Solar Energy Scotland Consultation Response

Social Housing Net Zero Standard in Scotland

March 2024

About us

Solar Energy Scotland is the trusted industry trade body for solar energy in Scotland. Alongside Solar Energy UK, we represent a thriving member-led community of businesses and associates, ranging from ambitious and innovative SMEs to global brands.

Together with our members, Solar Energy Scotland works to shape policy to realise the potential of solar and energy storage in Scotland, and to work with Government and all stakeholders to deliver on climate change obligations and net zero greenhouse gas emissions by 2045.

Respondent details

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- Would you like this response to remain confidential? No
- Submission Date: 08/03/2024

Question 1

To what extent do you support the use of a fabric efficiency rating, based on heat demand, in the SHNZS?

Somewhat Oppose

While we support the use of a fabric efficiency rating, we have significant concerns that the rating does not take into account hot water and future energy demands. We consider the decision to omit hot water heating from the fabric efficiency rating, and thus limiting it to space heating, to be shortsighted and it does nothing to aid the true decarbonisation of our building stock. We also have concerns that this rating fails to take account of future energy demands – specifically electricity demand - for burgeoning technologies, such as EVs, many of which will be charged at homes and offices, and which will be essential to decarbonising our transport system.

Omitting hot water demand limits how effective the rating requirement will be in the drive to net zero. Indeed, point 1.2.10 references the need for 'zero direct emissions heating systems' to include hot water as well as heat, so excluding hot water from consideration neglects this requirement. Furthermore, point 3.2.5 references the 2023 Scottish Government EPC consultation suggesting not to include hot water – but that consultation also asked if hot water demand should be considered and was consulting on that issue. The exclusion of hot water heating, while including space heating in this consultation, pre-empts a decision on that consultation, while discriminating against solar thermal and solar PV (plus diverter) technology that can directly address both water and space heating.

This reflects a broader point: that consideration must be given to the need to reduce the overall amount of energy needed to live in a home, not just reducing how much energy is needed to heat the space of a home, which we are concerned this consultation is focusing solely on. According to the Energy Savings Trust, hot water demand accounts, on average, for 17% of total household energy demand; this proportion of demand is likely to increase as houses are insulated and less energy is required for space heating. Excluding hot water demand overlooks a significant – and growing - part of household energy use, undermining the overall purpose of the EPC. [Energy Savings Trust - How saving water at home can help you save energy too]

The fabric efficiency rating, as proposed, eliminates from consideration some of the fastest and most cost-effective ways of decarbonising heat and the energy a home uses. Solar thermal technologies, and solar PV with a diverter, are powerful tools in achieving this.

Solar PV is also a powerful tool in reducing consumer bills and carbon emissions for space heating, especially when paired with electric heating and / or a battery solar PV. It does so by enabling power generation at a lower cost than grid electricity, helping to ensure the affordability of electric heating: in a typical heat pump heated Scottish home, the installation of a solar PV system would mean heating bills reduced by £961 per year, saving 34.1 tonnes of carbon across the system's lifetime [Solar Energy Scotland – The Value of Solar Heat]. Shetland Island Council says that Shetlanders will need to earn more than £100,000 to avoid fuel poverty, and solar thermal and solar PV can help tackle these challenges [Shetland Islands Council - Fuel Poverty in Shetland to hit 96%]. All this must be considered in conjunction with Scottish Government's forthcoming Energy Strategy and Just Transition Plan, and their recent announcement of a Solar Ambition of 4-6GW generation by 2030.

A reformed EPC fabric efficiency is a useful tool in assessing the thermal efficiency of a property. However, it should not be used as a measure of the affordability of a property. Ultimately this is dependent on the type of heating system used, and fuel / power prices, among other factors. The contribution that onsite generation and storage can make to the transition to non-polluting heated buildings should be recognised.

Transition to low carbon heating systems should be encouraged by allowing access to support and low-cost finance. Consumer Scotland shows that solar is remarkably popular, but these low cost measures are only possible if greater availability of low-cost finance is made available [https://consumer.scot/blogs/energy-consumers-and-the-transition-to-net-zero/]

This is evidence that solar and storage are particularly low cost, low regret and popular options for the public to implement and any support in the form of resource and low cost finance should be afforded to these complimentary technologies as well.

Question 2

Of the options presented for the fabric efficiency rating, which one do you support for the new SHNZS?

While Option 1 is preferred, they both have significant drawbacks for the reasons listed in Question 1 above, where we express our serious concerns regarding the omission of hot water demand.

Question 3

Are there additional options for the fabric efficiency rating that you think should be included? If yes, please describe these here

As outlined in Questioned in Question 1, we consider the decision to omit hot water heating from the fabric efficiency rating, and thus limiting it to space heating, to be shortsighted and it does nothing to aid the true decarbonisation of our building stock. Hot water demand must be included.

Question 4

What, if any, are your views on how performance against the fabric efficiency rating should be measured?

The consultation mentions SAP, but not the incoming replacement of SAP with the Home Energy Model (HEM) in the Future Homes Standard and Future Buildings Standard, currently being consulted on.

Question 5

What are your views, if any, on the proposal for a minimum fabric efficiency standard?

We recognise the potential merits of a 'list of measures' as it is simple to communicate and achieve, however, we are concerned about the number of potential caveats and lack of applicability to many solid wall homes in rural areas and tenements, and the absence of low carbon onsite heating (space and water) solutions that can increase efficiency beyond that of the measures on the list, making homes immediately more energy efficient and which can still be financially viable and attractive to homeowners and landlords.

As stated previously, one of the best ways to decarbonise a home and increase the efficiency of its heating system is through low-carbon heating technology, such as solar thermal and solar PV. These technologies can be used in conjunction with heat pumps or infrared space heating, while onsite storage can increase the efficiency and utility of onsite generation, while also reducing energy costs.

While the capital costs of these technologies tend to be more expensive than some of the measures on the list, in some circumstances they can be cheaper (e.g., compared to significant changes to the building fabric, for example), or have pay-back times that make the option more attractive to homeowners and landlords who benefit from money off bills both now and in the future. The current list limits that flexibility. They are also less invasive solutions than some of the listed measures, such as loft and cavity insulation.

The absence of any mention of low-carbon heating solutions de-incentivises their use and gives a negative signal to industry, which can damage the long-term attainability of clean heating and energy-efficient homes and does not take into consideration the various use cases where they would be more attractive to homeowners than the more invasive measures on the list.

A reformed EPC fabric efficiency metric should also include domestic hot water demand – an important consideration for overall energy demand in a home and must be included when considering overall energy efficiency. As answered in Question 1, excluding hot water pre-empts the mentioned Scottish Government EPC Reform Consultation 2023 that consulted on the inclusion of domestic hot water demand within fabric ratings for EPCs, but has yet to be decided upon.

Solar is also an excellent solution for homes with electric heating – whilst electric storage and wet electric heating are less efficient than a heat pump (in some properties), installing solar and storage on homes with electric heating can reduce demand and bills, ensuring tenants in hard to heat properties aren't left waiting for solutions. Some properties in rural and remote places may not be suitable for a heat pump and electric heat, and solar and storage could be a more cost-effective solution for those tenants. Indeed, and as stated above, solar can be used in combination with a variety of heating technologies, like direct electric, infrared, and solar thermal heating as examples – this flexibility makes it ideal to cover rural and remote areas with heating complications that come with that.

Question 6

What, if any, are your views on whether homes should not be relet if they cannot meet a minimum fabric efficiency standard?

No comment

Question 7

What, if any, are your views on whether ventilation and monitoring strategies should be required where MVHR is not installed?

No comment

Question 8

To what extent do you support the requirement to install a clean heating system by 2045?

Strongly Support

While we strongly support and welcome the requirement to install clean heating systems by 2045, we are concerned there is not enough consideration of solar and storage technologies, which will serve a crucial role in decarbonising homes on the road to Net Zero – highlighted by Scottish Government's recent Solar Ambition announcement of 4-6GW generation deployment by 2030.

There is no mention of the use of onsite solar and storage technologies. These are primarily Solar thermal, which directly uses the sun's thermal energy to provide space and water heating, and solar PV – used in conjunction with clean heating solutions like heat pumps. Pairing heat pumps and heat networks with storage can also make these systems more cost effective for consumers too. Solar and storage solutions would result in the more rapid delivery of decarbonising home targets and the ending of polluting heating systems – they immediately make homes more energy efficient. This is highlighted in our answer to Question 1, as well as the important role solar plays in combating fuel poverty.

The standard puts emphasis on affordability, fairness and feasibility. There is not enough detail on how that will be met and what support will be facilitated in the form of qualified advice, and finance. Currently the bill recognises that the implementation of ZDEH or non-polluting heating systems will incur higher capital (CapEx) costs at the point of installation but does not adequately discuss the increased operational costs (OpEx) in terms of the running costs of moving a home to ZDEH – which will ultimately mean greater electrification. The outlook for electricity price caps and price volatility means that, even with a significant uplift in energy efficiency measures, the running costs of moving to non-polluting heating systems – via mains electricity – will, in many cases, be higher – at least until we achieve full self-sufficiency/decarbonisation of the UK electricity grid, anticipated to be achieved in 2035.

We recommend that further recognition be given to the role that onsite generation and storage can play in reducing the running costs of a building – particularly in circumstances where certain fabric and heating solutions are not applicable. We therefore propose that the level of resource afforded to the implementation of building fabric improvements and low carbon heating systems (through advice and finance) should also be afforded to support the deployment of onsite generation.

Crucially, solar and storage are key technologies to provide the flexibility needed to convert rural and remote homes to clean heating systems by 2045. These homes are more likely to be off-gas, and often have specific issues, costs or other circumstances that may require some additional time to make the transition – onsite solar and storage technologies can provide an excellent solution to heat homes with electric heating.

Onsite generation technologies also reduce the need for investment in the broader energy system infrastructure, as the supply and demand of energy are in the same place and can be installed by existing networks of solar and storage technology businesses. These are expanding rapidly as part of the solar industry's broader growth and will make the clean heating targets more attainable.

It should be recognised that the move away from polluting heating systems and the widespread electrification of heat, will also take place alongside our move towards our other net zero goals, including the electrification of transport. It should be recognised that the electrification of heat and transport will require significant investment in the electrical distribution networks as homes, buildings and communities require an increased electricity demand to not only heat their spaces but to cook their food, heat their water and charge their cars.

We have concerns that there is a misconception that solar generation cannot make a meaningful contribution to the electrification of heat due to intermittency. On the contrary, solar generation not only provides low carbon generation, it also enables greater grid flexibility; reducing demand on the existing grid infrastructure. Data gathered from industry leading solar design and sales software, suggests that as high as 87% of domestic solar systems are deployed with battery storage. This provides a flexible energy system, supporting, rather than over-burdening, local grid infrastructure. This also supports the development of smart energy tariffs, allowing a lower cost transition to clean electricity, through the proliferation of smart meters that are used with solar and storage technologies. Consumers can use energy during periods of the day when energy is cheaper, as less people are using energy or there is more renewable energy being generated.

Furthermore, it is the case that whilst Scotland leads the way in terms of a low carbon electricity supply, that electricity is currently only approximately 22% of our total energy consumption. [https://scotland.shinyapps.io/sg-scottish-energy-statistics/?Section=WholeSystem&Chart=EnConsumption]

Transport is 25% of Scotland's energy consumption and heat is a further 50%. It should be recognised that the decarbonisation of energy used in buildings and transport will result in a significant increase demand for electricity. Our electrical energy supply will only remain low carbon with a significant and continued growth in low carbon generation. Including the mechanisms to support low carbon power generation and storage within this bill, at the same time as low carbon heat and transport, is therefore vital for an affordable fair and feasible low carbon system.

It is also important to note that electric heating systems are only non-polluting if the grid is non-polluting – increasing demand on the grid without at the same time taking the opportunity to add clean energy generation makes the job of decarbonising the grid much harder.

There is a lack of emphasis on storage too in general within the standard. The addition of storage maximises the benefit of the PV but also allows the tenant the ability to access flexible tariffs and grid services, with smart meters also proliferated with the install of solar and storage.

Presently the energy market means those least able to pay and on prepay meters pay the most for energy, whereas those able to afford batteries can access cheap overnight tariffs to charge their battery (as well as solar) and then power that dwelling from the battery during the day. We must create equality through our social housing stock which lowers the cost for some of the most vulnerable while also lowering the cost for everyone with greater energy storage in the country.

Question 9

Of the options presented for the interim targets, which one do you support for the SHNZS?

Option 2
Please see answer to Question 11 for in-depth response

Question 10

What are your views on whether neighbouring landlords could work together to reach such a target on a regional basis?

No comment

Question 11

Are there any additional options for interim targets that you think should be included? If yes, please describe these here:

Solar and storage are key technologies to provide the flexibility needed to convert rural and remote homes to clean heating systems by 2030. As stated in point 3.4.9 in the consultation, these homes are more likely to be off-gas, and often have specific issues, costs or other circumstances that may require some additional time to make the transition – onsite technologies can provide an excellent solution to heat these homes.

As stated previously, while electric storage and wet electric heating is less efficient than a heat pump (in some properties), installing solar and storage on homes with electric heating can reduce demand and bills, ensuring tenants in hard to heat properties aren't left waiting for solutions. Some properties in rural and remote places may not be suitable for a heat pump and electric heat, and solar & storage could be a more cost-effective solution for those tenants.

With the solutions on the list of measures also being invasive, involving in-home upheaval and renovation, rooftop solar PV, thermal and storage can be appealing for homeowners even if they can be more expensive. In old and listed buildings, solar and storage technologies may even be the only solution, as installing fabric changes like insulation can be too destructive to be possible or require complex and expensive structural work to be facilitate their installation.

Question 12

To what extent do you support the requirement for mandatory connections to heat networks under certain circumstances?

No comment

Question 13

To what extent do you support the need for landlords to have an element of discretion to ensure measures are cost-effective and in the best interest of tenants?

No comment

Question 14

What, if any, are your views on whether targets should be varied by guidance from the Scottish Government in specific circumstances?

No comment

Question 15

To what extent do you agree that the new SHNZS should apply to mixed tenure properties?

No comment

Question 16

Do you agree that for some blocks where the local authority or RSL is not a sole or majority owner, then a phased approach to retrofit work should be undertaken?

No comment

Question 17

To what extent do you agree that the new SHNZS should apply to Gypsy/traveller sites?

No comment

Question 18

What are your views on the timetable for introducing the new SHNZS?

No comment