REA Response to the Northern Ireland Department for the Economy Consultation on Support for Low Carbon Heat in the Residential Sector

The REA (Renewable Energy Association) is pleased to submit this response. The REA represents industry stakeholders from across the sector and includes dedicated member forums focused on biomass heat, green gas & hydrogen, biomass power, renewable transport fuels, thermal storage and energy from waste (including advanced conversion technologies). Our members include generators, project developers, heat suppliers, investors, equipment producers and service providers. Members range in size from major multinationals to sole traders. There are around 500 corporate members of the REA, making it the largest renewable energy trade association in the UK.

Theme 1: Eligible Technologies

Question 1: Do you agree with the criteria used to inform technology eligible for support?

- No.

If you do not agree, please explain why you do not agree and provide evidence to support your answer.

The criteria used to determine eligibility for support leaves consumers with only three choices of low carbon technology, undermining the Department's overall net zero ambitions. Furthermore, REA members have highlighted concerns regarding the shortage of skilled trades particularly qualified heat pump engineers. Reducing consumer choice will place increased pressure on an already limited skills sector.

Upfront capital costs

Focusing on upfront costs can make a technology more accessible initially but fails to take account of the ongoing financial cost of operating these systems, which can deter adoption or result in consumers reverting to fossil-based systems. Supporting some level of operational costs could ensure the longer-term affordability and success of these technologies, especially for low-income households.

Similarly, too narrow a focus on capital costs may undermine the potential for other market mechanisms to be adopted which could encourage uptake of renewable fuels and reduce dependence on fossil fuels.

Technology efficiencies

We would caution against 'technologies with efficiencies greater than 100%' as set out in criteria 2 as this limits the scheme's flexibility and potential uptake, undermining the overall aims. Some technologies with efficiencies slightly below 100% may still contribute to significant carbon savings if integrated with other renewable solutions so this could be revised down slightly, to ensure efficiencies are suitably high but without excluding technologies falling just below the threshold which can still play a critical part in decarbonising heat.

Air quality

We would disagree with criteria 4 – "technologies that cause adverse effects on air quality (and consequently human health) will not be supported." While air quality is of course an important consideration, there should be nuance within this. For example, air quality is a far greater concern in urban areas where pollution is greater compared to rural areas where just under 40% of Northern Ireland's population resides (according to the most recent NI Statistics and Research Agency data). Further, there are many existing regulations under the RHI which ensure biomass doesn't compromise air quality – indeed average particulate emissions of biomass boilers stands well below the maximum permitted under the RHI scheme. Please refer to the accompanying air quality leaflet which has been included as part of this submission.

Both indirect and direct emissions should be considered when assessing the greenhouse gas emissions produced by a heating system, as this would better define its total impact on the environment. Indeed, some of our members have been involved in scope 1-3 assessments of bioenergy systems and highlight that when assessing the whole lifecycle benefits of bioenergy, it stands up against grid production of electricity, with biomass heat having a carbon footprint 23 times smaller than heating oil systems[1]. Many modern biomass boilers have also improved their particulate emissions abatement technologies – for instance, electrostatic precipitators filter out 99% of particles – and innovation is happening all the time in the sector to further drive down emissions.

Capacity limit

The proposed capacity limit (45kWth) might exclude applications for larger buildings, industrial processes, or district heating systems, which can play a critical role in decarbonisation. Adding some flexibility to enable larger or collective installations (apartment complexes) could enable the scheme to support more applications and achieve greater carbon savings.

Question 2: Do you think that other criteria should be applied?

- Yes.

Please provide evidence to support your answer.

All renewable low-carbon technologies have a role to play in the decarbonisation of the heating system and we would encourage a low carbon heating policy that is focused on technology agnosticism – to ensure that the right technology is used for the right building, ensuring consumers have the most efficient and cost-effective solution for them. Other criteria that could be considered is:

(a) CO2 savings relative to existing fossil fuel systems
(b) running costs of the low carbon installation
(c) social and economic impact assessment of technologies, and
(d) suitability of the technology for the building – taking into account insultation and location (remote/ off-gas-grid/ grid constraints etc.)

[1] Land Energy, (2023), '*Comparison of Lifecycle CO2 emissions from heating oil and wood pellet.*'

Question 3: The department does not intend to provide financial support for biomass boilers, do you think there should be exceptions to this?

- Yes.

Please give a reason for your answer

Bioenergy should be included as an option as it is important to offer alternatives to the many building types and locations where electrification is uneconomic, impractical or both. The UK's Biomass Strategy recognised a role for bioenergy in decarbonising the heat system, especially in complex to decarbonise situations. Under DESNZ's Boiler Upgrade Scheme, biomass boilers are eligible providing they are in a rural location, off-gas-grid and can provide an emissions certificate showing that polluting emissions are kept to a minimum. Similar criteria could be applied to this scheme.

The low carbon heating support mechanism should recognise the fact that in some cases bioenergy is the most cost-effective renewable heating option. Failure to do so could leave many households and businesses behind without adequate, or financially feasible, options to decarbonise. In many cases electrification is likely to be the correct solution, however there are many situations where biomass will be a more appropriate decarbonisation solution. This is particularly the case in rural or island communities with poor grid connections or complex-to-decarbonise homes.

Biomass boilers can also operate at a higher heat load than heat pumps, making them a valuable high temperature heat source which can be particularly valuable in large properties. Allowing bioenergy and hybrid-heat-pumps with bioenergy options would help give choice of heat supply for consumers, particularly those highlighted above, who may not have a viable grid connection.

Please also refer to our response to question 1 in response to the air quality criteria.

Question 4: The department does not intend to provide financial support for hybrid heat pumps, do you think there should be exceptions to this?

- Yes.

Please give reasons for your answer

Whilst we would not support hybrid heat pumps with fossil fuels, we believe hybrid heat-pumps when combined with a bioenergy system can provide a net zero compatible solution – this could be particularly useful for rural off-grid homes.

Combining heat pumps and biomass is particularly common in Scandinavia, where heat pumps are used 70% of the year, and biomass for the 30% of the year during colder months, when heat pump efficiency is lower. In Norway, for example, 86% of homes have biomass boilers, and 80% have heat pumps.

Question 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.

- Air Source Heat Pump
- Ground Source Heat Pump
- Water Source Heat Pump

Please give reasons for your answer

We suggest a co-efficient performance of 3. In addition, criteria on how this could be independently assessed (standards and quality assurance and monitoring and verification) should apply to the three above low carbon technologies. Criteria should also include actual performance (in homes and buildings, not under laboratory conditions).

Question 6: Should all domestic buildings be eligible for low carbon heating technology support?

- No.

Please give reasons for your answer

Support should be based on the carbon savings to ensure grant levels reflect the size of property and are therefore fair and appropriate. Consideration should be given to excluding new build homes from receiving support, as Scotland has done with its New Build Heat Standard (NBHS)[2] and as may come into effect under schemes like England's Future Homes and Buildings Standards. This would encourage the uptake of renewable in modern, efficient builds and prevent future retrofitting problems, being experienced today.

Consideration should also be given to how grants will interact with properties of multiple occupancy to avoid over subsiding while still ensuring as many properties as possible can effectively decarbonise.

Question 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?

- Option D – A minimum standard of EPC rating.

Please give reasons for your answer.

We believe option D is most appropriate as it's already a tried and tested efficiency criterion. For example, the GB Feed in Tariff scheme required a minimum standard of EPC D or above. To qualify, properties below that rating could still receive support if the work undertaken – in this case, the installation of a low-carbon heating system – would increase the EPC rating to the minimum standard or above.

Question 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?

[2] Scottish Government, (2024), *'New Heat Build Standard',* https://www.gov.scot/collections/new-build-heat-standard/

- N/A

Question 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?

- The REA does not have the information required to answer this question.

Question 10: Do you agree that self-build properties should be eligible for support at this time?

- Yes

Please give reason for your answer.

As set out in response to question 6, if the Executive introduces a ban on fossil fuel heating systems in new and self builds, then these properties should not be eligible for support as these homes would already have low-carbon heating sources installed. That said, timelines around a ban and support eligibility would need to align to ensure fairness and to give consumers adequate time to prepare to meet any new requirements.

If a ban is not introduced, then there is no reason why support should not extend to self-build properties which may face similar decarbonisation challenges as other properties.

Question 11: Do you think additional financial support should be available to those homes in rural and island locations?

- Both – rural and island

Please provide reasons for your answer.

According to the Rural Services Network, incomes earned in the rural economy are around 6% less than the national average, yet the cost of living is higher.[3] Homes outside urban areas also tend to be larger and either detached or semi-detached, which makes heating them even more expensive. A further complicating factor is the ability to connect to gas supplies, with only around 40% of rural homes connected to the gas network, compared to 91% of urban homes.[4]

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

The national gas network could provide information on which properties are considered off the gas grid or require grid reinforcement, and this could help identify those in rural locations, most in need of financial support to help decarbonise their heating systems. This could be used in conjunction with the UK Government's Rural-Urban Classification.

[3] Rural Services Network (2023), '*The Challenge of Rural Decarbonisation',* https://www.rsnonline.org.uk/the-challenge-of-rural-decarbonisation

[4] Energy Savings Trust (2019), *'Why outside the grid does not mean outside of help',* https://energysavingtrust.org.uk/why-outside-grid-does-not-mean-outside-help/

Question 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?

- Yes.

Please give reasons for your answer.

The main purpose of providing this support should be to help consumers decarbonise their homes in a cost-effective way, to drive down emissions and help us to get to net zero. As such, helping people move away from reliance on fossil fuels must be a priority. While electric heating systems offer a low carbon solution, running costs tend can be costly, so enabling a switch to another low carbon, cheaper source should be encouraged.

Question 14: Do you agree that replacing a low carbon heating system with another low carbon heating system should be ineligible for support?

- No.

Please give reasons for your answer

If there is valid reason for replacement e.g., an older inefficient system, then it should be possible to replace this. Without this option there's a risk that a consumer would switch back to a fossil fuel system, particularly if running costs are lower. We suggest a list of 'valid reasons' be worked up to ensure there is clarity on when support can be utilised. This should be developed in conjunction with industry bodies.

We do recognise that replacing older low-carbon heating systems with new ones would result in only a small reduction in CO_2 emissions, primarily due to efficiency gains, and therefore any financial support provided through the scheme should be adjusted to reflect that and to avoid over-subsidising upgrades that offer only incremental reductions in emissions.

Question 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?

- Yes

Please give reasons for your answer.

As outlined in response to question 13, supporting as many people as possible to install low carbon, cost-effective systems in their homes should be a priority aim of any support scheme. However, as mentioned in response to question 1, this should include a range of low carbon systems, including biomass boilers, rather than focusing solely on heat pumps, which while playing a vital role are not suitable for every property.

Question 16: Should support options be designed to prioritise or target certain groups of people (such as those on low incomes)?

- No

Please give reasons for your answer. If you answered Yes, please detail which groups should be targeted and how could this be achieved?

Support should be based on reducing CO2 emissions. This would likely mean different grant levels based on boiler size to ensure more support is provided where cost per tonne of CO2 savings is greatest.

Question 17: Should prioritisation or additional support be given to those with older (perhaps 15+ years) fossil fuel boilers?

- No

Please give reasons for your answer.

Please refer to our response to questions 6 and 16 in terms of criteria and focus for support.

Question 18: Should additional support be offered to the consumer where no central heating system is present in the home?

- No

Please give reasons for your answer.

As above, the purpose of any support scheme should be about reducing CO2 emissions. Introducing criteria around socio-economic status will only add complexity and potentially undermine the overall scheme purpose.

Question 19: Should those with multiple occupied properties e.g. holiday homes be eligible to apply for support for more than one property?

- Yes

Please give reasons for your answer.

This is about reducing emissions and multiple properties installing measures at once will aid this – a cap could be introduced or a taper as in the GB Feed in Tariff scheme for 10 or more properties in the same ownership.

Question 20: Do you agree that the department has a requirement for consumer protection measures to be associated with support for low carbon heating technology?

- Yes

Please give reasons for your answer.

The REA would support the inclusion of consumer protection measures as this will improve transparency and confidence in any support scheme. There are already several certification schemes in place to maintain high standards and ensure quality within the low carbon and renewable energy industry, while also protecting the consumer (E.g. Microgeneration Certification Scheme (MCS) and Hetas Approved Biomass Maintenance Scheme (HABMS).

We suggest working with industry to introduce the most appropriate requirements. This could a regular publication on number of and cost of installations per kW for example.

Question 21: What do you feel would be the best method of consumer protection?

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

Membership of MCS demonstrates adherence to recognised industry Standards, highlighting quality, competency and compliance, giving consumers confidence and providing transparency.

Question 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?

- Yes

Please give reasons and evidence to support your answer.

Transparency is critical for consumers, but if costs are involved, then funding could be made available to help installers become accredited. Against a backdrop of ongoing skills and labour shortages, it's important to help as many would-be installers as possible to receive the right accreditation, ensuring the highest standards are followed and building consumer confidence in the scheme.

Question 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?

- Yes

Question 24: Do you agree with the criteria for the administration of support for low carbon heating technologies?

- No.

If no, please give reasons for your answer.

Please refer to our response to question 1 regarding one off capital funding.

In addition to the criteria set out (which we support), a criterion focused on overall CO2 savings – which should be the main purpose of the scheme – should be explicitly included. In addition, a criterion that links value for money to kilowatt converted could be used.

Question 25: Do you agree with the approach to offer support by providing a one-off capital grant?

- No

If no, please give reasons for your answer.

Please refer to our response to question 1. If a one-off capital payment is offered, then lessons should be learned from similar schemes operating elsewhere. For example, uptake for the Boiler Upgrade Scheme is very low, with only 33,858 law carbon heating systems installed in homes in

England and Wales in the last two years.[5] Equating that figure to Northern Ireland would result in the installation of 680 low carbon heating systems. This would be a poor return on investment and would not stimulate business investment.

As such, consideration should be given to a higher capital grant figure than those operating elsewhere.

Question 26: Which option do you think should be the approach to the level of financial support for eligible technologies? Please tick one box only.

- Option 3 – other (please specify).

Provide reasons for your answer.

It is important to recognise that different technologies will have different installation costs, but as stated previously, it's important that support applies to a range of technologies to drive the most value for consumers and greatest emissions savings.

Table 1.3 - Average reported cost and capacity of BUS redemptions paid by technology type, England and Wales, May 2022 to September 2024
This worksheet contains one table. Some cells refer to notes, which can be found on the 'Notes' worksheet.
[note 4] [note 5] [note 6]
Source: Ofgem, Microgeneration Certification Scheme (MCS) Installation Database

Measure	Air Source Heat Pumps	Ground Source Heat Pumps	Shared Ground Loop Ground Source Heat Pumps	Biomass boilers
Mean cost of installation (£)	13,204	27,909	25,701	16,226
Median cost of installation (£)	13,000	25,000	21,765	15,486
Lower quartile cost of installation (£)	10,780	18,486	15,500	12,570
Upper quartile cost of installation (£)	15,539	38,000	37,561	19,694
Mean capacity of installation (kW)	10.0	14.9	11.5	22.8
Median capacity of installation (kW)	9.0	12.0	9.0	22.0
Lower quartile capacity of installation (kW)	7.0	10.0	6.0	18.0
Upper quartile capacity of installation (kW)	12.0	16.8	13.1	26.0

The Executive should take lessons from the GB Boiler Upgrade Scheme which places one technology – heat pumps – above others by providing a higher level of grant. This limits consumer choice, pushing them towards the option that costs the least, even if it's not the most efficient or suitable technology for their property. If someone is forced to choose one technology (heat pumps) over another (e.g., biomass boilers) based on cost alone, and later find it wasn't the right solution for their home, this will damage confidence in low-carbon heating and could push consumers back to fossil-based systems.

Taking this narrow, one size fits all approach, must be avoided in Northern Ireland.

Question 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?

- Yes

[5] Ofgem, *'BUS Annual Reports', 2022-2023 and 2023-2024,* https://www.ofgem.gov.uk/environmental-and-social-schemes/boiler-upgrade-scheme-bus/boiler-upgrade-scheme-bus-guidance-and-resources

Please give reasons for your answer.

Fuel and maintenance costs should also be considered. In addition, if support only applies to heat pumps, then considerable network upgrades and alterations to domestic properties will be required.

Question 28: Do you have suggestions as to how the department can ensure financial support delivers the best possible value for money?

- Yes

Give reasons for your answer.

As above, the Executive should look to other similar support schemes to help form their views on what has worked well and where lessons should be learned, for example the GB Boiler Upgrade Scheme (BUS). From our perspective, the main learning should be ensuring that any support scheme introduced in Northern Ireland should avoid having any technology bias. While the BUS does include biomass boilers, the grant for installing heat pumps is greater, encouraging people to install one particular low carbon heating solution over another, even if it's not the right solution for that property. This should be avoided so that all low carbon solutions are included in the support, and at the same grant level.

Question 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?

- No.

Give reasons for your answer.

If the scheme only applied to heat pumps, then the supply chain in Northern Ireland would struggle to meet demand. Further detail is provided in response to question 30.

If, however, the support grant was extended to include other technologies, like biomass boilers, then many of the existing HETAS registered engineers, listed on the HETAS Approved Biomass Maintenance Scheme (HABMS) could help meet demand for repairs.

In addition, the Biomass Suppliers List (BSL) is a list of wood fuel that has proven it meets the eligibility requirements for the Renewable Heat Incentive (RHI) scheme. These existing schemes provide transparency and assurance, while ensuring any increase in demand can be met.

Question 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?

- Yes

Give reasons for your answer.

Installation is one element, but repairs, parts, and servicing are equally important to ensure the longevity of a technology. Northern Ireland does not have these skills available. See the map

below which shows that ROI/NI does not have a single service business, meaning installers have to travel from Scotland, increasing time and costs for homeowners.

Question 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 have.

As set out previously, we don't agree with the criteria set out for support, which focuses on a heat pump only solution. While heat pumps are an important technology and will be the right option in many cases, they're not the right one for all properties. Furthermore, and as highlighted in questions 29 and 30, there's a significant shortage of skilled heat pump engineers in NI. Bioenergy options can offer the more efficient, cost-effective solution for properties – particularly off-gas grid, rural homes - and there's already a register of existing, qualified bioenergy installers.

The REA recently wrote a report on skills in the Net Zero sector (here). While the focus of the report was limited to the Electric Vehicle sector, the recommendations are applicable across a range of sectors, including within the heat pump space. For example, the main recommendation of the report is to create a series of regional Net Zero Training Centres partnering schools, FE colleges and local businesses to address real world needs.

Question 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?

- No.

Question 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?

As set out throughout our response, we'd like to see the proposed scheme eligibility widened to include other low carbon heating technologies, like biomass boilers, which can offer a cost-effective solution to decarbonisation, particularly in larger, off-gas grid properties. This will send a clear commitment from the NI Executive about decarbonisation and net zero.