



Date: 23/04/2021

Elmhurst Energy's draft response to:

Heat in Buildings Strategy: Achieving Net Zero Emissions Consultation

Prepared for: Scottish Government

1. Introduction

Elmhurst Energy are pleased that The Scottish Government are seeking consultation for their latest heat in buildings strategy, which attempts to achieve net zero emissions for Scotland's homes and buildings by 2045.

The Heat Strategy consultation asks 70 questions and we have answered all of them in turn below. We hope you find the responses considered and useful for taking Energy Efficient Scotland forward in a progressive manner.

2. Questions and Answers

1. To what extent do you support the pathway set out for achieving the 2045 net zero target and the interim 2030 target?

We support the pathway set and its intentions to reduce carbon emissions overall. Amending the metric for EPCs will be required as noted in the consultation; currently some zero emissions heating systems can be disincentivised such as air source heat pumps. Including systems such as this can provide great emissions savings, however due to their use of electricity and it's associated higher unit price (thus higher cost to run) EPCs may not actually reflect an improvement but result in a less favourable rating overall. This would inevitably reduce the uptake of low emission systems and could be detrimental to the rolling out of strategies such as this one proposed. We believe that the Government can work with industry relevant organisations such as ourselves to develop a more finite and useful metric for the EPC to serve its purpose accordingly.

In addition, as most of the savings will come from retrofitted improvements of existing buildings, great consideration needs to be made of the retrofit process as a whole. A systemic approach based upon the needs of the building and occupant usage needs to be undertaken. Measures should be installed at a time and sequence that maximises improvement and reduces unintended consequences, such as damp and poor air quality. Funding models must be consistent with the principles of PAS2035 which means a break away from a measure lead approach, to a focus on the improvement that has been delivered instead.

2. What are your views on any risks of unintended consequences from this pathway?

As mentioned previously, amending the metric for EPCs will be required. Currently some zero emissions heating systems can be disincentivised such as air source heat



pumps. Including systems such as this can provide great emissions savings, however due to their use of electricity and its associated higher unit price (thus higher cost to run) EPCs may not actually reflect an improvement but result in a less favourable rating overall. This would inevitably reduce the uptake of low emission systems and could be detrimental to the rolling out of strategies such as this one proposed. We believe that the Government can work with industry relevant organisations such as ourselves to develop a more finite and useful metric for the EPC to serve its purpose accordingly.

Furthermore, to improve the accuracy and effectiveness of an EPC, trigger points and validity periods could be revised. By increasing the number of trigger points for an EPC, for example when a material change has occurred in the building that will impact its energy efficiency, property owners can maintain accurate and measured reporting of their buildings efficiency with contemporaneous improvement recommendations. In addition, reducing the EPC validity to 3 years provokes more proactive actions from homeowners to improve their buildings as they cannot rely on complacency of the EPC being valid for 10 years at a certain rating, despite how inaccurate this could be due to changes over the years.

An additional unintended consequence could be that of fuel poverty. If the EPC metric is not carefully adjusted to reflect a balance of carbon emission savings and financial savings, there could be a negative impact for those who are already considered fuel poor.

3. What are your views on our assessment of strategic technologies in low and no regrets areas to 2030?

EPCs are a great way to rate the efficiency of a building along with recommending improvements for further efficiency, and it's with that intention they were created and have been developed since. However, to build strategies for larger carbon savings nationwide, the EPC structure and metric needs to be amended to provide accurate and helpful ratings and recommendations.

We agree with the overall concept of installing more carbon neutral systems to bring down overall emissions, however we urge the government to consider the impacts of basing ratings on the current EPC metric. A balance must be struck whereby the cost of running the utilities of a building are considered against the emissions savings, so as not to impose a greater fuel poverty crisis for those less able to afford high running costs. In addition, we do not want to create a metric whereby low emission systems are dissincentivised.

Currently the EPCs cost based metric reflects certain carbon efficient systems as poor, such as air source heat pumps. This is due to their use of electricity. If the government wants a shift in heating systems to these more "expensive to run" alternatives, the EPC metric needs to reflect this so the ratings and certificates as a



whole actually provide substantial results and improvements to those concerned.

4. What function should a new heat target serve?

We support the notion that the primary function for the heat target should be to reduce carbon emissions created by housing. The target should also provide a pathway for installing such measures in an effective manner so as not to induce futile installations at a great cost to the homeowner. Part of moving forward to a greener future must involve actively improving occupier's knowledge. Usage of a building logically creates a massive variable for the true efficiency of a building, therefore the greater the occupiers understanding of how to use their home in the most efficient way could prove very helpful to emissions savings overall. This requires the coherent and structured involvement of a retrofit installer and co-ordinator, and funding models should reflect the need for this role within the industry and for wider target achievement overall.

Again, considering a revision to the trigger points and validity of EPCs could improve occupier knowledge too, as their building is more accurately and contemporaneously reflected in an EPC produced every 3 years as opposed to every 10 years. The recommendations and savings reported would be more accurate and useful to base further actions on.

5. How do you think a new heat target should account for the need to deliver against our statutory fuel poverty targets?

As previously mentioned, a revision to the EPC metric giving more weight to carbon emissions savings as opposed to purely cost would be helpful to heat targets such as this one proposed. However, it clearly allows for fuel poverty concerns if the cost based metric is disregarded completely. Therefore, we believe it is imperative for the metric used to strike a balance between the two. We believe that with the right metric, a considered energy assessment can be completed for a homeowner that will provide not only savings on the bills but also carbon emission reductions. In addition, it is important for funding for such improvements to be considered as they can be unaffordable to most; the presence of funding grants for the retrofit process, training and delivery of this pathway is essential.

6. Do you agree that a new heat target should apply to heat in buildings, distinct from industrial heat?

No strong opinion.

7. What form should a new heat target take and why?

The target should involve statutory implementation for retrofit processes so as to maintain a high standard for delivery of the same. If it is required by law to follow PAS

2030 and 2035 there is a greater standard provided overall, and the implementation of high cost installations and projects will be regulated.

8. At what level should the target(s) be set and for what date?

Generally we believe intervention and execution of any plans would be welcomed sooner rather than later. No strong opinion otherwise.

Chapter 3 – People

9. What are the most significant actions we can take to ensure that Scotland's people and organisations are meaningfully engaged in the net zero heat transition?

We believe engagement would need to start with a formal and easy to follow retrofit process being set out. The retrofit process involves project coordinators, assessors, designers and installers meaning a holistic approach is taken to the efficiency improvement of a building. We believe this structured process is essential for legitimate results. In addition, grants and funding for large scale home improvements need to be offered to ensure uptake of the strategy nationwide.

10. What in your view are the opportunities, if any, available to key organisations, such as local government, businesses and trade associations and community or other non-government organisations, in supporting this public engagement activity?

We believe that formalising the retrofit process will also provide great economic opportunities to the people of Scotland. The formal retrofit process involves different skills and roles in order to implement it, thus there is a great opportunity for this to create many jobs for people. We believe this economic benefit to the people of Scotland is invaluable when such a hard year has transpired due to the pandemic.



11. In your opinion, could any of the proposals set out in this strategy unfairly discriminate against any person in Scotland who shares a protected characteristic? (age, disability, sex, gender reassignment, pregnancy and maternity, race, sexual orientation, religion or belief).

No Strong opinion.

12. In your opinion could any of the proposals set out in this strategy have an adverse impact on children's' rights and wellbeing?

If the heat strategy has an adverse effect on fuel poverty, then this in turn could of course effect children's welfare by plunging them into further poverty. However, if the EPC metric is carefully adjusted as previously discussed (balancing cost and carbon savings), we believe this consequence can be avoided.

13. What further action can we take to support people to make informed choices on the energy efficiency and heating options available to them?

The PAS 2030 and 2035 process does consider occupancy and how a person's usage of a property affects the costs and energy efficiency of the building. Maintaining public engagement and actively advising occupiers as part of the retrofit process will support people to make better choices moving forward. Therefore, the "retrofit process" should be widely marketed to ensure homeowners know they can access the assessments, knowledge and tools they need in one fowl swoop.

Otherwise, generally maintaining public engagement in efficiency matters and the grants applicable via Government websites and organisations such as ourselves, should be a great support.

14. What is your view on the current level of support and advice provided through existing services such as Home Energy Scotland and the Energy Efficient Business' Support service?

No Strong opinion.

15. Are there any further suggestions that you could provide on how the customer journey through these delivery services could be improved, in light of the ambitions set out in this strategy?

No Strong opinion.



16. What are the most appropriate steps we can take within our powers to ensure sufficient consumer protection for supported energy efficiency or zero emissions heat installations?

Regulation of the retrofit process and the roles within it could be required by law. Assessors and coordinators are already subject to accreditation, providing a certain level of regulation, however this could be further developed. The training provided to those conducting the roles involved in the retrofit process should also be supported and expanded upon to ensure competency is at its highest level, which in turn ensures consumer advice is accurately given.

17. Do you have views on whether we should adopt the use of the UK government's TrustMark quality assurance framework?

We believe the Trustmark framework is in line with current practices, therefore it should be adopted.

18. In your view, is there any further action that we, or other key organisations (please specify), can take to protect those on lower incomes, and those in or at risk of falling into fuel poverty, from any negative cost impact as a result of the zero emissions buildings transition?

Grants for the installation of the zero emissions measures will be essential as many of the measures are unaffordable for the average household. In addition, a fine balance needs to be struck in the EPCs metric between cost and carbon savings, so the occupier isn't left with higher bills after the retrofit process is concluded.

19. What are your views on our approach to phasing out funding for fossil fuel heating systems by 2024 where it is not detrimental to our fuel poverty objectives? Do you think that this could be achieved any sooner than 2024, and if so how?

We see the merit for this, as fossil fuel reliance needs to be reduced and eventually diminished for more renewable sources. If there is not a negative financial impact on occupiers then we see no reason why this target should not be pursued. Infrastructure issues may be a barrier to moving that 2024 target nearer to present day.

20. What changes can be made to the Strategy to help maximise positive impacts and minimise negative ones on people experiencing fuel poverty and other vulnerable groups?

We do not believe the strategy itself needs amending to maximise positive impacts and reduce negative, however, as previously mentioned the EPC metric will need to be carefully considered. The EPC rating will be imperative for both the effective initial implementation of measures as well as collating data on whether the strategy targets are on track for being met. Therefore, if the EPC metric is not amended to consider emissions efficiency as well as the cost impact on occupier in terms of bills, there is huge scope for negative impacts on fuel poverty.

Chapter 4 – Place

21. What are your views on how we can support place-based deployment of zero emissions heat within our delivery programmes?

We support the ideas proposed such as that of the case study. Local engagement in this manner (i.e. coming from a community hub first) will get people thinking about how they can follow suit and improve their own bills and carbon emission. Improving local community buildings will be a great example for others to want to follow.

22. What is your view on how best to engage, and support, local communities in the planning and implementation of the heat transition in their area?

We believe the rhetoric should be much the same for what is proposed nationwide. Supporting local people via grants and information on the retrofit processes available will translate to uptake. Government websites are key for information delivery, so these must be maintained, and perhaps a door to door campaign to spread the word in local areas if needs be. Local case studies could be used to illustrate the positives involved.

23. What role do you think community anchor organisations could play in supporting the heat transition?

Leading by example. These community organisation could also facilitate the process by proving advice to local people who are interesting in doing the same thing.



24. In your opinion, what steps can we take to ensure that policies set out in this strategy do not unfairly impact Island and other remote communities?

No strong opinion.

25. What is your view on the timescales proposed for LHEES?

We agreed with them, they seem ambitious but achievable and necessary for proactive progression.

26. Do you agree with the approach to LHEES set out above? If not, please give reasons to support this.

We agree with the approaches set out.

27. What are your views on what Permitted Development Rights might help enable in the heat transition, in addition to those we have already included in the Permitted Development Rights review programme?

We agree with the need to reduce barriers to implementing and installing the heat strategy, and deem the considerations already noted sufficient.



Chapter 5 – Preparing our Energy Networks

28. In your view, is there further action that can be taken to ensure that our electricity systems are ready for heat decarbonisation? If yes, please provide further information.

No strong opinion.

29. What are your views on the changes set out above for the electricity networks and are there further actions that could be taken by government, the regulator or industry that would make these more cost effective? Please provide evidence to support any suggestions.

No strong opinion.

30. In your view, what changes are needed to ensure that those least able to pay, including those in fuel poverty, are not unfairly impacted by the transition in our electricity and gas networks?

No strong opinion.

31. What are your views on the changes set out above for the gas networks?

No strong opinion.

32. Are there further actions that could be taken by government or industry that you think would make the changes set out more cost effective? Please provide evidence to support any suggestions.

No strong opinion.

33. What evidence can you provide on the potential for heat networks in Scotland that can help inform a new ambition for deployment within the final Heat in Buildings Strategy?

No strong opinion.

34. What evidence can you provide on the potential for heat derived from energy from waste to qualify as low or zero emissions?

No strong opinion.

35. What views do you have on mechanisms to support this and the use of wider sources of waste heat?

No strong opinion.

36. With the sustainable market for heat networks described above in place by the early-2020s, are there any further gaps that must be filled to support subsequent delivery of heat networks? If so, what are these and are there particular types of organisation that would be key in filling these?

No strong opinion.

Chapter 6 – Kick-starting the Investment in the Transition

37. What are your views on the range of actions identified above to kick start the investment in the transition over the next 5 years?

We agree with the financial support that has been proposed, as we believe this can be a barrier to achieving home improvements in particular. Businesses should also be able to proceed with confidence due to the grants and loans offered, which would in turn be a promotion for other businesses to follow suit.

38. Do you agree with the strategic funding priorities set out above?

Yes. Evading fuel poverty whilst driving innovation and early adoption of relevant measures should be, and is, a priority.

39. In your view, should equal funding be allocated across these priorities or should certain priorities be weighted in terms of impact for Scotland?

No strong opinion.

40. What are the opportunities and challenges we face in maximising our £1.6 billion investment?

No strong opinion.

41. What are your views on the role of government funding over the next five years? For example, should it be focused towards significant increases in the volume of renewable heat and energy efficiency measures installed or more targeted at specific priority groups or technologies?

We believe the funding schemes have a good spread of priorities in order to cover multiple areas of development. However, we believe the main focus should be on the “whole house” retrofit process as this will produce quick and significant results towards the target.

42. What are your views on how we can use our funding to leverage and encourage private sector and other forms of investment?

No strong opinion.

43. What are your views on the effectiveness of our existing delivery programmes in supporting different client journeys, including for those in or at risk of fuel poverty? (for example, landlords, home owners, non-domestic building owners – public and private, domestic and non-domestic tenants). In your opinion, are there any gaps in support?

No strong opinion.

44. Is there any action we can take to further tailor our support to meet the ambitions set out in this strategy, including in relation to fuel poverty? (Please include any evidence you may have to show what this might achieve.)

We agree with the action proposed and believe it is considered and thorough.

Chapter 7 – Working Towards a Long Term Market Framework

45. What are your views on the approach outlined above to take action towards a long-term market framework for net zero emissions in buildings?

We agree the imbalance identified between gas and electricity costs could disincentivise uptake of zero emission systems, as they could cost occupiers more to run. Wider considerations regarding infrastructure would need to be made, and in



the short term a revision of the EPC metric would need to be agreed upon for effective reporting during and after the improvement process.

46. What are your views on how we can achieve a fair and equitable cost distribution for the net zero transition, including ensuring we tackle fuel poverty?

Gaining the support of large financial powers such as banks, with the introduction of new mortgage products facilitating efficiency improvements, is a good start to ensuring the financial obligations of building improvements is shared and proportionate.

47. What financing mechanisms are needed to encourage investment from householders, businesses and the private sector?

A grant based approach would likely be the most attractive proposition to gain involvement from these parties.

Chapter 8 – A Regulatory Framework

48. What are your views on the regulatory actions set out in the proposed regulatory framework?

We agree with the actions in that they are mindful of fuel poverty impacts and aim to be proportionate. Allowing sufficient transition periods is essential, as noted. We support the new build regulations proposed and agree that not only do new buildings need to be compliant to ensure future targets are met, but also that building regulations themselves could have scope to be improved bringing up the overall standard required.

We believe revision of the EPC metric is imperative for the roll out of this strategy, as well as reducing the negative impacts of fuel poverty. The three point approach is good and tackles this issue by giving shared regard to efficiency, heating emissions and cost of heating. In addition to the EPC, we believe the reports produced for occupants and home owners via the PAS 2035 process will boost the information balance and accuracy, of which the Government are trying to achieve. Further funding and investment could be considered for the PAS 2035 process.



49. What are your views on the timeframes set out for the application of the regulation set out above?

Ambitious but achievable if other considerations are finessed (i.e. EPC metric revision). We support the expansion of trigger points for an EPC to include major refurbishments and replacement/installation of a new heating system. Furthermore, reducing the EPC validity to 3 years could also be considered. This would provoke more proactive actions from homeowners to improve their buildings as they cannot rely on complacency of the EPC being valid for 10 years at a certain rating, despite how inaccurate this could be due to changes over the years.

50. What are your views on how our Delivery Programmes could support compliance with regulation?

We support the expansion of trigger points for an EPC to include major refurbishments and replacement/installation of a new heating system. Furthermore, reducing the EPC validity to 3 years could also be considered. This would provoke more proactive actions from homeowners to improve their buildings as they cannot rely on complacency of the EPC being valid for 10 years at a certain rating, despite how inaccurate this could be due to changes over the years.

51. What other mechanisms/support may be required to ensure that regulation is fair and equitable for all?

As noted in the consultation, certain regard will need to be had for the variables that affect a building and how the costs and measures to improve a building can vary significantly from one to another. When regulating the property stock as a whole, gradual levels of regulation and amended time frames for compliance should be considered, to allow for those more onerous properties to adhere.

Chapter 9 – The Economic Opportunity

52. What are your views on the plans set out to maximise the economic benefits to Scotland from the heat transition?

We support the plans and can see the wide scope in which there is for economic benefits as a result of this strategy. We would like to highlight the PAS 2035 process at this stage; we believe that this framework and the retrofit process will also create skilled jobs for hundreds of people at a minimum. Investment in the training and development of this framework should be considered to gain the full benefits to the economy.



53. What role could technology-specific milestones (for example, by 2025) play in supporting supply chain development, and how should these milestone levels be developed?

No strong opinion.

54. Is there anything further that can be done to ensure that Scotland realises the economic opportunity available from the heat transition?

We support the plans and can see the wide scope in which there is for economic benefits as a result of this strategy. We would like to highlight the PAS 2035 process at this stage; we believe that this framework and the retrofit process will also create skilled jobs for hundreds of people at a minimum. Investment in the training and development of this framework should be considered to gain the full benefits to the economy.

55. What more can be done to support the development of sustainable, high quality and local jobs in the heat and energy efficiency supply chain across the breadth of Scotland?

We would like to highlight the PAS 2035 process at this stage; we believe that this framework and the retrofit process will also create skilled jobs for hundreds of people at a minimum. Investment in the training and development of this framework should be considered to gain the full benefits to the economy.

56. In your view, what are the opportunities and constraints presented by the role of the wider public sector in maximising the economic benefits to Scotland?

No strong opinion.

57. In recognition of the proposals in the forthcoming skills consultation, what further action can be taken to support skills development in Scotland over the lifetime of this strategy?

We would like to highlight the PAS 2035 process at this stage; we believe that this framework and the retrofit process will also create skilled jobs for hundreds of people at a minimum. Investment in the training and development of this framework should be considered to gain the full benefits to the economy.

58. Are you aware of any barriers to the reskilling of existing oil and gas



heating engineers to equip them to install low and zero emission heating?

No strong opinion.

59. How can we support the development of more opportunities for young people?

Government funding for Domestic Energy Assessor and PAS 2035 courses should be made available; we had a scheme whereby unemployed people were eligible for further training (funding by the government) and the uptake has been great. Not only is it a good opportunity for the unemployed but also young people exploring how to enter the working world.

Chapter 10 – Working with the UK Government

60. To what extent do you agree that the issues identified must be addressed jointly by the UK and Scottish governments to unlock delivery in Scotland?

Maintaining consistency and cohesion across the border can only be positive thing, so we support a collective effort to move these Scottish targets forward.

61. Are there any further areas where joint action is required, for example to ensure no one is left behind in the transition and fuel poverty is addressed?

No strong opinion.

Chapter 11 – Monitoring, Evaluation and Future Decision Making

62. Do you agree with our proposals for a monitoring and evaluation framework? If not, please state your reasons and suggested improvements.

Yes we agree with the monitoring and evaluation framework and support the publication of it alongside the strategy. We agree accurate monitoring will facilitate constructive future approaches. The Energy Performance Certificates (EPCs) themselves will be a great barometer for how the nations building stock is doing. However, with the current 10 year validity period of a certificate we believe the results may not be truly reflective of the progress made, and encourage the Government to consider reducing the validity period to three years, or when a material change is made to the building.



63. What are your views on how lessons learned from heat and energy efficiency policy and programmes should be shared with the sector and key stakeholders to ensure that Scotland benefits from the public investment outlined above?

No strong opinion.

64. Finally, is there any other information you would like to provide us with that is relevant to the development of Scotland's Heat in Building Strategy?

No strong opinion.

65. What are your views on the accuracy and scope of the information used to describe the SEA environmental baseline set out in the Environmental Report?

No strong opinion.

66. What are your views on the reasonable alternatives set out in the Environmental Report?

No strong opinion.

67. What are your views on the predicted environmental effects as set out in the Environmental Report?

No strong opinion.

68. What are your views on the findings of the SEA and the proposals for mitigation and monitoring of the environmental effects set out in the Environmental Report?

No strong opinion.

General questions

69. Is there any further information you wish to provide on the content set out in this draft Strategy?

Firstly, we believe development and investment in the current models and tools is essential. The national calculation methodologies of SBEM and SAP must receive investment to ensure utmost accuracy and consistency of the information we are

providing within the industry. They must be fit for purpose whilst being mindful not to stifle proven innovation.

To improve the accuracy and effectiveness of an EPC, trigger points and validity periods could be revised. By increasing the number of trigger points for an EPC, for example when a material change has occurred in the building that will impact its energy efficiency, property owners can maintain accurate and measured reporting of their buildings efficiency with contemporaneous improvement recommendations. In addition, reducing the EPC validity to 3 years provokes more proactive actions from homeowners to improve their buildings as they cannot rely on complacency of the EPC being valid for 10 years at a certain rating, despite how inaccurate this could be due to changes over the years.

As well as improving existing tools, new tools need to be developed to highlight and illustrate real opportunities for energy efficiency improvements. The capacity and facility to produce occupancy reports, which provides a prediction of energy consumption based on the current occupants lifestyle and usage of their dwelling, ensures recommendations for measures and the benefits of such are realistic and measured. Leading on from this, an 'in-use' performance metric would allow occupiers to compare their performance with a predicted performance, providing a greater understanding of how occupant behaviour impacts energy consumption. In regards to the current EPC itself, we suggest a re-formatting is proposed to ensure equal exposure is given to cost, energy and carbon impact. This would allow a more holistic and useful result to be provided by an EPC, and perhaps an alignment of the metric used at the core of EPCs could be reviewed.

Finally, we believe the Scottish heat strategy will require a consideration for deep Retrofit improvement. Establishing a buildings need for efficiency improvement is only half of the battle; for effective improvements to follow as a result, a systemic approach based upon the needs of the building and occupants needs to be undertaken. Measures should be installed at a time and sequence that maximises improvement and reduces unintended consequences, such as damp and poor air quality. Funding models must be consistent with the principles of PAS2035 which means a break away from a measure lead approach, to a focus on the improvement that has been delivered instead.

Contact Details

Should you require any further clarification please contact us at:



Elmhurst Energy,
16 St Johns Business Park,
Lutterworth, Leicestershire,
LE17 4HB



01455 883 250



enquiries@elmhurstenergy.co.uk



www.elmhurstenergy.co.uk