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Submitted to Consultation on support for low carbon heating in residential buildings
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Foreword

How to Respond

Confidentiality and data protection

Introduction

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What best describes your interest in this consultation?

Other (please specify)

Answer field:
NGO

Please indicate if you are replying as:

On behalf of a body or organisation (please state who you represent below)

Answer field:
Sustainable NI

Theme 1 - Eligible Technologies

1 Do you agree with the criteria used to inform technology eligible for support?If you do not agree, please explain why you do not agree and provide evidence to support your answer.

No

Answer field:

Sustainable NI agrees with criteria 1,3,4, 5 and 6 put forward in the consultation.

However, we do not fully agree with criteria 2 and 7.

Criterion 2: This criterion states that the funding will only be targeted at technologies that currently offer efficiencies greater than 100% as this will deliver higher carbon emission savings compared to fossil fuel alternatives. Whilst we understand the logic behind this, it underestimates the significant carbon emissions savings derived from domestic heat flexibility, like thermal heating technologies that only function at 100% efficiency.

Flexibility is defined as, 'modifying generation and/or consumption patterns in reaction to an external signal (such as a change in price) to provide a service within the energy system.' Electricity balancing is the mechanism to ensure that electricity supply always equals demand, and this is essential to ensure a functioning electricity grid. Flexibility is not a new mechanism and has traditionally been provided by thermal power stations that can increase or decrease their energy generation in response to national energy demand, known as supply-side flexibility. As NI's electricity mix becomes increasingly made up of fluctuating renewable energy sources, it will become as important to support distributed low-carbon flexibility. The demand-side response is a type of low-carbon flexibility. This is when a household, commercial building, or industrial business increases, decreases or shifts its electricity consumption in response to a signal to provide a service within the electricity system.

This reduces carbon emissions by encouraging more energy at times of abundant renewable energy generation, and discouraging energy use when carbon emissions are high, such as peak demand times when there is low renewable energy generation. Shaping demand to meet supply helps make the most of renewable generation and reduces the need for thermal power generation from polluting fossil fuels. A study which looked at the UK found that without household flexibility, we would need to build the equivalent of four new gas-fired power stations to meet peak electricity demand in 2040, at the cost of £2.5 billion alongside the associated carbon emissions. Thermal heating technologies, including innovative high-density heat batteries, decouple electricity demand from heat demand, providing significant flexibility to the system. One report suggests that in the UK, smart thermal energy

technologies could reduce peak demand in 2030 by 4.1GW if there is the correct price signalling. A recent trial called Neat Heat found that the Tepeo Zero Emissions Boiler could shift peak electricity consumption by 95% on average during the year, and 90% in winter months, leading to substantial carbon savings of approximately 15,600 kgCO2e compared to gas boilers. When used alongside a tariff that gives you off-peak electricity prices that are significantly cheaper than the cost of a standard tariff, these technologies are considerably cheaper to run than direct electric heating which is 100% efficient as well. Thus, we do think that the Department should consider supporting heat batteries in this low-carbon heating grants scheme for the added choice it provides consumers, as well as the benefits it provides to grid stability and therefore, carbon emission reductions. Whilst heat batteries are not yet included in the Boiler Upgrade Scheme (BUS), we are expecting a consultation on potential additional technologies to be included in the BUS next year, in which the Department for Energy Security and Net Zero may consult on whether to include heat batteries in the scheme.

Criterion 7- Once again, we understand why this criterion is added to maximise the value for money of this grant scheme. However, this criterion excludes air-to-air heat pumps, which may play a role in space heating in the future. Whilst there have not been significant studies in the UK or Northern Ireland around the role of these technologies, WWF Scotland published a report on low-carbon heating alternatives for the Scottish building stock and found that for small houses, air-to-air heat pumps and instant electric water heaters provide a cost-effective and space-saving alternative. There are also technologies on the market that provide just domestic water heating, including the Sunamp heat battery which provides on-demand water and can decouple hot water demand from electricity demand. For homes in Northern Ireland that do not have a central heating system, air-to-air heat pumps may play a role. These technologies are widely adopted in European countries like France and have a similar seasonal Coefficient of Performance to an air-to-water heating system. These technologies also have a lower upfront cost and therefore may only require a smaller upfront grant. As mentioned above, we anticipate the UK government will consult on the potential expansion of the BUS to include additional technologies, potentially considering air-to-air systems.

2 Do you think that other criteria should be applied?Please provide evidence to support your answer.

No

Answer field:

We would not add any other criteria but would make two edits to criteria 2 and 7:

Criteria 2: Support will be targeted at technologies that significantly reduce carbon emissions compared to fossil fuel alternatives, either by achieving efficiencies greater than 100% or by enhancing grid flexibility and enabling the more efficient use of renewable energy sources, thereby leading to higher carbon emission savings

Criteria 7: An eligible installation would not be intended to fund a secondary source of heating that would supplement heating on a limited number of days in the year.

3 The department does not intend to provide financial support for biomass boilers, do you think there should be exceptions to this? Please give reasons for your answer.

Yes

Answer field:

Yes, but only for a small number of exceptions.

In common with conventional combustion systems, biomass boilers emit several pollutants including nitrogen dioxide (NO2), particles (PM) and sulphur dioxide (SO2) which are harmful to human health. A 2024 report by the Institute of Economic Affairs (IEA) said that UK government biomass subsidies are undermining efforts to tackle climate change as biomass energy generation creates more CO2 per megawatt-hour of energy than burning fossil fuels when considering the full chain from fuel production to energy generation.

Households should therefore be encouraged to transition fully to standalone heat pumps, especially given that the recent UK government-funded Electrification of Heat Project found that all home archetypes in the UK are suitable for heat pumps with some small interventions. We also agree with the Climate Change Committee's conclusion from the Reducing Emissions in Northern Ireland report that biomass in urban areas should not be supported due to air quality concerns.

That being said, the CCC report also noted that biomass boilers can play a role in certain niches. Sustainable NI believes that biomass has a very limited role in heating in rural hard-to-treat properties and only where electrification is not an appropriate or financially viable option.

The Boiler Upgrade Scheme, the Government scheme that replaced the Domestic Renewable Heat Incentive (RHI) scheme in April 2022 in England, sets limits for emissions of Particulate Matter and NOx from biomass heating systems. This involves confirming that emissions of Particulate Matter did not exceed 30 grams per gigajoule (g/GJ) net heat input when a biomass product was tested in an accredited test laboratory with both parameters being measured on the same occasion. This testing must follow the applicable version of EN 14792:2005 for NOx and, for PM, EN 13284-1:2002 or BS ISO 9096:2003. All new potential fuel sources from forestry, waste and agricultural sectors would have to comply with these standards especially those in Smoke Control Areas, which will limit biomass deployment in urban areas. We would recommend Northern Ireland follows similar guidelines.

Biomass has a limited role in heating rural hard-to-treat residential buildings and only where electrification is not an appropriate or financially viable option. Due to high particulate and NOx emissions from biomass for large-scale urban heat network deployment, we feel that this would be inappropriate technology for built-up areas or close to towns or cities, especially with major concerns of air quality. We would advocate strongly that the primary options for decarbonising heat from homes and industry should be zero carbon options looking at sustainable and renewable supplies of energy. Biomass does have a limited role in helping to decarbonise our homes and should not be expanded further but should only be used when zero-carbon options are not viable. Therefore, we recommend that the department provide limited financial support for biomass boilers for these small exceptions.

4 The department does not intend to provide financial support for hybrid heat pumps, do you think there should be exceptions to this? Please give reasons for your answer.

No

Answer field:

Sustainable NI does not consider hybrid heat pumps as a long-term heating solution as the gas element of the system is incompatible with net zero. In the majority of cases, households should be encouraged to transition fully to standalone heat pumps, especially given that the recent government-funded Electrification of Heat Project found that all home archetypes in the UK are suitable for heat pumps with some small interventions. We support the UK Government's decision to exclude hybrid heat pumps from the Boiler Upgrade Scheme grants in England therefore we also support a decision not to include hybrid heat pumps in the NI low-carbon heating scheme.

There have been some important advancements in heat pump technology, including the development of high-flow temperature heat pumps that work effectively and efficiently even in 'hard to heat' homes. The main advantage of a high-temperature heat pump is that the flow temperatures reach the same as the existing heating systems, meaning that you can use all existing radiators. So, whilst commonly the flow temperature in heat pumps is around 30oC, in high-temperature heat pumps it can reach up to 75oC. Thus, even for hard-to-heat homes, where it is difficult and expensive to improve fabric efficiency, there are increasingly heat pump technologies that would still be suitable.

To conclude, we do not think that supporting hybrid heat pumps in the scheme will achieve the best value for money outcome for the department and therefore, we do not think there should be any exceptions to this.

5 Should a minimum Seasonal Co-efficient of Performance of at least 2.8 or higher be applied to the low carbon technologies considered for support? Please tick all that apply and give reasons for your answer.

Air Source Heat Pump, Ground Source Heat Pump, Water Source Heat Pump

Answer field:

We agree that all should meet this standard in alignment with the BUS. We expect the SCOP to be significantly higher for all these types of heat pumps but agree with all the reasoning put forward.

Theme 2 - Building Efficiency and Eligibility

6 Should all domestic buildings be eligible for low carbon heating technology support? Please give reasons for your answer.

Yes

Answer field:

Without question, all domestic buildings should be eligible for low-carbon heating support. This will be necessary to reach the Climate Change Act (Northern Ireland) interim target of reducing greenhouse gas emissions by 48% by 2030, as residential buildings account for 13% of all emissions in Northern Ireland.

7 What minimum energy efficiency criteria in relation to domestic buildings should be met (if any) to make them suitable for a low carbon heating technology support? Please give reasons for your answer.

Option A – No minimum energy efficiency requirements

Answer field:

There are several material benefits from tightening fabric standards alongside the installation of low-carbon heat:
• Further savings in running costs can be achieved (around £30-£40 relative to installing a heat pump alone) while also improving the quality of the internal environment.
• Reduced energy consumption reduces the quantity of low-carbon energy required to meet demand.
• Lower heat losses help to reduce or avoid peaks in energy demand associated with space heating.
• Potential for fewer radiators and reduced heating distribution system, freeing up internal wall space, saving associated capital and maintenance costs while also reducing the risk of water damage over the building's life.

Energy efficiency is important no matter what heating system, however, we do not think that there should be a specific requirement in the scheme. There should not be added barriers to getting a heat pump compared to a fossil fuel heating system. The Boiler Upgrade Scheme (BUS) in England and Wales no longer requires loft and cavity wall insulation on the EPC of the property for it to be eligible for funding for low-carbon heating technology. We believe the same approach should be applied in Northern Ireland, so that as many low-carbon heating technologies are deployed as possible in homes across the country.

Some EPCs recommend that a property get external wall insulation, and the consultation proposes "Option B) A valid EPC with no loft or wall insulation recommendations." We strongly discourage this option. Certain fabric energy efficiency measures can be expensive. For example, the average external wall insulation cost is around £11,000. It may simply not be the most cost-effective intervention for the household and heat pumps can be designed and sized correctly to work well without external wall insulation.

8 If you selected Option C – do you think support should be available towards the costs associated with an energy assessment as part of support for the installation of the low carbon technology? Please give a reason for your answer.

Not Answered

Answer field:

N/A

9 Do you agree that support for low carbon heating technologies is provided separately for owner-occupiers with alternative provision of support made for landlord, social housing, and non-domestic properties? Please give reasons for your answer.

Yes

Answer field:

We agree with the focus on owner-occupier properties for this support scheme. However, we would caveat this by strongly advocating for support to be provided for landlord, social housing and non-domestic properties to support the transition of the entire NI building stock to low-carbon heating.

10 Do you agree that self-build properties should be eligible for support at this time? Please provide reasons for your answer.

Yes

Answer field:

Though the Boiler Upgrade Scheme (BUS) in England and Wales is primarily targeted at enabling property owners to replace fossil fuel heating systems in existing properties, it is also available for self-build properties. New builds were excluded from the scheme because property developers are better equipped to absorb the costs of heat pump installations, and we agree with this decision. Self-builders do not benefit from the same economies of scale as developments and therefore face similar cost barriers to retrofit installations.

Note: It was also noted in the government response to the BUS regulations consultation that they intend to introduce a differentiated category in the regulations for eligible new builds, with the option to reduce or remove support under BUS as the Future Homes Standard (FHS) is implemented through building regulations and takes effect.

11 Do you think additional financial support should be available to those homes in rural and island locations? Please provide reasons for your answer.

Neither

Answer field:

The consultation describes how households in rural and island locations often have limited access to the gas grid and rely on other types of heating such as oil. However, if heat pumps are deployed in these locations, so long as there is a connection to the electricity grid, being a rural area shouldn't be a disadvantage. In fact, according to MCS data, rural areas are leading the way: local authorities with a high share of heat pump installations are characterised by an above-average number of households not connected to the gas grid and situated in rural areas or islands in Scotland. For example, the top four areas in terms of % of households with installations are Na h-Eileanan an Iar (formerly the Western Isles), the Orkney Irelands, Argyll and Bute, and the Shetland Islands. Of the roughly 250,000 heat pumps installed in the UK, four out of five are in an off-grid home. This suggests that additional support might not be necessary for homes in rural and island locations.

Overall, we do not believe there is sufficient evidence to support an uplift for rural or island homes.

12 If you answered yes to Question 11, how would homes be identified as rural by the department? Please provide reasons for your suggestion.

Answer field:

N/A

13 Do you agree that to be eligible for support, a new heating installation should replace fossil fuel heating, replace direct electric heating, or be installed where no central heating currently exists? Please give reasons for your answer.

Yes

Answer field:

Yes, based on allocating resources where they are most needed.

14 Do you agree that replacing a low carbon heating system with another low carbon heating system should be ineligible for support? Please give reasons for your answer.

Yes

Answer field:

Yes, resources should be prioritised for homes that need the support most.

Theme 3 - Consumer Eligibility

15 Should households who have received energy efficiency support via schemes such as NISEP or Affordable Warmth be able to apply for additional low carbon heat support? Please give reasons for your answer.

Yes

Answer field:

Provided the household follows the criteria above, these households should be eligible.

16 Should support options be designed to prioritise or target certain groups of people (such as those on low incomes)? Please give reasons for your answer. If you answered Yes, please detail which groups should be targeted and how could this be achieved?

No

Answer field:

There are some social equity benefits of a targeted or 'tiered' approach to low-carbon heating grants. A tiered approach is when a low-carbon heating grant is accessible to all homeowners, but the grant amount varies based on the income of the household. This tiered approach to low-carbon heating grants has never been implemented in the UK, and instead, there have been separate energy efficiency schemes that have targeted fuel-poor households, notably the Electricity Company Obligation. However, several European countries have implemented tiered low-carbon heating grants based on income levels with the approach to support broad access, whilst also providing greater assistance to low-income households. Some of these include France's MaPrimeRénov, Belgium's Prime Temporaire, and Poland's Clean Air grants scheme.

Though we can see the potential benefits of a targeted low-carbon grants scheme, we would not support this at present. Evaluations of previous grant schemes in the UK have highlighted the importance of administrative simplicity. We believe that a tiered approach could add too much complexity and result in the scheme underperforming.

17 Should prioritisation or additional support be given to those with older (perhaps 15+ years) fossil fuel boilers? Please give reasons for your answer.

No

Answer field:

For the same reasons provided in Q16. Though we strongly agree with encouraging households to switch to a heat pump when their existing heat system no longer works, we believe that it would add unnecessary complications. In this case, we think that the risk of increased complexity outweighs the potential value of such an intervention.

18 Should additional support be offered to the consumer where no central heating system is present in the home? Please give reasons for your answer.

No

Answer field:

We acknowledge that installing an air-to-water or ground source heat pump (a hydronic system) may incur higher costs for homes without a pre-existing central heating system. However, transitioning these homes to central heating may not be necessary. Instead, we suggest that these households be encouraged to install an air-to-air heat pump, which provides an efficient and practical heating solution without requiring central heating infrastructure. As stated in our response to Q1, these technologies can provide the space heating element, whilst instant electric hot water heaters or other types of domestic water heating can provide the water heating. Heat batteries can provide on-demand water whilst also offering additional flexibility by using electricity in off-peak times.

Furthermore, there is a broader question here on what exactly 'additional support' would entail. Any type of grant uplift must be carefully considered, as they risk adding unnecessary complexity to a grant scheme.

19 Should those with multiple occupied properties e.g. holiday homes be eligible to apply for support for more than one property? Please give reasons for your answer.

No

Answer field:

Whilst the BUS in England and Wales does support applications from holiday homes and secondary residences, our view is that the NI grant scheme should be aimed at primary dwellings. Primary dwellings are likely to be where homeowners live most of the time and therefore, have a higher heating demand. Therefore, supporting primary dwellings to begin with is likely to have a more significant impact on carbon emissions reductions. However, if the

uptake of the scheme is low and there is a surplus budget at the end of the financial year, the Department could consider extending the eligibility to those with multiple dwellings.

20 Do you agree that the department has a requirement for consumer protection measures to be associated with support for low carbon heating technology? Please give reasons for your answer.

Yes

Answer field:

We strongly agree.

Consumer protection in Northern Ireland's low-carbon heating grant scheme is crucial to ensuring public confidence, safeguarding against poor installations, and preventing potential exploitation by substandard, opportunistic contractors. Citizens Advice has highlighted that without clear, enforceable protections, consumers risk dealing with inadequate installations or financial losses if they fall victim to misleading practices. With the shift to net-zero technologies, consumers often face unfamiliar choices and complex systems, which can make them vulnerable to misinformation or subpar service. Thus, we strongly agree with the requirement for consumer protection measures.

21 What do you feel would be the best method of consumer protection? Please give reasons for your answer. If you chose Option B or Other, what consumer protection requirements should be specified?

Option A - Need for installers to be registered to a certification scheme such as MCS.

Answer field:

MCS certification is currently a requirement for the Boiler Upgrade Scheme in England and Wales, and the Home Energy Scotland Grant and Loan, so it seems logical for it also to be the standards scheme responsible for this NI low-carbon heating grants scheme. MCS previously acted as the designated standards scheme for the Northern Ireland Renewable Heat Incentive and thus is likely to be known by the heat pump industry already. Additionally, MCS conducts outbound calls on behalf of Ofgem to gather homeowner feedback on installations under the Boiler Upgrade Scheme. If the Department considers implementing a similar approach, MCS already has the necessary experience and expertise to support this.

The consultation talks about the importance of ensuring that consumers are confident with the operation of the technology in their homes. A new Customer Commitment which sits at the heart of the redeveloped MCS has requirements to ensure that the installer acts in a trustworthy manner, communicates well, contracts with clarity, delivers an effective handover of each completed installation, and should they arise, handles any complaints well. As part of the new role of MCS in managing escalated complaints, they will also follow up with every homeowner following the completion of their MCS installation to check that their experience has been positive and in line with the requirements of the new MCS Customer Commitment. This will be done via an outreach programme that has been piloted in support of the Boiler Upgrade Scheme.

However, whilst changes to the scheme will address some of these consumer-related issues, we would also strongly advocate for the Department to follow the Scottish example and implement a one-stop-shop/advice centre like the Home Energy Model run by the Energy Saving Trust. In a report carried out by Which, the consumer rights organisation highlighted that whilst upfront cost does continue to be the main barrier for consumers installing energy efficiency or low-carbon heating, a lack of personalised advice and not knowing where to find reliable installers were also important blockers. Supporting low-carbon heating deployment cannot be achieved through one policy intervention, instead a holistic approach must be taken.

22 If it is required for installers to be accredited to a certification scheme in order to take part in any future government support, should funding be made available towards certification fees? Please give reasons and evidence to support your answer.

Yes

Answer field:

As part of the MCS scheme redevelopment, MCS aims to reduce the administrative processes involved with becoming MCS certified, which in turn will reduce the overall cost of securing and maintaining MCS certification. The redeveloped MCS certification scheme focuses less on the compliance of an Installer's paperwork and back-office systems and more on the evidence of their "delivered quality" via a risk-based audit method of assessment, whereby competent installers are rewarded with fewer audit assessments but those considered at risk of non-compliance, to attract more assessments. This should make it easier for good heat pump installers to join the scheme and maintain the quality of their outcomes i.e. well designed and installed heat pump systems for their customers.

However, we understand that a grant towards MCS certification, as provided by the Energy Saving Trust in Scotland, can act as motivation for already qualified fossil fuel-based heating engineers to move into renewables. Given the low numbers of MCS-certified installers in Northern Ireland, a grant of this kind would represent a welcome boost to the supply chain, which can then better support the launch of the scheme.

23 Should any electrical work completed as part of the low carbon heating technology installation be required to be certified by an approved accredited body? Please give reasons and evidence to support your answer.

Yes

Answer field:

This is already a requirement under the MCS scheme. To achieve certification, the contractor must demonstrate that all electrical work associated with low-carbon technology installations complies with relevant safety standards. This typically involves having the electrical aspects of the installations

certified by a recognised Competent Person Scheme (CPS) provider, such as NAPIT or NICEIC.

However, we do not feel these schemes in isolation provide the necessary quality assurance for the entirety of a customer's installation, nor do they offer sufficient consumer protection. CPSs were not designed for compliance monitoring for complex systems such as heat pumps and solar panels. Installing a heat pump or solar panels requires numerous competencies, including design, plumbing, roofing, and electrics etc. CPS is focused on the competency of discrete roles and does not account for the range of competencies that need to come together to achieve a successful heat pump installation. This is the purpose of MCS standards and the associated MCS certification scheme.

To conclude, we agree that any electrical work completed as part of the low-carbon heating technology installation should be certified by an approved accreditation scheme, but this does not negate the need for a more comprehensive MCS certification. MCS certification, once achieved by an installer, aligns their delivery to the industry's standards and the sector's consumer protections.

Theme 4 - Financial Assistance

24 Do you agree with the criteria for the administration of support for low carbon heating technologies? If no, please give reasons for your answer.

Yes

Answer field:

25 Do you agree with the approach to offer support by providing a one-off capital grant? If no, please give reasons for your answer.

Yes

Answer field:

We strongly agree with this approach, as a one-off capital grant is straightforward to administer, has no ongoing obligation and the budget can be easily managed. Furthermore, it learns from the failings of the Northern Ireland Renewable Heat Incentive. Notably, the scheme unintentionally incentivised excessive heat production. Specifically, payments were structured in such a way that participants with certain biomass boilers could profit by producing unnecessary heat, which led to substantial budgetary overspending and failed to achieve the scheme's environmental goals. Additionally, the lack of cost control measures like tiered tariffs and the absence of a cap on support until later amendments compounded these financial and operational challenges. These risks are not prevalent with a one-off upfront grant.

One risk that should be avoided in a one-off upfront grant is administrative complexity. We would therefore recommend following the same approach as the Boiler Upgrade Scheme, where it is the MCS-certified installer who applies for the grant. The grant is then paid directly to the installer, and this is discounted off the final bill for the homeowner. The Green Homes Grant Voucher Scheme, a previous England and Wales scheme for heat pumps, faced significant challenges due to its design of issuing vouchers directly to homeowners rather than paying installers. Homeowners were responsible for finding certified installers, applying for vouchers, and managing the process, which required substantial documentation and knowledge of installer requirements. This complexity led to delays and confusion, with many applications being rejected or withdrawn. There were also challenges with getting the installer to complete the installation before the voucher expired, as well as difficulties with finding an installer at all. Installers only received payment after completing the work and redeeming vouchers, causing cash flow problems for smaller businesses that relied on timely payments. The National Audit Office (NAO) reported that installers faced long delays in receiving payments, which discouraged participation and led some businesses to leave the scheme, undermining the programme's goals of creating jobs and stimulating the green economy.

26 Which option do you think should be the approach to the level of financial support for eligible technologies?

Option 2 – apply different amounts of funding per eligible technology type.

Answer field:

In the past, schemes like the Boiler Upgrade Scheme (BUS) and the Renewable Heat Incentive (RHI) have provided different grant amounts to reflect the cost differences between technologies. Ground source heat pumps (GSHPs) received more than air source heat pumps (ASHPs), reflecting that the average installation cost for a GSHP was £19,000 in 2024, compared to £11,500 for an ASHP.

The recent increase to the BUS grant, to £7,500 for both technologies, has driven a positive 75% rise in BUS applications from February 2023 to February 2024. However, this uniform grant level has led to a market skew heavily favouring ASHPs, given their lower initial cost. This shift highlights a potential issue for the NI scheme if it were to include additional, lower-cost technologies, such as heat batteries and air-to-air heat pumps, which we have suggested.

If a flat-rate funding model were implemented, there is a risk that the scheme could inadvertently cover 100% of the cost for lower-cost technologies while funding a much smaller proportion of the cost for higher-cost options. By adopting different grant amounts for each eligible technology, Northern Ireland could encourage a more balanced uptake across technologies, ensuring that all types are accessible to consumers based on their needs and what is best for the property.

27 Are there any cost barriers beyond the cost of the technology that you feel may impact on the successful rollout of low carbon heating technology support? Please give reasons for your answer.

Yes

Answer field:

Several cost barriers beyond the technology itself could impact the successful rollout of low-carbon heating technologies. Addressing these barriers requires a multifaceted approach, including grant support, green finance options, and measures to reduce electricity prices.

1. High upfront costs, even with grants
Even with grant assistance, the initial installation costs for low-carbon heating solutions like heat pumps can be a barrier for many homeowners. While grants can offset some costs, upfront expenses for equipment, installation, and necessary home retrofits (like insulation improvements) often remain high. This can present a barrier, especially for households without immediate access to funds.

2. Importance of green finance
Green finance could play a crucial role in making low-carbon heating solutions more accessible. Green finance initiatives are important to enable homeowners to manage the initial costs over time rather than as a single, large upfront expense. Green financing can be structured to reduce monthly payments by offsetting costs through energy savings, making it a practical option for more households. Encouraging partnerships with banks and financial institutions to offer green finance options alongside the grant scheme could widen access and drive adoption, helping overcome one of the most significant barriers to heat pump installation.

3. Electricity pricing and the spark gap
The high cost of electricity compared to gas in Northern Ireland, known as the "spark gap," poses another barrier to low-carbon heating adoption. As of November 2024, average electricity prices in Northern Ireland are approximately 32.82p per kilowatt-hour (kWh) with a standing charge of 13.03p per day, while gas prices are around 7.5p per kWh and 20p per day. This results in an approximate spark gap of 3.59, meaning electricity is over three times more expensive than gas. Although this is somewhat better than the rest of the UK, where the spark gap averages around 3.9, it remains high.

The European Heat Pump Association (EHPA) recently published a report showing a clear correlation between the spark gap and heat pump deployment. The report indicates that countries with the lowest spark gaps tend to have the highest deployment of heat pumps per 1,000 homes, highlighting the impact of electricity pricing on heat pump adoption. For Northern Ireland, reducing the spark gap by lowering electricity costs will make heat pumps more economically attractive. The Department should consider working closely with the Republic of Ireland with whom it shares a Single Electricity Market.

28 Do you have suggestions as to how the department can ensure financial support delivers the best possible value for money? Please give reasons for your answer.

Yes

Answer field:

Requiring MCS certification for this scheme could help ensure the best value for money for both the government and homeowners. High-quality installations are essential for achieving optimal performance and delivering lasting benefits to households. Improper heat pump installations can substantially reduce efficiency; issues like inadequate water flow, often due to debris in the central heating system or incorrectly sized piping, can impair performance.

Beyond immediate performance, the Department needs to foster awareness and build confidence in low-carbon heating solutions over the next decade. A well-executed scheme could indirectly increase public trust in these technologies, laying a foundation for broader adoption.

Additionally, establishing and administering new standards independently would be costly and could reduce the funds available for supporting installations. This further supports the recommendation to require MCS certification, as it would leverage an established framework to ensure quality while keeping administrative costs lower, allowing more of the budget to go directly toward installations.

Supply Chain and Skills

29 Is the supply chain and manufacturing base in NI well established to cope with demand for installations of low carbon heating technologies if demand increases? Please give reasons for your answer.

Yes

Answer field:

We believe that the supply chain and manufacturing base in Northern Ireland could cope with an increase in demand for low-carbon heating technologies. Although there is currently very limited domestic manufacturing of heat pumps and related technologies within Northern Ireland, we do not see this as a significant obstacle. The experience in England, Scotland, and Wales—where there is similarly limited local manufacturing —demonstrates that this has not hindered the deployment of low-carbon heating technologies.

There is already a well-developed global supply chain for heat pumps, which ensures access to high-quality products from established manufacturers worldwide. This international supply chain is capable of meeting increased demand, offering diverse sourcing options and competitive pricing that are essential for scaling up installations efficiently.

The current supply chain is adequate to support this low-carbon heating programme, but we would still encourage the Department to explore opportunities to foster local manufacturing. Building local capacity could provide additional economic benefits, enhance supply chain resilience, reduce emissions from transport, and support job creation within Northern Ireland's green economy.

30 Is there any evidence of after-care delays with repairs and maintenance of heat pumps due to supply chain shortages and delays that may cause someone to be without heating? If yes, please provide evidence.

No

Answer field:

31 How can growth of the skills base within the heat pump industry be supported by the private sector and government to complement any support for low carbon heating in a) the short – medium term (up to 10 years) and b) the long term (over 10 years)?Please provide any evidence you may have.

Answer field:

In 2022, the Energy Saving Trust published a report Pathways to Engagement with Low Carbon Heat: An Industry Perspective, in collaboration with the Scottish and Northern Ireland Plumbing Employers Federation (SNIPEF) and the Construction Scotland Innovation Centre (CSIC). The report explored various pathways to engage heating engineers in low-carbon heating in Scotland, focusing on installer experiences with training and certification. Though written for Scotland, many of the recommendations within this report offer valuable insights and practical steps that could greatly support the development of skills for low-carbon heating in Northern Ireland.

a) Short term
In the short term, the primary focus should be on rapidly increasing the number of trained installers, enhancing installer confidence in the market, and providing the industry with clear direction on skill requirements:

1. Targeted Financial Support for Training:
o Government and industry could co-fund training grants or subsidies to reduce the financial burden for installers transitioning to low-carbon systems. This can include funding for initial certification in low-carbon installations, such as heat pumps, making it more attractive for traditional gas installers to reskill. This could follow a similar approach to England's Heat Training Grant.

2. Expanded Access to Manufacturer-Led Training:
o Manufacturers can play a critical role by offering accessible, high-quality training programs that are also available in rural or remote areas. These courses often address specific technologies and installation techniques required for heat pumps, which helps ensure installers are prepared for immediate deployment.

3. Clear and Consistent Policy Direction:
o The government's commitment to a stable policy for low-carbon heating systems is crucial for industry confidence. A predictable regulatory environment and clear future goals will encourage businesses to invest in training and development, knowing that their skills will remain relevant and in demand.

4. Development of Standardized Training and Certification Pathways:
o Establishing and promoting a standardised curriculum for low-carbon heating installations through partnerships with vocational training organisations and industry bodies will help ensure that all trainees acquire the necessary competencies.

b) Long-term (over 10 years)
In the long term, efforts should focus on embedding low-carbon heating skills within national training and education systems, ensuring a steady supply of qualified workers, and supporting market stability:
1. Integration of low-carbon skills into national apprenticeship programs:
o Incorporating low-carbon heating modules in apprenticeship programmes and vocational qualifications ensures that new entrants are well-prepared to handle these technologies from the start. This would help future-proof the workforce and provide a consistent pipeline of skilled labour as the industry grows.

2. Investment in innovation and skills for new technologies:
o As new technologies and techniques emerge, both the government and private sector should invest in research and development to keep the workforce updated on the latest practices. This includes developing advanced skills, such as system design and remote diagnostics, which are increasingly relevant for complex low-carbon heating systems.

3. Creating a market ecosystem to support SMEs and micro-firms:
o Smaller businesses often face challenges in reskilling due to limited resources. Long-term government programs providing ongoing support for training, certification, and business growth will allow SMEs to engage in low-carbon heating technologies sustainably. This might include reduced certification costs and simplified compliance procedures, enabling these firms to compete on equal footing with larger companies.

4. Implementation of Long-Term Demand-Side Policies:
o To ensure sustained demand for low-carbon heating, introducing regulatory measure. These policies would create a predictable market, encouraging continued investment in workforce development and supporting the growth of a low-carbon heating industry in the long term. Regulations include:
• New building regulations that mandate low-carbon heating systems in all new constructions.
• Policies to keep electricity costs affordable, encouraging wider adoption of electric heat pump systems.
• A future ban on the installation of new fossil-fuel heating systems.

5. Ongoing public awareness campaigns to sustain demand:
o Building and maintaining public confidence in low-carbon heating systems through awareness campaigns will create a consistent demand, which is

essential for the long-term stability of the installer market. As public awareness and trust in these technologies grow, demand for skilled installers will remain robust, supporting industry growth

32 Is there an adequate amount of heat pump installers within NI to cope with demand for installations as well as aftercare and repairs/maintenance should demand for heat pumps increase in the short – medium term? Please give reasons for your answer.

Yes

Answer field:

Currently, according to MCS data, Northern Ireland has 9 MCS-certified heat pump contractors. We agree that this may not be sufficient to meet a significant increase in demand for installations, aftercare, and maintenance in the short to medium term. However, we are confident that the number of certified contractors will increase rapidly in response to the launch of this scheme – especially if the Department provides a grant towards certification. Furthermore, in the first year of the Boiler Upgrade Scheme, there were underspends of the designated budget. As the scheme has progressed – and especially since January 2024 - the number of monthly applications has increased. This gradual increase trend, if mirrored in NI, is likely to give the supply chain sufficient time to expand to meet the rising demand.

There is a strong correlation between government low-carbon grant schemes and the number of MCS-certified contractors in NI. The increase in MCS-certified contractors closely follows the years that the NI Renewable Heat Incentive between 2012-2016. Since the scheme closed, there has been a gradual decline in numbers.

What's more, the NI heat pump supply chain has shown its capacity to increase productivity in response to higher demand. For example, in February 2016, the month before the NI RHI closed, there was a significant spike of 174 installations compared to just 29 in January 2016, and 16 in December 2015, as seen in Figure 3. This demonstrates that when demand is present, the NI heat pump supply chain can step up to meet demand. This was achieved by only 37 MCS-certified contractors.

Importantly, one element that has not been discussed in the consultation is what the funding will be for this grant scheme and how many annual installations it aims to support. In the first year, the Boiler Upgrade Scheme had a budget of £150 million per year and aimed to support roughly 30,000 heat pumps across England and Wales. Given that Northern Ireland has significantly fewer domestic dwellings than England and Wales, 822,083 homes compared to 25 million homes in England and 1.5 million homes in Wales, the number of installations supported through this scheme is going to be considerably less. If the NI scheme had the same ambition as the BUS, it would support roughly 930 installations in the first year. We would advocate for the scheme to be much more ambitious. However, even if the scheme supports double this, so 1800 installations per year, this would only equate to 150 installations per month. The NI heat pump supply chain has shown that this is possible at this monthly installation level, with 37 MCS-certified contractors.

In summary, depending on the ambition of the scheme and how many annual installations it intends to support per year, we do believe that more MCS-certified installers will be necessary. However, we think this is a very achievable goal and that this scheme is essential to the short-term increase in MCS-certified contractors in NI.

There is often a chicken and egg type debate when it comes to addressing the barriers to mass-scale heat pump deployment; should there be a focus on addressing demand side or supply side issues? In our view, these issues are heavily interlinked. For example, a rise in demand for heat pumps will always be limited to the capacity of the workforce in manufacturing, distributing, and installing heat pumps. However, the industry needs confidence and long-term certainty that there will be a stable and commercially viable market if they are to invest considerable time and resources in upskilling and entering the market. We believe that this grant scheme can act as the necessary signal to drive supply chain development in NI.

33 What actions can be taken to support the scaling and growth of the low carbon industry, particularly installers, to meet future demand projections of heat pump deployment targets? Please give reasons for your answer.

Answer field:

The Sustainable Energy Association put forward 4 factors that influence an installer's decision to retrain :

• Obligatory training for organisation membership
• New mandatory installation standards
• Future mandatory installation standards
• Demand from customers

The areas where the Department can influence are in the final three. This low-carbon heating programme goes some way towards driving demand from customers but there should be a focus on other demand-side policies that can drive demand and provide confidence to a potential workforce. Above all, making it clear that electrification is the future of home heating in Northern Ireland is essential to drive both consumer demand and supply chain development. When there is certainty about the direction of heating policy, installers and contractors can confidently invest in the necessary training and certification, knowing that these skills will remain relevant. Currently, uncertainties around alternative fuels, such as hydrogen and biogas for heating, could create hesitation across the industry. If installers believe that biogas or hydrogen-ready boilers might soon be an option, they are less likely to invest time and money in retraining for heat pump installation and maintenance. This ambiguity not only slows the growth of the heat pump installer base but also sends a mixed message to consumers, who may hold off on switching to low-carbon heating if they anticipate other options. By firmly committing to electrification as the pathway forward, Northern Ireland can provide the stability needed to build a skilled, future-ready workforce, accelerate the growth of a robust heat pump supply chain, and give homeowners the confidence to adopt this sustainable technology.

The Department should move away from promoting biogas and biomethane as a central option for home heating due to significant challenges in efficiency, scalability, and infrastructure requirements that hinder its long-term viability as a sustainable heating solution.

----- SUMMARY COMMENTS -----

Sustainable NI warmly welcomes many of the proposals outlined in this consultation and we consider this new grant scheme as an essential step toward advancing low-carbon heating in Northern Ireland. We strongly agree with the focus on electrification, particularly through heat pumps, as the most efficient and cost-effective way to decarbonise residential buildings. Our overarching comments are as follows:

1. Electrification should be the central decarbonisation approach for residential heating in Northern Ireland.
We agree with the scheme's focus on electrification. Electrification is both efficient and scalable and provides a pathway to zero-carbon heating in parallel with the decarbonisation of the electricity grid. We do not support the use of hydrogen or biogas for domestic heating. Using green hydrogen to heat our homes is up to five times more expensive than current natural gas prices, and up to seven times less efficient than using renewable energy to power a heat pump. A meta-analysis undertaken on hydrogen heating presented 54 independent, international studies that have all concluded that hydrogen will only play a limited role in domestic heating at most. Furthermore, methane leakage risks associated with biogas can significantly erode its climate benefits. Methane may escape during various stages of biogas processing and grid injection, especially given the complex and costly upgrading process needed to transform raw biogas into grid-compatible biomethane. One study suggested that the methane emissions from the biomethane supply chain could be greater than natural gas supply chains, seriously undermining its validity as a low-carbon heating technology. There are also economic and energy-intensity challenges associated with upgrading biogas to biomethane suitable for the gas grid, as well as concerns about the availability of suitable and available feedstocks.

2. We agree with the upfront grant design
We agree with the structure of the grant as an upfront payment, as this design will make low-carbon heating solutions more accessible by reducing the installation costs of technologies like heat pumps. This approach simplifies the adoption process for homeowners, ensuring that financial barriers are minimised at the point of installation. We strongly advocate that the Department follows the same application process as the Boiler Upgrade Scheme, with the grant going directly to the installers who apply for the scheme. Previous schemes, like the Green Homes Grant Voucher in England and Wales, have shown the administrative risks of paying the homeowner directly. Furthermore, budget allocation should be based on redemption, not on applications.

3. We do not agree with all the criteria for technology eligibility
While we support much of the proposed technology eligibility requirements, including the omission of hybrid heat pumps from the scheme, there are areas where we disagree with specific eligibility criteria for technologies. Below are the criteria we believe should be reconsidered:
• Criterion 2: This criterion blocks the installation of thermal heating technologies, like heat batteries, that only function at 100% efficiency. Heat batteries provide valuable energy storage, allowing excess electricity to be stored and used when needed, which enhances the flexibility of the heating systems. With grid balancing becoming increasingly important, heat batteries could play a critical role in optimising renewable energy usage and improving cost savings for homeowners over time. Heat batteries can significantly decrease carbon emissions compared to gas boilers and other heating systems. We would therefore change this criterion to:

Support will be targeted at technologies that significantly reduce carbon emissions compared to fossil fuel alternatives, either by achieving efficiencies greater than 100% or by enhancing grid flexibility and enabling the more efficient use of renewable energy sources, thereby leading to higher carbon emission savings.

• Criterion 7: This criterion excludes the installation of air-to-air heat pumps, as these technologies only provide space heating. Sustainable NI considers these technologies as well-suited for certain home types, particularly in Northern Ireland for off-grid properties that do not have a central heating system, or where there is limited space for a hot water tank. These technologies can be installed alongside instant electric hot water heaters or a heat battery which provides on demand hot water. Though we do agree that hydronic heat pumps are likely to be the most widely adopted type of heat pump in Northern Ireland, there are potential advantages to air-to-air systems. We would therefore change this criterion to:
 An eligible installation would not be intended to fund a secondary source of heating that would supplement heating on a limited number of days in the year.

4. We support the MCS Certification requirement
We strongly support the requirement for MCS certification for installations funded through this scheme. Poor installations can significantly reduce the efficiency of heat pumps, leading to higher operational costs and undermining consumer trust. Leveraging the existing MCS certification framework would prevent the need for the Department to establish and administer new standards, conserving funds that can be directed toward supporting installations and leading to better value for money for the scheme.

The proposed MCS scheme redevelopment, which launches in January 2025, aims to benefit reputable installers while reducing incidences of poor practice, thereby building trust and credibility within the sector. By incentivising compliance, MCS will elevate and promote the reputation of the industry and ensure consumers have faith in both the sales process and technology performance. Ultimately, the goal is to create a new framework, where standards and competence serve as cornerstones for both safety and consumer confidence. These standards do not act as a barrier, they provide guarantees and confidence in home-grown energy.

As part of the aim to improve consumer protections within the scheme, MCS is aiming to transition to become the central hub for addressing complaints and any necessary interaction with the installer to ensure consumer issues are resolved promptly. This transformation aims to provide comprehensive assistance to any customer with an MCS-certified installation, thereby driving the uptake of low-carbon home technologies through a new level of consumer protection and associated confidence.

5. The Department must build consumer awareness and confidence to complement the scheme
Building consumer awareness and confidence in low-carbon heating technologies is essential to the success of this scheme. We recommend that the Department invest in awareness campaigns to inform homeowners about the benefits of low-carbon heating, as well as the operational differences

compared to conventional systems. We would also advocate for the implementation of a one-stop-shop, like that in Scotland and Ireland, where homeowners can access free and tailored advice. Recent research has shown that it is not just the economic barriers that can deter homeowners from installing heat pumps and other energy efficiency measures. A lack of personalised advice and support has been highlighted as a significant barrier.

6. Skills and Supply Chain Readiness

We believe that the current supply chain in Northern Ireland can meet the demand anticipated by this scheme. However, providing certainty and consistent opportunities for growth is crucial for supporting and expanding this capacity over the long term. Offering a grant to cover MCS certification for installers would be a beneficial incentive, helping to expand the pool of qualified professionals and ensuring that installations meet the high standards expected under this scheme. By providing clear market signals and supporting workforce development, the scheme can encourage sustained investment in skills, helping to secure a skilled and resilient supply chain for the future.

7. Some important details are missing from the consultation

Whilst we recognise that this is an initial consultation, some key elements would benefit from further consideration. In particular, the scheme's intended duration and target number of installations have not yet been addressed. We recommend that the scheme run for a minimum of five years, ideally extending until 2035, to provide the stability needed for the impactful uptake of low-carbon heating technologies. Evidence strongly supports the value of long-term policies in promoting adoption, as this transition requires time. Clear, sustained policy signals allow energy suppliers and manufacturers of fossil fuel heating systems to anticipate a future centred on electrification, encouraging investment in the heat pump sector as a commercially sound path forward. For installers, certainty of future demand is critical to give them the confidence to invest in skills. The scheme should be ambitious reflecting the urgent need to accelerate the uptake of low-carbon heating in Northern Ireland.