

Zero Emissions Heat in Buildings Regulations Unit
Scottish Government
5 Atlantic Quay
Glasgow
G2 8LU

20 October 2022

To whom it may concern,

New Build Heat Standard Part II: Consultation Response

Scottish Renewables is the voice of Scotland's renewable energy industry. The sectors we represent deliver investment, jobs, social benefits and reduce the carbon emissions which cause climate change. Our 300 members work across all renewable energy technologies, in Scotland, the UK, Europe and around the world. In representing them, we aim to lead and inform the debate on how the growth of renewable energy can help sustainably heat and power Scotland's homes and businesses.

Scottish Renewables welcomes the opportunity to provide our views on The Scottish Government's current thinking on the proposed New Build Heat Standard: Part II, as set out in the consultation document.

In responding, we would like to highlight the following points:

- The NBHS intends to be technology-neutral however, there are still several issues relating to notional building specifications and specific heat technologies which have not been corrected by the December 2022 iteration of the building regulations.
- Although the proposed aim is not to penalize certain low-carbon heating technologies, the unintended consequences of some of the actions will result in low uptake.
- As we set out in our response to the NBHS scoping consultation, 2024 being the date to apply for the building warrant means that it could be 2028 before the regulations

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are fully operational, as there will be properties throughout the system at different stages of consenting.

- We are also concerned over the complete exclusion of bioenergy systems in domestic and non-domestic new builds and conversions by 2024. Biomass could remain the best-placed technology for carbon savings and cost for off-grid and hard-to-heat properties beyond the NBHS implementation date of 1 April 2024.

Scottish Renewables would be keen to engage further with this agenda and would be happy to discuss our response in more detail.

Yours sincerely,

A handwritten signature in black ink that reads "Helen A. Melone". The signature is written in a cursive, flowing style.

Helen Melone
Senior Policy Manager | Heat, Hydrogen & Solar
Scottish Renewables

Consultation Questions

1. Do you agree with the approach set out in 2.1 to regulate direct emissions heating systems in new buildings?

We are concerned by this statement –

“The improved energy efficiency standards for new buildings, set under the revised building regulations, will pave the way for the implementation of the NBHS in 2024.”

While this appears forward-thinking, there are still several issues relating to notional building specifications and specific heat technologies which have not been corrected by the December 2022 iteration of the building regulations.

The NBHS intends to be technology-neutral however there is clear evidence that the December 2022 technical handbooks will result in solar PV and heat networks being disincentivized by the notional building specifications. For the heat network building specification, solar PV is required to meet a specific energy rate, yet solar PV is not required by other building specifications.

Although the proposed aim is not to penalize certain low-carbon heating technologies, the unintended consequences of some of the actions will result in low uptake.

As we set out in our response to the NBHS scoping consultation, 2024 being the date to apply for the building warrant means that it could be 2028 before the regulations are fully operational, as there will be properties throughout the system at different stages of consenting. This will result in 2030 targets being difficult to achieve in such a short space of time. We recommended in that response that the date is brought forward to 2022.

We agree that it is important to emphasis fabric first and technology-neutral (if this is truly the case) with the various heat solutions monitored by the technology-specific regulations. For example, heat networks are dealt with by the Heat Networks (Scotland) Act 2021, heat pumps by their efficiency regulations, etc.

We are also concerned over the complete exclusion of bioenergy systems in domestic and non-domestic new builds and conversions by 2024. Biomass could remain the best-placed

technology for carbon savings and cost for off-grid and hard-to-heat properties beyond the NBHS implementation date of 1 April 2024.

2. Do you envisage any unintended consequences as a result of this approach? Please provide reasons for your answer.

As we set out in the answer to Q.1 the unintended consequences that have arisen from the December 2022 building regulations technical handbooks seems likely to carry over to the NBHS unless the technology-neutral approach is emphasized. There should either be only one notional building specification, or a series of building specifications per technology. Solar PV should be included in all.

We also see potential unintended consequences as a result of the complete exclusion of bioenergy from the NBHS. In 18 months' time, we expect there will still be new build properties for which bioenergy provides the most economic and low-carbon solution. This is particularly true for off-grid non-domestic properties, as well as any properties which require a high load or higher temperature processes, discussed further below.

Electrification is not always a viable solution for such properties and, even if it were, complete reliance on electrification for heating and cooling could create strain on the energy grid if all properties were to simultaneously begin to connect for electrified heat in the near future. This strain, combined with a ban on bioenergy and phasing out of fossil-fuel heating, could leave some properties with limited (or no) options for low-carbon heat.

3. Are there any limited, specific situations where the use of bioenergy systems would be required in new buildings?

In our response to the previous NBHS consultation, we recommended that biomass boilers are one of the technologies that should be considered acceptable through this Standard, at all scales of implementation from single building to sources of heat for district heat networks.

Whilst supporting progress to net-zero, we recognise that biomass is not a viable solution for the mass decarbonisation of heat due to the limited availability of sustainable fuel sources. However, it can be a critical source of low-carbon heat for certain properties, such as:

- Domestic properties and developments which do not have existing grid connections and/or would create new strain on the grid through simultaneous electrification.
- Industrial buildings and other non-domestic buildings which are hard to heat, such as schools, swimming pools and factories.
- Industrial buildings and other non-domestic buildings which are independently developed and/or isolated
- Buildings which have an existing biomass heating system.
- Buildings which utilise biomass or other low-carbon energy for process heat, who may intend to utilise waste heat from these processes.

Biomass has previously been considered renewable or low-carbon heat and was a majority contributor to the previous renewable heat target (which was not met) of 11% of renewable heat by 2020. We would also highlight that, as of 2021, only at 6.5% of Scotland's heat requirements were met from low-carbon sources. For Scotland's domestic buildings, we anticipate significant challenges in rapidly increasing electrification of heat due to grid availability and the cost of grid connections.

As mentioned above, the NBHS, as it is currently drafted, could unintentionally create strain on the energy grid through hundreds of newly electrified homes and buildings being installed simultaneously. This would be particularly harmful in rural areas and could lead to construction delays. Limited use of biomass heat in such situations could provide low-carbon heating to customers who would otherwise have limited (or no) options.

Regarding decarbonisation of non-domestic buildings, it is our understanding that the Scottish Government does not intend for process heat to be in the scope of the NBHS. However, the wording in the draft is unclear on this point, particularly for process heat via hot water, which under current wording seems like it could be in scope. We would encourage the Government to ensure that process heat, whether for steam or hot water, is explicitly excluded from the NBHS.

4. If 'Yes', what do you believe the criteria should be for introducing such an exemption?

Please provide evidence to support your answer.

Given the potential negative impacts of excluding bioenergy from the NBHS, we would encourage the Government to reconsider this exclusion. It may be more beneficial to consider banning high-carbon technologies, rather than a blanket exclusion on anything which is not zero emissions at point of use (as this will likely include biomass and hydrogen). However, if an exemption is required, then criteria for a biomass exemption should consider:

- Availability of a suitable connection to the electricity grid
- Local electricity demand
- Heat demand for industrial buildings
- Circular economy considerations, i.e., a woodworking business which uses off-cuts to fuel a biomass boiler
- Access to local sustainable feedstocks
- A specific exclusion for process heat

5. Do you agree with the proposed approach to conversions as set out in section 2.3?

We agreed that conversions should be included in this Standard (when this means change of use) although, in general, this is not the optimal route to drive the conversion of existing buildings to low-carbon solutions.

We agree with the Scottish Government proposal that conversions would be prohibited from installing a Direct Emissions Heating (DEH) system where the work to be undertaken would already require the installation of a new heat generating system.

However, more clarity is needed regarding how a conversion will be defined under the NBHS, for both domestic and non-domestic buildings. The wording is currently unclear whether the NBHS would only apply if heating is introduced to the building for the first time or an existing heat generator is located within a part of the building which is the subject of the conversion, or if applying for any building warrant might be sufficient to place a building in scope of the NBHS.

6. Do you envisage any unintended consequences as a result of this? Please provide reasons for your answer.

Potential unintended consequences could be missed opportunities to install zero direct emissions heating (ZDEH). We foresee that there may be circumstances where it is shown that the replacement of the heat generator is not 'reasonably practicable' and would ask for further clarity on these circumstances.

In line with our above arguments, we disagree with the biomass exclusion for conversions. Biomass can be a suitable technology in certain situations, depending on the fabric efficiency, location and grid connections of the building being converted. The current approach could have unintended consequences, such as forcing a property to replace a functional biomass system with a potentially more costly and grid inefficient ZDEH system. This would be particularly detrimental (if not impossible) for the off-grid and hard-to-heat properties listed above.

7. What criteria would you use to define the replacement of a direct emissions heating (DEH) system as being 'reasonably practicable'?

'Reasonably practicable' is not explained in detail in the Definitions and Explanations of Terms section. Industry needs clarity on what this expressly means. This can often mean weighing a risk against the trouble, time and money needed to control it and then stating that something is not reasonably practicable.

There also needs to be an explanation of 'not reasonably practicable'.

8. What criteria would you use to define it as being 'not reasonably practicable'?

Again, as we have stated above, clarity is needed on what 'reasonably practicable' means; to be able to say when it is not 'reasonably practicable'.

There needs to be an explanation why, with potential solutions proposed.

9. How might these proposals impact upon people with one or more of the protected characteristics listed in the Equality Act 2010 (for example: a positive, negative or neutral impact)?

No comment

10. How might these proposals help the Scottish Government ensure due regard of the three needs of the public sector equality duty (PSED)?

No comment

11. Do you anticipate any form of heating within a non-domestic building which will require DEH after 2024? Please provide details of the factors – whether technical, economic or social – which would require DEH after 2024?

We are pleased to see that the NBHS will be introduced for all non-domestic buildings applying for a building warrant from 2024.

There are some instances that would require DEH after 2024. For example, back-up boilers at times of peak demand for district heating, although the Heat Networks Delivery Plan states that when heat network licenses are awarded, there is the obligation to produce a Heat Networks Decarbonisation Plan within 1 – 3 years of that license being awarded. Since the Heat Networks (Scotland) Act will not be fully operational until 2024, there are likely to be some heat networks with gas boilers providing that back-up.

There may be social situations, where cost and affordability of ZDEH systems is a factor.

Hybrid heat pump solutions, which are heat pumps installed alongside small gas boilers, may require DEH after 2024. It is not in the scope of this consultation however this depends on the Scottish Government schemes to aid the uptake of low-carbon heat solutions for both domestic and non-domestic participants.

We expect biomass and bioenergy heating solutions to remain necessary beyond 2024, particularly for non-domestic, off-grid, and hard-to-heat buildings, for the reasons outlined above in our response. We note that The Scottish Government intends to publish a Bioenergy Action Plan by 2023 therefore the NBHS needs to be aligned with that plan.