to distinguish qualifying installations under the obligation by appliance capacity rather than by building use?

Summary of responses

We received 37 responses to this question. Thirty-one respondents agreed with the proposal, three disagreed, and there were three other responses which did not specify a preference.

Most respondents expressed support for including installations in small non-domestic buildings providing that they fall within the 45kW capacity limit. Respondents cited the similarity between domestic and smaller non-domestic buildings in terms of heat demand and the importance of broadening the scope of the policy to encourage as many heat pump installations as possible, as the key reasons for determining qualifying installations based on appliance capacity.

Several respondents expressed the view that the potential administrative complexity of verifying building use meant that the use of the 45kW appliance capacity limit would be a more proportionate means of determining qualifying installations. Some respondents noted that the ambition to develop the market to 600,000 heat pump installations per year by 2028 as set out in the Prime Minister's Ten-Point Plan is not specific to domestic buildings.

Those who disagreed with the proposal focused on the exclusion of any non-domestic buildings and argued that all installations of heat pumps should be encouraged in place of burning fossil fuels, with a wider inclusion being more likely to fulfil the mechanism's primary objectives of driving carbon emission reductions and building the heat pump market.

Another respondent who disagreed argued that larger heat pumps should be in scope for buildings such as commercial premises or large residential properties via heat networks, and that the appliance capacity option would focus the obligation on heat pumps designed for individual buildings.

Question 16

Do you believe there is a need to go further to limit the scope of qualifying installations in non-domestic properties under the obligation, for instance through an upper limit on floor-size of properties?

Summary of responses

We received 35 responses to this question. Two respondents were of the view there was a need to go further to limit qualifying installations in non-domestic buildings, while 30 respondents disagreed there was a need to do so. Three respondents did not specify a view either way.

Most respondents indicated that the proposed 45kWth capacity limit would be sufficient to limit the scope of qualifying installations or that introducing additional qualifying criteria, such as an upper limit on floor-size, would add to the complexity of the scheme. Expanding on this point, several others highlighted the importance in keeping the eligibility criteria as simple as possible to avoid unnecessary complications.

The two respondents who replied that there was a need to go further (a specialist heat pump manufacturer and an NGO), argued in support of a maximum floor-size and for street-level heat zoning to be adopted to encourage the use of heat networks.

Three respondents (from across energy suppliers and NGOs) indicated that they neither support nor object to the notion of further limiting the scope of qualifying installations in non-domestic properties (e.g. based on floor-size).

Government response – Questions 15 & 16

In line with most respondents' views on Question 16, we do not intend to draw a specific distinction between heat pumps installed in domestic and non-domestic properties in order to exclude the latter. This is in part because verifying property use, especially in mixed-use cases, could create additional complexity and a risk of gaming. It is also because there is strategic value in supporting the decarbonisation of this segment of the building stock – smaller, 'dwelling-like' non-domestic properties – where there is significant overlap with the domestic supply chain.

Installations in new-build properties

Question 17

What challenges may be involved in focusing the obligation on retrofit installations only, excluding those in new-build properties, and how might these be addressed?

Summary of responses

We received 46 responses to this question.

Some respondents highlighted the challenges in ensuring that the necessary remedial building work to improve fabric efficiency (e.g. insulation or radiator re-sizing) is completed alongside the installation of heat pumps in retrofit installations.

Some respondents raised the view that making building energy efficiency information (e.g. EPC ratings) available to consumers or using regulation to ensure minimum standards for retrofit installations could be important complementary measures.

A few respondents disagreed with the proposal to exclude new-build properties from the obligation. They raised the view that it might disadvantage companies who predominantly serve the new-build market, while also highlighting that there might be practical difficulties in tracking and recording where heat pumps are installed.

A few respondents also put forward the case that if heat pumps installed in new-build properties are not included in the obligation, then gas boilers installed in new-build properties should also not be included among appliance sales that attract an obligation.

Question 18

Do you agree with the proposal to focus the policy on appliance installations, in order to enable a range of risk mitigation and impact-enhancing measures?

Summary of responses

We received 39 responses to this question. The majority of respondents (29) agreed with the proposal to focus the policy on final appliance installations, rather than on, e.g. wholesale sales 'upstream' in the supply chain, in order to provide for a range of risk mitigation and impact- enhancing measures. Many respondents supportive of this proposal emphasized the importance of the ability to determine that an installation has in fact taken place and to take into account the characteristics of the installation (in terms of building, technology, or location). Some respondents, including among those who supported the approach in principle, highlighted concerns around the additional administrative burden that the proposal could create for installers with no fully comprehensive existing system to record this information at present.

Some respondents who agreed with the proposal contrasted it with a wholesale sales-based approach, noting the latter might risk inadvertently including sales to overseas consumers, new-build properties, or unsold appliances (i.e. appliances sold to wholesalers but not on to consumers).

Eight respondents disagreed with the proposal, including several fossil fuel heating appliance manufacturers. These respondents cited issues such as the practical challenges in tracking installations (e.g. the lack of a current central source for this information), the perceived cost and administrative burden for installers, and the potential for fraudulent certification of installations that would need to be mitigated.

Government response – Questions 17 & 18

Noting the views of respondents, we will continue to explore the options for delivering a scheme based on recorded appliance installations, i.e. final sales to end-consumers. This will include further engagement with industry on the relative role of reporting via Competent Person Schemes, the Microgeneration Certification Scheme, and industry channels such as 'Benchmark', with a view to harmonising and improving installation data capture. We will consult further on the detail of this later this year.

We believe that there are several clear benefits, both for this scheme and more broadly, to improving the quality of data on heating appliance installations, reinforcing existing notification requirements. Not least among these would be to mitigate the risk highlighted by respondents that certain heat pump installations counted within the market-based mechanism scheme could end up not installed in UK properties at all, or 'cycled' and counted multiple times.

Doing so will also enable the distinction and exclusion of heat pumps installed in new-build properties, and the potential differentiation in incentives between, for instance, heat pumps installed in a standalone as opposed to a hybrid configuration.

Proposed scope of technologies

Heat pump appliances in scope

Question 6

Do you have views on the treatment of 'air-to-air' heat pumps in the market-based mechanism?

Summary of responses

We received 31 responses to this question. A large minority (15) of respondents favoured not including air-to-air heat pumps in scope of technologies supported by the market-based mechanism. Twelve respondents supported their inclusion and four held neutral views.

The most common reason given for not including air-to-air heat pumps concerned the fact that they do not deliver hot water in addition to space heat and therefore do not provide for the full decarbonisation of the home in question. In addition, it was suggested by several stakeholders that air-to-air heat pumps already enjoy a mature, competitive market, and that further support for the development of this market is therefore unnecessary.

Stakeholders in favour of including air-to-air heat pumps among technologies supported by the mechanism made reference to the generally lower installation costs for these appliances, argued that they are more suitable than hydronic heat pumps in certain dwellings, and pointed to their ability to provide cool air, which might be increasingly attractive in the future.

Several stakeholders suggested that air-to-air heat pumps could be included as a qualifying appliance under the scheme, but only either in replacement of a fossil fuel boiler (not alongside, as an air conditioning unit) or as part of a 'whole-house retrofit'.

Government response – Question 6

While air-to-air heat pumps will continue to have an important role to play in providing low-carbon, high-efficiency heating, we are not planning to include them in the scope of technologies supported by the market-based mechanism.

The core intent of the market-based mechanism is to support the development and scaling of the supply chain for an under-developed, strategically important technology. However, as respondents have observed, there is a significant established market in air-to-air systems in the UK, whereas the market in hydronic heat pumps needs to expand significantly over the coming years.

Since individual air-to-air heat pumps do not generally provide space heating for a whole building, and do not provide hot water, we did give consideration to the option of including 'whole-house decarbonisation' projects involving multiple air-to-air heat pumps as well as other technologies as a means of qualifying towards the obligation. This would involve treating multi-technology projects of this type as equivalent to the installation of, e.g. an air-to-water

heat pump. However, this would be likely to significantly increase the scheme's complexity, as it would require a means of counting and verifying projects which included the installation of various components, potentially from various manufacturers, and potentially installed over an extended period.

We therefore do not believe that there is a sufficiently strong strategic case for the inclusion of air-to-air heat pumps in the mechanism to warrant this additional complexity and the constraints that it would be likely to place on wider scheme design.

Question 7

Do you have views on the treatment of high-temperature heat pumps in the market-based mechanism?

Summary of responses

We received 38 responses to this question. Of these, a significant majority (31) were in favour of including high-temperature heat pumps in scope of technologies supported by the market-based mechanism. One respondent opposed their inclusion in the policy's scope and the remaining respondents expressed neutral views.

Those in favour of including high-temperature heat pumps in the mechanism commonly referenced the fact that these systems can provide a viable and lower disruption option when retrofitting 'hard-to-treat' properties for which a low-temperature heat pump may be less suitable. It was also suggested that excluding these systems would unfairly penalise consumers living in harder-to-treat properties (such as those with larger properties, smaller radiators or narrower pipework), and risks such properties being fitted with inappropriate systems, in the interest of meeting the obligation.

Several respondents from a range of stakeholder groups noted that modern high-temperature heat pumps are inverter-driven and as such can be controlled to provide higher temperatures only when needed, and generally run at lower temperatures most of the time. It was also noted by several respondents that the exclusion of high-temperature heat pumps could block innovation in this area of technology.

Some respondents who did not take a firm view on the inclusion of these technologies suggested that the performance of high-temperature systems should be considered, potentially through introducing a minimum coefficient of performance requirement as a safeguard. One respondent also suggested that differentiated incentives within the mechanism could be applied to these systems, with low-temperature heat pumps valued more by the obligation than high-temperature heat pumps. This respondent also argued that it would be important to ensure that high-temperature heat pumps are not disincentivised in properties which have no cost-effective alternative.

Several respondents argued that one disadvantage to the inclusion of these systems is that they have a greater demand on local distribution networks, and therefore their inclusion may need to be limited.

The respondent who opposed the inclusion of this technology did so on the basis that the development of high-temperature heat pumps with output temperatures exceeding 70 degrees is increasing, and that these are less efficient than low-temperature heat pumps.

Government response – Question 7

We recognise that high-temperature heat pumps may play an important role in providing low-carbon heating in some circumstances, particularly in certain properties that may be less suitable for low-temperature heat pumps. We also recognise that these systems have seen technological advancement, which has reduced the disparity in efficiency between many higher and lower-temperature heat pumps.

At this stage, we do not believe there is a clear case to exclude higher-temperature heat pumps altogether from the scope of technologies that might qualify towards meeting the obligation. However, we will continue to further consider whether there is a case for limiting their deployment to certain circumstances, introducing minimum performance standards, or providing a lower incentive in the mechanism for their deployment than for low-temperature systems and will consult further in due course.

Question 8

Do you agree with the proposal to apply a 45kWth heat pump capacity limit?

Summary of responses

We received 38 responses to this question. Thirty respondents responded that they agreed with the proposal, while four responded that they disagreed. There were four other responses which did not specify.

The majority of respondents to the question agreed with the consultation proposal to apply a 45kWth heat pump capacity limit. A few respondents commented that a 45kWth capacity limit would align with MCS certification capacity limits or other government support schemes such the Renewable Heat Incentive scheme and the Boiler Upgrade Scheme, and that consistency across the policy landscape would help to keep maintain simplicity and aid implementation. However, some respondents also commented that they would oppose making MCS certification mandatory under the market-based mechanism.

Respondents who disagreed with this proposal, argued that the 45kWth capacity limit is arbitrary and has not necessarily been helpful in its use in MCS or the limit it applies to the RHI. The suggestion was raised that any limit should be more relevant to specifics of the area or the number of people in a dwelling. Another respondent disagreed on the basis that they support the policy including measures for high capacity, high-temperature heat pumps that

could be used in heat networks. One respondent indicated that they would not be opposed to a higher threshold to match current standards for domestic boilers (70kW).

Question 9

a) Do you have views on the proposal for a 70kWth capacity limit for fossil fuel boilers to generate an obligation under the policy?

b) Do you believe that this is an appropriate level to avoid a substantial risk of 'over-sizing' of boilers sold above the policy's limit?

Summary of responses

We received 25 responses to part A of this question. The majority of respondents (17) agreed with the proposal for a 70kWth capacity limit for fossil fuel boilers to generate an obligation under the policy. Eight respondents, across all stakeholder groups, did not support the proposal.

The majority of respondents in favour of this proposal argued that as many fossil fuel boilers as possible should be obligated, in order to maximise the level of renewable heating in the UK and minimise fossil fuel heat. Several respondents suggested that the 70kWth capacity limit would be sufficient to cover most domestic building needs and that therefore it is an appropriate level. However, some respondents argued that this limit was not high enough and could still result in the installation of many fossil fuel boilers that would not generate an obligation. One respondent suggested that, on that basis, the obligation should apply to all fossil fuel boilers and no capacity limit should be set.

Several appliance manufacturers noted that this consultation did not cover the use of cascading boilers. These respondents asked for the Government to confirm whether two 36kWth boilers coupled together in a cascading system be considered one 72kWth boiler or two boilers and therefore in scope of the obligation.

Some respondents who did not agree with this proposal suggested that the limit on fossil fuel boiler capacity should be the same as the heat pump capacity, in the interest of simplicity. Several respondents recommended a limit of 45kWth, which, they argued, would prevent commercial boiler installations from falling under the obligation.

In response to Part B of this question, a significant majority of respondents (15) agreed that the 70kWth capacity limit on fossil fuel boilers would avoid the risk of 'over-sizing'. Two respondents did not agree.

Among the respondents who agreed this proposal would prevent oversizing, several suggested that the 70kWth limit on fossil fuel boilers is likely to cover all domestic and the majority of non-domestic needs, which would make oversizing unprofitable. Similarly, one respondent suggested that oversizing would be unprofitable because of competitive market forces. They

suggested that an appropriately sized heat pump will likely be more cost effective to install and run than an oversized gas/oil boiler.

The respondents who did not agree that this limit would prevent the risk of oversizing argued, as above, that the obligation should apply to all boilers and should not feature an upper limit. One respondent emphasised the need to strike a balance between a mechanism based on 'number of units' that might incentivise multiple small, low-cost, and potentially low-quality units, and a 'kWh-based' mechanism, which could result in the installation of large units heating draughty large buildings.

Government response – Questions 8 & 9

We share the view of the majority of respondents that the heat pump capacity limit of 45kWth, in line with thresholds in existing government schemes, is likely to be the most effective threshold for the market-based mechanism.

Similarly, we agree that that a 70kWth capacity limit on fossil fuel boilers is likely to prove sufficient to cover most domestic building needs and prevent the risk of 'oversizing', and is therefore likely to prove an appropriate upper bound for the scheme. However, we recognise the considerations related to cascading systems and will set out a proposed approach to such cases in the course of future consultation.

Question 10

a) Do you have views on whether the market-based mechanism is an appropriate tool for supporting 'smart' heat pump capability and use, and any limitations of this?

b) Do you have views on whether this should be through differentiated incentives, through the exclusion of 'dumb' heat pumps from qualifying scope, or another approach?

Summary of responses

We received 40 responses to this question, of which a slight plurality (19) was in favour of supporting smart heat pump capability through the market-based mechanism, with the majority of those (12) in favour of excluding 'dumb' (non-smart) heat pumps from the obligation and the remaining 7 supporting the inclusion of an extra incentive for smart appliances. Respondents referenced the electricity network benefits that smart heat pumps would deliver, as well as the potential benefits to consumers in terms of cost reduction and improved comfort.

Sixteen respondents did not view the mechanism as an appropriate tool to support smart heat pump capability. Common concerns included that it would add unnecessary complexity to the scheme and create a delivery risk for achieving the installation volumes required by the mechanism. Some respondents also noted that the smart heating market, as well as the wider demand for domestic flexibility, was not currently mature enough and that smart functionality could be achieved through the use of add-on controls, which could be retrofitted to make

‘dumb’ heat pumps smart. Mandating or incentivising smart through the market-based mechanism could therefore negatively impact on third parties developing smart controls and limit competition and innovation in this area.

A further four respondents provided a neutral response, while one response did not address the question.

Several respondents, from among both those in favour and those opposed to the use of the mechanism to support smart heat pumps, noted the need for a definition or standard for ‘smart’ to be established and agreed across the industry. Some provided suggestions for what the definition could cover, including requirements for: a proportional load control interface; performance monitoring and reporting; optimised load and weather compensation, and the ability to interface with smart tariffs.

Government response – Question 10

We recognise the important role noted by many respondents to this question that smart heat pumps will play in providing the flexibility to the electricity network required to support the transition to net zero, as well as delivering potential benefits to consumers in the form of reduced bills and greater control over their heating.

We also note the view of many respondents that an agreed definition of smart is required.

On that basis, and taking into account the feedback gathered through this consultation, we are exploring the option of defining and mandating a minimum level of smartness across the whole of the heat pump market, rather than incentivising this through the market-based mechanism. This is in order to ensure consistency across the market and avoid adding complexity to the scheme. We intend to consult in due course on proposals in this regard.

Hybrid heat pump systems

Question 11

Do you agree that hybrid heat pump systems should be included in the market-based mechanism?

Summary of responses

We received 49 responses to this question, of which 31 agreed with the inclusion of hybrid heat pump systems within the market-based mechanism in at least some form. These respondents included all fossil fuel appliance manufacturers, a majority of energy suppliers and a small majority among the other respondent groups.

However, over three-quarters of these respondents argued hybrid systems should only qualify under a number of restrictions and limits. Suggestions for such constraints included restrictions based on deployment numbers, on the proportion of space heating met by the heat pump

element, on the property type or on a requirement for smart controls. Off-gas grid and hard-to-treat properties were suggested as most suitable property types for hybrid heat pumps. There was a consensus that for inclusion in the market mechanism, hybrids should be sized such that a major portion of the space heating (60-100%) is catered for by the low-carbon heat pump element. One respondent suggested that it should be ensured that the heat pump could also meet 95% of hot water demand. The requirement for a clear definition for hybrid heat pumps was raised by a number of respondents and inclusion of other low-carbon heating solutions within this definition was also requested.

Several respondents also noted the importance of smart controls and consumer education to ensure carbon and cost savings. Metering and reporting were also suggested as methods to prevent the misuse of hybrid systems.

Eighteen respondents did not agree with the inclusion of hybrids and raised concerns regarding the future net-zero compatibility of hybrid systems, especially in the case of those connected to the gas network. They argued that using hybrids as an additional interim technology could increase transition costs while yielding very limited savings on carbon emissions.

Question 12

Do you agree that the mechanism should differentiate between different types of hybrid system/product to focus incentives on those which are most consistent with the policy's objectives?

Summary of responses

We received 32 responses to this question. Nineteen agreed that the market-based mechanism should differentiate between hybrid systems and focus on those that are most consistent with the policy objectives. For the majority of respondents, this meant incentivising hybrid heating systems that had been designed to have the heat pump meet most of the space heating demand, with smart controls to optimise for cost or carbon.

Some respondents suggested only incentivising hybrid heating systems that consist of renewable heating technologies or fuels, thereby excluding hybrids that include a fossil fuel heating system. Two respondents suggested excluding 'compact hybrids' given their lack of alignment with the policy objectives and to avoid locking consumers into a fossil fuel-based system. On the question of hybrids versus standalone heat pumps, some respondents suggested that hybrids should have a lower incentive (potentially counting them as '0.5 heat pumps') compared to standalone heat pumps.

Thirteen respondents disagreed with the differentiation between types of hybrid heating systems in the market-based mechanism. Around a quarter of these were respondents who did not agree with the inclusion of hybrids in the market-based mechanism at all. The rest of the

respondents disagreed with the differentiation between system types largely on the argument that it added an extra complexity to the scheme, which should be avoided.

Two respondents suggested that instead of creating differentiations based on annual sales, the policy should set a carbon emissions standard to encourage investment and innovation. Under this approach, manufacturers would meet an annual emissions target across their heating portfolio, allowing them to choose how they meet the requirement.

Question 13

Do you have suggestions on ways in which the Government, the heating industry or others could manage the challenges and gain the assurances outlined, in order to include hybrid systems in a market-based mechanism without impacting on the policy's primary objectives to grow the heat pump supply chain and significantly reduce greenhouse gas emissions?

Summary of responses

We received 31 responses to this question. Most respondents were supportive of the inclusion of hybrid heating systems in the market-based mechanism and suggested that they would not impact the policy's primary objectives if appropriate safeguards were put in place to ensure sufficient emissions savings were achieved from hybrid installations, that hybrid heat pump deployment does not lead to lower levels of energy efficiency upgrades, and that tailored consumer protections are in place if necessary.

The majority of respondents thought that the best way to overcome some of the challenges and safeguard the policy would be to ensure a standardised installation of hybrid systems and smart controls, as well as proper sizing of the heat pump element to meet most of the home's space heating demand. A number of respondents suggested that the heat pump element should be sized to meet 100% of the space heating demand.

Some respondents suggested that the Government could take on board lessons from the Domestic Renewable Heat Incentive and install meters alongside hybrid heating systems to capture actual energy usage. In addition, some respondents suggested that the consumer and installer education on hybrids was required, to ensure that they are installed only where appropriate.

As with Question 11, seven respondents argued that the Government should not include hybrids in the market-based mechanism, even with safeguards in place. Their reasoning included the argument that the scheme should be focused on supporting net zero-compatible technologies. Some among this group argued deployment of hybrids would increase initial capital costs and significantly increase complexity and lifetime maintenance costs for consumers. One respondent argued that due to the complexity of limiting hybrids and/or the possibility of unreliable data from monitoring the heat output of hybrid systems, it would be simpler to exclude hybrids from the market-based mechanism.

Government response – Questions 11 - 13

We share the view of majority of respondents that hybrid heating systems should be included in the market-based mechanism to some extent as they support the policy's objectives of growing the heat pump supply chain and reducing emissions in the short term. We also agree that relevant assurances are needed to ensure that consumers can be confident that their installations will be genuinely high-performing and low-carbon.

We recognise respondents' reservations on the differentiation of hybrid types and will further consult on how the mechanism can be designed, to appropriately support these lower-carbon technologies, while avoiding overcomplication.

Through the forthcoming gas boiler consultation, we will consult further on how best to differentiate between hybrid systems and gain assurances on the emissions savings delivered by their use, prior to confirming their inclusion in the market-based mechanism.

Alternative low-carbon heating appliances

Question 14

Do you have views on our proposed approach for alternative low-carbon heating appliances under the market-based mechanism?

Summary of responses

We received 44 responses to this question. Nineteen respondents agreed with our consultation proposal to focus the scheme on developing the heat pump market. Twenty-one respondents agreed that the primary focus of the market-based mechanism on heat pumps, but that consideration could also, at the outset or in future, be given to including certain alternative technologies, such as solar thermal heating, in scope too. Four respondents stated that all technologies should be supported by government policy.

Respondents who agreed with the proposal to keep the focus of the mechanism on heat pumps generally made the point that heat pumps are the most appropriate choice in order to achieve the highest carbon savings, and that resources should be focused on the solutions that will have the most impact towards meeting net zero targets.

Other respondents expressed the view that, while they support the primary focus on heat pumps, they would like to see the Government include other low-carbon technologies that can have a role to play in decarbonising as many homes as quickly as possible. Some also suggested that the mechanism be flexible enough to incentivise research and development for other types of low-carbon heating technologies, such as solar thermal which can be used in

conjunction with a heat pump. Two respondents proposed that the policy should be heat pump-only but with the option of solar thermal being used in a hybrid configuration.

The majority of respondents were agreed that no technology that involves combustion should be supported by any future government intervention. However, some respondents suggested that biomass and biofuels should be used for hard-to-treat properties, as a means of prioritising the right technology for the right solution via a technology-agnostic approach.

Four respondents who disagreed with the proposed policy approach overall shared the view that multiple decarbonisation pathways should be supported including hydrogen-ready appliances and appliances capable of utilising biofuels, such as bioLPG and renewable propane molecules.

Government response – Question 14

We share the view of respondents that (hydronic) heat pumps should be the focus of this market-based mechanism, as opposed to other low-carbon heating technologies. It is this critically important supply chain that needs to expand at pace during the coming years in order for the UK to remain on track for the decarbonisation of buildings under all strategic scenarios. Other heating technologies have an important supporting role to play in the journey to net zero, but it is in the market for hydronic heat pumps where the clarity and stimulus to accelerate investment are most needed. Should market or technological developments warrant it, we will retain the option to bring technologies other than heat pumps into the scope of the scheme in future years.

Potential for differentiated incentives

Question 19

Do you support the proposal to incentivise the installation of low-carbon heating systems that replace fossil fuel heating systems more strongly than those that do not?

Summary of responses

We received 39 responses to this question. A slight majority (22) of respondents agreed that the mechanism should incentivise the installation of low-carbon heating systems that replace fossil fuel heating systems more strongly than those that do not. Seventeen respondents did not agree with this proposal.

Some respondents argued that if this policy is focused on developing the heat pump market and also on carbon emissions reductions then incentivising action in homes with the highest-carbon heating systems should be prioritised. Respondents noted that installing an electric heat pump into a home that runs off an electric storage heater is very different in carbon

reduction terms than replacing a gas boiler with a low-carbon alternative, and a relative weighting should therefore be attached to the targets.

One respondent suggested that a cap be placed on the number of homes that are able to be upgraded with heat pumps if they are already currently on other forms of lower-carbon heating. Relatedly, several respondents raised concerns that if the replacement of fossil fuel systems were not incentivised more strongly, obligated parties may concentrate on installations in homes with a relatively low heat demand or emissions saving potential.

Respondents who did not support the proposal to incentivise the replacement of fossil fuel systems more strongly tended to point to the increased complexity that this might add to scheme administration and additional burden that this could place on manufacturers and installers. In this regard, one respondent suggested that incentives should be based solely on the 'equipment that goes in' rather than ‘equipment that comes out'.

Several respondents also called on the Government to consider the relationship between the market mechanism and fuel poverty objectives. They suggested that this proposal could lead to the market de-prioritising homes with direct electric heating systems that are inefficient and expensive to run. These respondents argued that if replacement of some heating systems will be incentivised more strongly than others, it must be based on clear understanding of how this will impact poorer households, with measures taken to ensure they are not disproportionately disadvantaged.

One respondent suggested that the mechanism should instead primarily follow consumer demand and therefore be shaped by those consumers wanting to take up heat pumps. Those most able to change their heating system will support market growth, delivering cost reductions and economies of scale.

Question 20

Do you support the proposal to incentivise the installation of low-carbon heating systems that replace more carbon-intense fossil fuel systems more strongly than others?

Summary of responses

We received 34 responses to this question. The majority of respondents (22) supported the proposal to incentivise the installation of low-carbon heating systems that replace more carbon-intense fossil fuel systems more strongly than others.

Those respondents in favour argued that this approach would align with the emissions reduction objectives of the mechanism and would encourage market development in these areas. Some suggested that this could potentially be incentivised either through uplifts for or minimum quotas on higher carbon-intensity replacements. As with Question 19, several respondents in favour of differentiating incentives for higher-carbon replacements caveated

this with the importance of considering the impact this proposal could have on consumers with direct electric heating systems that have high running costs, arguing that these homes should not be de-prioritised.

Several respondents referred to the specific treatment of off-gas grid homes in response to this question. One respondent suggested that a high proportion of these properties fall into the 'harder to heat' low EPC category and are more often occupied by elderly and retired consumers for whom a heat pump purchase could be difficult. It was also argued that more expensive but valuable technologies, such as ground source heat pumps, should be incentivised in the scheme, as they could play a valuable role in the off-grid market.

However, a few respondents suggested that the proposals in a parallel consultation for phasing out the installation of high-carbon heating off the gas grid, if adopted, could negate the need for the market-based mechanism to place additional value on off-gas grid boiler displacement.

Relatedly, several respondents argued that high-carbon system replacement should be prioritised through Building Regulations rather than through the market-based mechanism, given the implications this could have on the administrative complexity of the scheme.

The most common reason provided among respondents who did not support the proposal concerned the fact that this could complicate the scheme, add administrative burden on actors within the market and could be difficult to trace and prove.

Some respondents suggested that it might be impossible to prove what had been replaced in some circumstances; for example, in a full-scale renovation, the existing appliance has often already been removed well before the new heating appliance is installed.

One respondent also raised concerns that complex legislation and a high level of incentive differentiation could favour large, obligated manufacturers who may have specialists focused on understanding the policy and investing in resources to optimise compliance with the regulation.

Question 21

Do you support the proposal to incentivise the installation of standalone heat pump systems more significantly than hybrid heat pump systems?

Summary of responses

We received 36 responses to this question. A large majority (25) supported the proposal to incentivise the installation of standalone heat pump systems more significantly than hybrid heat pump systems. A minority of respondents (11), predominantly fossil fuel appliance manufacturers, did not support this proposal.

The majority of respondents in favour of the proposal argued that it is preferable to move away from fossil fuel appliances altogether. Some respondents suggested that including hybrid

systems at an 'equal' value to standalone heat pumps could drive market behaviour and encourage consumers to adopt this option, instead of achieving what they saw as the policy's aim to create new consumer demand for standalone heat pumps.

Several of the respondents in favour of this proposal had a preference for hybrid systems to be excluded from qualifying towards the obligation altogether. This is discussed in the responses to Questions 11-13 above.

One respondent suggested a down-weighting of hybrids under the obligation could be based on the 80:20 split in space heat output between the heat pump element and boiler element envisaged in the Committee on Climate Change's modelling of heat decarbonisation pathways.

The majority of respondents who did not agree that standalone heat pumps should be more significantly incentivised than hybrid systems pointed to potential scheme complexity as a primary concern. They argued that the scheme administration and complexity should be kept to a minimum and raised concerns about how much confidence there could be that accurate data on installation type would be recorded and reported accurately.

Several fossil fuel heat manufacturers also made the point that they have little control over what happens at the point of installation and that it would therefore not be fair for them to receive a lower reward for that heat pump installation.

Some respondents who opposed significant differentiation between hybrid and standalone systems suggested that hybrids could provide an alternative option for certain consumers or buildings that do not suit standalone heat pumps, and that therefore the hybrid market should also be supported to develop.

Question 22

Do you support the proposal to attach a higher obligation to the sale of the most carbon-intense heating appliances, such as oil boilers?

Summary of responses

We received 34 responses to this question. A large majority (27) agreed with the proposal to attach a higher obligation to the sale of the most carbon-intense heating appliances. Seven respondents, the majority of whom were boiler manufacturers, did not agree with the proposal.

The majority of respondents in favour of this proposal argued that a higher obligation in proportion to the higher carbon emissions from oil boilers compared to gas, could support the decarbonisation of off-gas grid heating. One respondent suggested that this proposal would help to ensure that there are sufficient heat pumps being promoted for off-gas grid dwellings and drive further scale and cost reductions for this segment of households.

Several respondents in support of this proposal argued that this proposal may only be necessary at the start of the scheme, if the proposals in the parallel consultation for phasing out the installation of high-carbon heating off the gas grid are adopted as proposed in 2026.

One respondent suggested that the Government needs to consider a potential risk that placing too much emphasis on the decarbonisation of properties off the gas grid in both this mechanism and other policies, could unintentionally lead to a lack of focus on on-gas grid properties, which also need to be decarbonised at pace. Some respondents also cautioned against over-complicating the administration of the policy by introducing too many differentiations. Whilst these respondents agreed with this proposal, they suggested that weightings just apply to two categories based on the fuel source: either grid gas as the standard or more carbon-intensive fossil fuels with a higher obligation.

The majority of respondents who did not support this proposal reasoned that it would be challenging to know how to calculate the carbon-intensity of the appliance being replaced. They suggested this would add to the administrative burden for installers and manufacturers.

Question 23

Do you have suggestions for other outcomes for which differentiated incentives within the obligation might be appropriate?

Summary of responses

We received 29 responses to this question.

A few respondents suggested that additional incentives are awarded to installations that include heat pumps with heat batteries, making the point that this could allow for greater use of the heat pump at times of low demand and carbon intensity on the electrical grid.

The majority of fossil fuel and mixed-technology appliance manufacturers, and to one other respondent, argued that the market-based mechanism should remain technologically agnostic, which, they argued, would allow market forces to dictate the most appropriate technology for individual properties. These respondents suggested that the current proposals which are primarily focused on heat pumps may risk installations which prioritise ‘quantity over quality’. Several of these respondents also recommended manufacturers that have the ability to earn ‘credits’ for additional actions to address the development of the heat pump market, such as installer training, raising consumer awareness, and providing consumer and product specification support.

A number of respondents across different stakeholder groups suggested that the Government ought to make stronger links between heat pump installations and fabric efficiency measures. This was on the reasoning that installing heat pumps into inefficient properties could disadvantage occupants due to higher running costs. It was suggested, for example, that the policy prevent the installation of heat pumps in inefficient buildings of EPC Band D and below.

Several third-sector respondents highlighted the importance of considering fuel poverty and low-income households when designing the obligation's incentives. One respondent noted that a relatively high proportion of consumers residing in electrically-heated properties are in fuel poverty and that heat pumps could offer these consumers a cheaper-to-run system. Another respondent suggested that additional uplifts or minimum quotas could be added for heat pump sales to low-income households to ensure an adequate share of heat pumps are installed in these properties.

Several respondents argued that additional incentives should be awarded to higher carbon-saving installations to mitigate the potential risk that the mechanism will operate to excessively favour smaller, lower-cost installations which represent the least-cost route to meeting the obligation. Some respondents also proposed that there are additional incentives for heat pumps manufactured in the UK, to support the growth and development of a UK heat pump manufacturing industry.

Government response – Questions 19 - 23

We recognise the range of considerations raised in responses to these questions, including the balance that may need to be struck between maximising or shaping the impacts of the scheme and keeping additional complexity to a minimum.

In particular, we recognise that it would add a layer of reporting and verification complexity for the scheme to take account of what, if any, appliance was replaced, rather than solely focusing on considerations related to the new installation.

We also recognise the trade-offs highlighted between encouraging all consumers to be supported to consider adopting low-carbon heating and incentivising the market to put extra emphasis on areas and groups where the reduction of greenhouse gas emissions and fossil fuel consumption will be greatest.

With these considerations in mind, we will continue to assess the case and options for differentiation in the incentives under the obligation for one or more different types of heating systems and/or installations and will consult further on this later in the year.

While we do not envisage attaching specific conditions relating to building fabric efficiency to the rules of the market mechanism, we will continue to take steps to ensure that building-owners are informed of the energy efficiency and running-cost benefits, for all heating systems including heat pumps, of having a well-insulated property.

Scheme administration, penalties and enforcement

Administrator

Question 26

Do you have views on options for, or considerations related to, the delivery and administration of the proposals set out in this consultation and/or to the role of an administrator?

Summary of responses

We received 37 responses to this question, which asked for views on our intention to appoint an administrator to oversee the administration and compliance with the obligation. Twenty respondents from across all stakeholder groups expressed the view that Ofgem would be an appropriate body to administer and deliver the market-based mechanism.

Respondents favouring Ofgem's appointment as administrator noted the organisation's experience delivering similar schemes such as the Energy Company Obligation (ECO), the Renewables Obligation (RO) and the Renewable Heat Incentive (RHI) and suggested that it already has the resources from these schemes to support the delivery and administration of the market-based mechanism. Eleven respondents further emphasised Ofgem's experience in compliance and dispute resolution.

Several respondents emphasised that the scheme administrator should be resourced and funded appropriately while ensuring that the complexity of the administration is kept to a minimum. Five respondents suggested that there should be strong coordination between BEIS and the administrator, particularly to ensure that data on the scheme is regularly reported back to BEIS. Five respondents, including four fossil fuel appliance manufacturers, argued that any scheme administrator should be funded by the Government and not through an additional levy on manufacturers.

Two specialist heat pump manufacturers who expressed support for the appointment of Ofgem suggested that a competitive tendering process should nevertheless be conducted to ensure value for money and that lessons are learned from the administration of previous schemes within BEIS.

A few stakeholders suggested that the remit of any scheme administrator should be considered. They noted that Ofgem's remit, for example, is limited to the regulation of energy and energy providers and does not currently extend to the regulation of manufacturing or manufacturers. They suggested that other government bodies, such as the Office for Product Safety and Standards, should also be considered for a role.

Government response – Question 26

We will continue to assess all potential options for administration of the market-based mechanism and for the potential appointment of a scheme administrator or delivery partner. We will also have regard to the considerations raised by respondents related to funding and data-sharing arrangements should an administrator be appointed.

Penalties

Question 27

Do you have suggestions on how monetary and non-monetary penalties may be designed and administered in order to ensure compliance with the obligation?

Summary of responses

We received 34 responses to this question. The majority of respondents expressed support for the adoption of penalties for non-compliance within the scheme. Three respondents, two fossil fuel appliance manufacturers and a trade association, disagreed with the principle of penalties.

The majority of respondents supportive of penalties agreed with the consultation proposal that they should be designed to deter non-compliance, with many emphasising that to be effective they must be sufficiently high, so as to avoid the risk that obligated parties simply choose to accept the payment as a new 'cost of doing business'. However, some respondents raised the view that if penalties are too punitive, it may risk heat pumps being dumped on the market, because it would be cheaper than meeting the fine.

Some respondents stated that they would support a penalty of £5,000, reflecting the grant level for air source heat pumps under the Government's Boiler Upgrade Scheme. Another respondent suggested that it should be the effective cost of a heat pump installation.

Other respondents expressed support for the 'buy out' model used in the Renewables Obligation Certificate (ROC) scheme, whereby there is a set payment price that obligated parties can choose to pay in lieu of purchasing certificates to cover a shortfall against a target. One respondent suggested that, as a minimum, the administrator could 'name and shame' companies that fail to fulfil their obligations and recommended that up-to-date information about the delivery of the scheme be published, as Ofgem does for the Energy Company Obligation.

Those fossil fuel and mixed technology appliance manufacturers who did not object in principle to the concept of penalties, expressed the view that penalties should be stepped up over time as the scheme matures. They also argued that any system should take account of parties' good-faith efforts to expand the heat pump market or develop key aspects of the supply chain. The respondents who disagreed with the principle of penalties argued that it would be unfair to penalise manufacturers who may have attempted in good faith to sell the requisite heat pumps.

There were a range of views on how any revenues received from such payments or penalties should be used. These included the suggestion of channelling funds into supporting heat pump installer training, or into financial support for heat pump purchases akin to the Boiler Upgrade Scheme. Other respondents suggested an approach similar to the Renewables Obligation, whereby funds from 'buyout' payments would be recycled back either to parties who had met their obligation for the period or who had generated surplus certificates.

Government response – Question 27

We share the view of the majority of respondents that payments or penalties for shortfalls against targets under the mechanism or other forms of non-compliance with the obligation will need to be sufficiently substantial to ensure that the policy will be effective and support a transformation in the market.

As we develop this policy further ahead of further consultation, we will bear in mind the suggestions relating to models used in other similar schemes such as the Renewables Obligation. We will also continue to explore the options for how any revenues from payments or penalties would be used, while mindful that there could be challenges with any spending programmes' reliance on unpredictable revenue streams, especially when our intention is not that any such payments should necessarily be required.

Imported products

Question 28

Do you agree with the proposal to apply the obligation to the manufacturers of all fossil fuel boilers sold on the UK market, including non-UK companies?

Summary of responses

We received 36 responses to this question. Thirty-four agreed that the obligation should be placed on overseas manufacturers in addition to those based in the UK. Two respondents disagreed with the proposal.

Those agreeing with the proposal argued that it is important that UK-based manufacturers are not disadvantaged by the scheme and a level playing field is maintained. These respondents suggested that placing the obligation on all manufacturers would serve as an important safeguard to prevent UK manufacturing from being undercut by an influx of lower-cost and/or lower-quality imported products, while encouraging growth in UK jobs and UK manufacturing. Some respondents also highlighted that not to do so also would risk creating a loophole for obligated parties. A few respondents also requested that the Government make appropriate investment in market surveillance to ensure that all parties meet the obligation.

One respondent suggested that instead of placing the obligation on non-UK manufacturers selling products in the UK, a border tax could be introduced on imported fossil fuel boilers.

The two respondents who opposed the proposal and did not support the proposed market-based mechanism overall, suggested that placing an obligation on overseas manufacturers could add barriers to trade and access to the UK market. It was also suggested that this proposal may add considerable overhead costs for the administration and enforcement of the scheme.

Question 29

Do you have views on how either the proposed or the alternative approach to ensuring the obligation applies fairly across both UK-manufactured and imported products could be delivered most effectively, while keeping administrative complexity proportionate?

Summary of responses

We received 17 responses to this question. Suggestions were provided on how the obligation might be applied fairly across UK manufactured and important products. No respondents indicated a preference for the alternative approach set out in the consultation – namely to apply the obligation to UK appliance manufacturers and to importers of appliances, as opposed to overseas appliance manufacturers.

One respondent noted that the lead proposal, to obligate all manufacturers, would still have a larger impact on UK manufacturers or European manufacturers where their UK business forms the most significant proportion of their overall sales than on manufacturers where only a small proportion of their overall sales are in the UK.

Several respondents noted that to ensure the obligation is applied fairly to all in-scope appliances sold on the UK market, an appropriate management scheme would be needed to capture installation information and cross-reference this with sales data.

One respondent highlighted that most heating appliances involve some assembly based on imported parts. In the interest of fairness, they advised against making a country-of-origin distinction, as many appliances would be classed as ‘imported’.

An alternative idea was proposed by two NGO respondents. They suggested either applying higher rates of import tax to appliances of non-UK companies, or applying an additional border tax on imported products, set at the monetary value of non-compliance.

Government response – Questions 28 & 29

We share the view of the majority of respondents, that imported boilers should be included in the scheme, to ensure UK products and manufacturing are not disadvantaged. We will continue to explore options for an appropriate approach which protects UK manufacturing by maintaining a level playing field among all actors and which encourages all companies to invest in and develop low-carbon technology.

Equality Act 2010

Question 30

Do you have views on whether, and to what extent, the policy proposals might disproportionately impact upon certain types of consumer, with a particular focus on those in groups with protected characteristics?

Summary of responses

There were 38 responses to this question. While responses did not identify specific likely impacts of the policy proposals on groups with protected characteristics, there were a number of themes among responses to this question.

One common theme among responses related to risks from the potential for mis-selling of heat pumps and/or of poor-quality installations. Respondents observed that without appropriate safeguards, there was a chance that a policy of the type proposed could lead to obligated firms – or other intermediary firms – pursuing heat pump sales aggressively. This might include not having due regard to whether a heat pump was appropriate for the property or consumer in question, to whether the consumer fully understood what they were agreeing to, or to the quality of the product and/or its installation. Several respondents observed that the risk of mis-selling could be particularly acute for vulnerable groups, including the elderly.

Others made the point that poorly installed heat pump systems can have higher running costs which would be most acute for households on lower incomes or in fuel poverty, and that poor installations can also lead to poorer thermal comfort which could particularly impact those with long-term health conditions.

While some respondents said that this was among the reasons that they felt the policy should not be pursued, others argued that this risk redoubled the importance that strong consumer protections, installation standards, and product standards are put in place to mitigate risks of this nature before the mechanism comes into force.

Another theme among responses to this question related to the relative benefits of the policy for lower-income and/or poorer households. Several respondents suggested that the majority of heat pump sales are likely to be primarily relatively to wealthier households and building-owners, with lower-income households less likely to be able to afford to switch to a heat pump. Respondents' reasoning on this point included both the current upfront costs of a heat pump installation and their relative running costs under current electricity and gas pricing.

A few respondents also observed that if the policy impacts on the price of boilers, this could disproportionately impact lower-income households in circumstances where the householder is responsible for heating appliance purchases. On the other hand, two respondents made the point that if policies such as this do not expand the heat pump market and help to bring costs down then the costs of heat decarbonisation will remain prohibitive for more groups for longer.

A number of respondents argued that greater direct support for low-income and vulnerable households to make the switch to low-carbon heating would be important, in part to mitigate the potential impacts highlighted above. Most suggestions in this regard involved calls for direct financial support for low-income groups beyond existing schemes. A smaller number of respondents suggested that the market-based mechanism itself should have targets for heat pump installations in lower-income households.

A few respondents highlighted rural households as another group where the relative costs and benefits of the policy could differ from other groups. This included the observation that those in rural locations more often than those in urban and suburban areas do not have the electricity network capacity to install a heat pump at present. One respondent observed that if the mechanism involved stronger incentives for off-gas grid heat pump installations, this could help focus the benefits on this group and help prepare for the phasing out of higher-carbon off-grid heating appliance installations.

Government response – Question 30

In line with the responses, our current assessment is that it is unlikely that the policy will have disproportionate direct negative impacts on population groups with protected characteristics under the Equality Act 2010.

However, we recognise the risks highlighted among responses to this question. In particular, we share respondents' view that it is important that strong consumer protection safeguards and standards are in place to reduce the risk that poor-quality or inappropriate installations lead to poor outcomes such as higher running costs or lower thermal comfort.

We will therefore continue to examine what further steps may be needed to ensure that all consumers can be confident of receiving high-quality installations of high-quality products and that they will have robust and appropriate means of redress if things go wrong. This will build on the recent strengthening of guidance in the Approved Document for Part L of the Building Regulations, and the Government's 2021 consultation on enhancing consumer rights and strengthening the enforcement of consumer law. We will also consider whether any specific consumer protection safeguards are needed within regulations for the market-based mechanism, beyond those afforded by Building Regulations, Energy-related Product Standards, Competent Persons Schemes, and the wider consumer protections framework.

We also recognise that the costs of switching to low-carbon heating may remain a barrier for some lower-income households. The principal benefits of the policy are society-wide: carbon emissions reductions, as well as an expanded supply chain which can support cost reductions and the wider transition to low-carbon heating in the long run. However, we will continue to assess what further support may be needed to support low-income households in that transition, building on the targeted action in existing schemes such as the Home Upgrades Grant, Social Housing Decarbonisation Fund, and Energy Company Obligation.

We will continue to assess the potential impacts on equalities of the proposals during further policy development.

Next steps

The Government is continuing work to develop and assess options for refining the detail of the policy, building on the positions set out here and informed by the rich responses to the consultation.

This will include developing proposals for further consultation in due course on targets and incentives withing the scheme and on its administration and enforcement.

We look forward to continuing engagement with interested stakeholders throughout policy development.

Annex 1: List of respondents

1. Agility Eco Services Limited
2. Alpha Heating Innovation
3. Association for Decentralised Energy
4. The Association for Renewable Energy and Clean Technology (REA)
5. Bath and North East Somerset Council
6. Baxi
7. BEAMA Ltd
8. The Behavioural Insights Team and Nesta (joint response)
9. Bosch Thermotechnology Ltd.
10. Builders Merchants Federation (BMF)
11. Building Engineering Services Association (BESA)
12. Building Research Establishment (BRE)
13. BUUK Infrastructure
14. Cadent
15. Calor Gas
16. Centre for Ageing Better
17. Centrica
18. Citizens Advice
19. CPL Industries
20. E.ON UK
21. E3G
22. EDF Energy
23. Electrical Contractors' Association (ECA)
24. Energy Ombudsman
25. Energy Saving Trust
26. Energy Systems Catapult
27. Energy UK
28. Friends of the Earth
29. Glen Dimplex Heating & Ventilation
30. Good Energy
31. Green Alliance
32. Greenpeace UK
33. Heat Pump Association
34. Heat Pump Federation
35. Heating and Hotwater Industry Council (HHIC)
36. ICAX Ltd.
37. Ideal Heating
38. The Kensa Group
39. Landsec
40. Leeds City Council
41. Low Carbon Estates
42. MCS Service Company Ltd
43. Mitsubishi
44. National Grid
45. Nationwide Building Society
46. NIBE Energy Systems
47. Octopus Energy

48. Ovo Energy
49. Passiv UK
50. Pure Renewables Ltd
51. Qeng Ho Ltd.
52. RECCo
53. The Regulatory Assistance Project
54. Scottish and Southern Electricity Networks (Distribution)
55. Scottish Government
56. Scottish Renewables
57. SSE
58. Sustainable Energy Association
59. Thermal Storage UK
60. UK Green Building Council
61. UKIFDA and OFTEC
62. Vaillant
63. Viessmann
64. Welsh Government
65. WWF-UK

In addition, responses from two individuals were received.

This publication is available from: https://www.gov.uk/government/consultations/market-based-mechanism-for-low-carbon-heat

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