

Existing Homes Alliance Scotland response Draft Energy Strategy consultation 29 May 2017

The Existing Homes Alliance is a coalition of housing, environmental and anti-poverty groups calling for the improvement of the energy performance of Scotland's existing housing stock. We have called for energy efficiency to be a National Infrastructure Priority and welcome the Draft Energy Strategy 'whole system approach' which gives much better recognition to the role energy efficiency can play in meeting our energy needs in the future. This paper provides our responses to the questions provided in the consultation document.

1. What are your views on the priorities presented in Chapter 3 for energy supply over the coming decades? In answering, please consider whether the priorities are the right ones for delivering our vision.

General comment

The Draft Energy Strategy makes a radical departure from energy strategies of the past which have focused on energy supply. Instead, it addresses the whole energy system – how energy is supplied and used. We welcome this approach, as it recognises the critical role that energy efficiency and reducing our demand for energy play in determining our energy needs.

We are disappointed that the consultation did not ask a question about this approach which is fundamental to the whole document. Instead, it goes directly to Chapter 3 which is about Energy Supply, reinforcing the more traditional view of an energy strategy. It would have been more appropriate, in our view, to lead with the chapter on 'transforming our energy use', indicating its significance in determining current and future energy generation requirements.

Vision and themes

We support the **overall 2050 energy vision** presented in Chapter 1, paragraph 10. The vision is "aligned to three themes: whole system view, a stable, managed energy transition, and a smarter model of local energy provision." It would give greater clarity if it was clear this is the vision for the overall strategy.

We agree with the themes, and support their use as the structure for the document. The exception is Chapter 3 which should be about the whole system view rather than just energy supply. We welcome the recognition given to Scotland's Energy Efficiency Programme (SEEP) as the cornerstone to this whole system view – reducing the energy demand of our buildings and supporting the transition to low carbon heat.

In terms of the **vision for 2050 for energy supply** set out on page 31, we believe there are opportunities to make linkages to the role energy efficiency must play in achieving the vision. For example, improving energy efficiency would make it easier and more affordable to meet the ambition for "the equivalent of half of all energy consumed delivered from renewable sources by 2030". Therefore, we recommend that the vision clearly states the projected contribution that reduced energy demand must make to achieve this target. The same logic applies to the statement "Scotland's urban communities benefit extensively from low carbon heat networks". Simply put, we can save on energy infrastructure investment – from the individual household scale to the national grid - if we reduce the amount of energy wasted; this should be explicit in the strategy document.

Priorities

The priorities (p. 32 para 66) should make linkages to the role energy use will play in determining the need for new energy sources, what type of generation is required and offers best value. This is implied in the final bullet point: “increasing the flexibility, efficiency, and resilience of the energy system as a whole”.

Furthermore, given the significance of energy demand for heat and meeting seasonal demands at an affordable price –identifying low carbon sources of heat and implementing the transition should be singled out as a priority.

2. What are your views on the actions for Scottish Government set out in Chapter 3 regarding energy supply? In answering, please consider whether the actions are both necessary and sufficient for delivering our vision.

Transforming the Energy System - general comments

We welcome the recognition that energy demand is one of the drivers that will determine the future energy mix (para 64). Indeed, of all the drivers listed, energy demand is the one where the Scottish Government has the greatest influence and so should maximise its powers in this regard. While we would not expect the strategy to specify the exact energy mix for 2050, we believe the strategy should indicate the expected mix for the immediate and medium term - 2020, 2025 and 2030. We assume this information is available through the TIMES model.

This will allow the strategy to be more transparent about the short, medium and longer term priorities for transition to low carbon heat, e.g. how will areas that are off-gas grid be dealt with, what might be the make-up of proposed heat networks, and what is the role of electric heat? Answers to these questions will provide guidance for what policies, programmes and investments are required to facilitate this transition. Otherwise, key players such as private industry, local authorities, housing associations, and communities will find it difficult to plan for the future, and understand what changes might be required in terms of incentives, advice, planning requirements, building regulations, and skills development. Mechanisms need to be put in place to make the required linkages and to drive these initiatives through to realised projects.

This is particularly important for local authorities, given the proposals for Local Heat and Energy Efficiency Strategies. It will be very difficult to ‘masterplan’ without some notion of the ‘masterplan’ for the national energy mix.

We also recommend consideration of what legislative provisions may be needed to support the Draft Energy Strategy and could be delivered through the Warm Homes Bill. We have made specific recommendations in our response to the SEEP consultation – for example, making provision for new incentives, facilitating the low carbon transition through planning, and providing a statutory footing for SEEP. This would be in addition to the district heating regulation that is being consulted on separately.

Exploring the role of new energy sources - hydrogen

The strategy will explore the role of hydrogen in the energy system. This mirrors the reliance on hydrogen as a low carbon alternative to gas heating (which is used by 79% of homes) in the draft Climate Change Plan.

While we agree there may be a role for hydrogen in heating homes in the future, we believe there is a misperception that hydrogen can provide a significant role. We believe there are too many risks: long timescale to delivery, requirement for Carbon Capture and Storage to be in place, dependency on UK Government decisions being made in a timely fashion regarding the gas network, and creating new reliance on natural gas, with UK supplies declining and therefore relying on imports. We accept that there is an intention to use the existing gas distribution network to facilitate this, but concerns remain over wider issues such as availability of hydrogen supply, user acceptance and required changes to existing equipment such as boilers, meters, etc. (see also our response to question 7).

We are also concerned this emphasis on hydrogen could create false expectations, build in unnecessary delays and divert resources that could be used now to support other well established energy streams such as large scale and building integrated renewables, district heating and energy efficiency instead.

As noted above regarding the future energy mix, we think it would be useful to set out, based on current expectations, the likely role hydrogen will play in buildings in 2030 to support the Climate Change Plan policy outcome of 80% of residential buildings on low carbon heat, and what form that will take. Our understanding is that the TIMES modelling indicates hydrogen will make up less than a quarter of the mix. This means that there is still a huge proportion of on-gas grid homes that will need different solutions.

Alternative approach

We believe the final Energy Strategy and Climate Change Plan should map out a different approach which includes increased effort on building fabric improvements, renewables and district heating to mitigate the risks noted above. The required solutions are available today, and will not limit options in the future to adopt new sources of heat. On the contrary, the outcomes will mean less reliance on unknown, possibly expensive, low carbon heat.

Despite our comments above, we do support the action (p 37) to collaborate with the UK Government and industry on a hydrogen route map.

Increasing the generation of renewable and low carbon energy

It is not clear why the table on renewable technologies (pp 42-43) does not include renewable heat technologies such as heat pumps – these are instead discussed later in para 118-126.

We support the action (pp 46-47) to “support the future development of a wide range of renewable technologies through addressing current and future challenges, including market and wider policy barriers (see box on pages 41-43)”. However we believe there should be a distinct action in terms of defining an appropriate role for solar energy, energy standards and building technologies; and guidance on shared ownership developments as stated in the box.

We support the action to “seek to address grid constraints in Scotland for distributed power generation at local, regional and national level, through engaging with the National Infrastructure Commission and working with local authorities, Ofgem, National Grid and Distribution Network Operators.” It is a sad fact that some of the areas of Scotland that are richest in renewable energy sources also have the highest levels of fuel poverty. Distributed power generation offers one means to overcome this problem.

We support the action to: “continue to offer financial support and advice to domestic and business customers of all sizes to uptake renewable heat technologies and asks that the RHI continue to cover a wide range of technologies including, biomass, heat pumps and solar thermal renewables to allow

all potential Scottish investors and customers to obtain the benefits of the RHI scheme.” However, given the significance that heat pumps will play in the transition to low carbon heat, we would expect additional actions to explore the barriers and opportunities for heat pumps at the individual and district scale (one possible route could be the Warm Homes Bill). The Draft Climate Change Plan and advice from the UK CCC envisages a big role for heat pumps, but the draft energy strategy does not include any actions that would lead to the level of uptake needed to meet these expectations. For example, the UK CCC projects an additional 270,000 heat pumps are needed in existing homes by 2030, compared with today’s 10,000 that are in homes today.

We support the action to develop a whole-system Bioenergy action plan, following the publication of the final Climate Change Plan. This action plan should make explicit reference to the value of biomass for heating in rural areas and the opportunities to create and sustain local employment, using local resources. The plan should also take into account issues of local air quality and sustainability in the supply chain of biomass.

We believe an action on supporting energy storage should be included. There is a box on thermal storage on p 47 that recognises the importance of using thermal storage to manage peaks and troughs of heat demand. There is also a need for more widespread use of energy storage to maximise the use of renewable energy generation. The Local Energy Challenge Fund supports innovation and pilot projects for energy storage, but this programme alone is not sufficient to accelerate research, development, testing and mainstreaming of successful technologies such as recent developments in battery and flow battery technologies. These efforts must be part of SEEP so that retrofit programmes can combine insulation, low carbon heat, and energy storage solutions where this is appropriate.

Actions – increasing the flexibility, efficiency, and resilience of the energy system as a whole

We note that the cost effective pathway to achieve climate change targets leads to a 30% increase in demand for electricity as a result of electrification of heat and transport (para 132). We agree that in the future, smart energy systems will have much to offer in terms of more flexible use of the electricity grid, shifting energy demand to times of greater supply.

However, this transition must be taken forward carefully, ensuring that households are using the most efficient and cost-effective heat, so they are not at risk of falling into fuel poverty. A key operating principle of this strategy must be that a change of heating system should alleviate fuel poverty, not put more people at risk of falling into fuel poverty. This has implications for how retrofits of heating systems are funded.

Electric heating and heat pumps

The following is an extract from the Alliance report, *Realising the Potential of SEEP¹*, which highlights the need to prioritise action on electric heating:

Electric heating is used by 13% or 316,000 households, more commonly by lower income consumers, and is often installed in high rise flats and social (or former social) housing in urban areas, as well as more widely in rural areas which do not have access to mains gas². Fuel poverty in Scotland is more strongly associated with the use of electric heating – 60% of electric heating users are fuel poor - than any other single factor, due to the higher unit cost of heat in combination with the income levels

¹ Realising the Potential of Scotland’s Energy Efficiency Programme, 2016, Existing Homes Alliance <http://existinghomesalliancescotland.co.uk/policy/realising-the-potential-of-scotlands-energy-efficiency-programme/>

² Off Grid Fuels, Consumer Focus, 2012

of consumers who rely on it³. There is also an issue with lack of understanding of how storage heaters work.

The Draft Climate Change Plan does not appear to include replacements for existing electric heating systems which are clearly essential from both a climate change and fuel poverty point of view. While new, efficient electric heaters, combined with fabric efficiency measures can save 20-40% on electricity use, installing wet systems with heat pumps, alongside fabric measures, can save much more – up to 70-80%. These differences are not only important for saving on fuel bills, but also reducing pressure on the national electricity grid.

These upgrades will need to include loft, wall and floor insulation to ensure the heating can achieve the affordable warmth that is promised, and there is no risk of over-sizing the kit – which would lead to much higher capital costs for the householder and fuel poverty programmes. Heat Pumps can be very cost-effective if properly sized and installed for appropriate conditions. For example, air source heat pumps are cheaper to run than gas, and electric heat, according to figures from the Energy Saving Trust.⁴

In all cases, there will need to be greater investment in supporting people in how to use their heating to get the best experience, and advice on getting the best energy tariff.

Mapping low regrets investments

These points highlight the need to provide guidance on the desired energy mix in the immediate and medium term future. What proportion of homes will be heated by electricity in 2020, 2025, 2030? What does that mean in terms of uptake of heat pumps (individual and large scale) and replacement of old and inefficient electric heating? Does it mean that current policies and programmes need to change – for example where, if at all, should we be supporting extensions to the gas network?

3. What are your views on the proposed target to supply the equivalent of 50% of all Scotland's energy consumption from renewable sources by 2030? In answering, please consider the ambition and feasibility of such a target.

EXHA supports the proposed target to supply the equivalent of 50% of all Scotland's energy consumption from renewable sources by 2030 because it broadens out the commitment beyond electricity and gives greater impetus to the development of low carbon heat.

EXHA believes the target should include a calculation of how much energy demand reduction is required to achieve the target at a reasonable cost. To help guide policy, we also believe the target should give an indication of the likely sectoral breakdown (eg milestones for buildings and transport) and the breakdown between electricity and heat.

This will necessarily reveal the expected reliance on hydrogen for heat post-2030, and could inform a better understanding of the future energy mix, including what role hydrogen could play. It will also help answer the question of how a 50% renewables target fits with the projected hydrogen pathway.

³ Scottish House Condition Survey, figure 21

⁴ <http://www.energysavingtrust.org.uk/renewable-energy/heat/air-source-heat-pumps>

4. What are your views on the development of an appropriate target to encourage the full range of low and zero carbon energy technologies?

We agree that targets and/or policy objectives should be developed for the uptake of renewable heat and solar energy in homes. These targets would inform SEEP targets, and guide how incentives, support, grants, and regulation are used to achieve these targets.

It will be important to define what is meant by ‘low and zero carbon energy technologies’ in a way that gains the support of all stakeholders.

(Questions 5-6 – No response)

7. What ideas do you have about how we can develop the role of hydrogen in Scotland’s energy mix?

We welcome the discussion about the potential for hydrogen as part of the energy mix in the future. However, we are concerned with the perception that the cost-effective pathway in Draft Climate Change Plan relies too much on hydrogen as a solution when there are too many unknowns:

- dependency on UK Government decisions on the gas network being made in a timely fashion
- long timescale to delivery
- requirement for Carbon Capture and Storage (BEIS modelling predicts no CCS before 2035)
- continued new reliance on natural gas, increasingly imported
- risks to delivery of future climate change targets if Scotland produces the hydrogen itself from fossil fuel feedstocks
- hydrogen’s role is likely to be only a transitional one unless electrolysis can be developed at sufficient scale, which has its own challenges and costs to address.

In any case, we understand that the TIMES modelling gives hydrogen a minority role in the energy mix for housing, so other solutions will be required to address the majority of the housing stock on the gas network.

A more immediate concern is that the reliance on hydrogen means the Climate Change Plan underplays the role that high levels of insulation, draught-proofing and behaviour change must play if we are to achieve the transition to low carbon heat (see answer to question 2). These ‘low regrets’ measures – eg heat pumps, district heating, solar thermal and fabric measures have a good track record and are ready for deployment.

In short, the proposals set out in the Energy Strategy and the Draft Climate Change suggest a high risk strategy on heat decarbonisation (to be largely achieved in just seven years to 2032) that pushes off taking decisions that can and should be taken now. Instead, the approach should:

- Set out projections for the heat energy mix to 2032, to inform SEEP, industry investment decisions and Local Heat and Energy Efficiency strategies.
- Scale up deployment of fabric energy efficiency and low carbon heat measures (including upgrades of electric heating), particularly in off-gas grid areas.
- Update new building regulations to require low carbon heating.
- Work with the UK Government on the future of the gas grid.
- Provide guidance to consumers to inform replacement of boilers (and avoid costs of future retrofit).

8. What are your views on the priorities presented in Chapter 4 for transforming energy use over the coming decades? In answering, please consider whether the priorities are the right ones for delivering our vision.

EXHA can comment on two points in the vision statement on p. 55:

- *Scotland's domestic and non-domestic buildings have undergone a low carbon transformation – substantially reducing greenhouse gas emissions and delivering a host of economic, social, health and regeneration benefits.*
- *Scotland has an energy market that delivers fair outcomes for all consumers – particularly those on low incomes and at risk of fuel poverty.*

We believe that the first bullet could be more specific, given that the Draft Climate Change Plan states that “by 2050 all buildings will be near zero carbon – homes will be highly efficient and the heat supply will be largely decarbonised.”

This highlights the need for clear definitions of what is meant by ‘near zero carbon’, ‘largely decarbonised’, and net zero carbon. In our view, the vision statement could be simplified to ‘zero carbon’ in use, with allowances for technical constraints.

We think this vision should be described in a way that people can understand – what does ‘low carbon transformation’ mean for their properties and lifestyles in the future? People need to be informed of the individual and wider societal benefits, and advised what changes may be necessary, and how the public sector will help them make these changes. These discussions need to take place now with stakeholder groups and community organisations to help prepare for the low carbon transition, as well as gather their input and support in making it happen. (see also our answer to question 17).

In terms of the second bullet, this point is very important and we believe should be an overall objective of the Energy Strategy. The Scottish Fuel Poverty Strategic Working Group report⁵ noted that:

‘...the new fuel poverty strategy requires a joined up approach across several portfolios within government. This should take the form of a cross-departmental ministerial group, making fuel poverty eradication a clear component of the health, communities, inequalities, housing, and energy portfolios, with one cabinet secretary accountable to deliver the strategy. The new strategies emerging from government on a Fairer Scotland, the National Infrastructure Priority on energy efficiency, and the new Energy Strategy are all relevant in this context.’

Priorities

We agree with the priorities set out in para 151, but suggest an additional point on supporting education and behaviour change which should result in people understanding and valuing energy efficiency. Public support and engagement with the low carbon transition will be critical.

We think it would be useful to talk about reducing the need for energy, rather than just reducing demand – which can mean to some, doing without.

⁵ A Scotland without fuel poverty is a fairer Scotland, 2016, Scottish Fuel Poverty Strategic Working Group.

Addressing the need to reduce demand and increase energy efficiency through the development of Scotland's Energy Efficiency Programme

Vision (para 154)

As noted above, we need consistent wording regarding the ambitions for buildings in 2050. In our view, virtually all buildings will need to be zero carbon in use. The SEEP programme should aim to ensure there would only be a small number of homes that could not achieve 'near zero carbon' – due to technical or conservation issues. In some cases, it may be appropriate to demolish and replace these homes. In others, they should be maintained due to cultural or historic significance. In all cases, occupants should never suffer as a result.

It is also important to note that SEEP is expected to run for 20 years, and this strategy and the Climate Change Plan makes it clear there will still be a need for continued work after this period of intensive infrastructure investment.

9. What are your views on the actions for Scottish Government set out in Chapter 4 regarding transforming energy use? In answering, please consider whether the actions are both necessary and sufficient for delivering our vision.

Addressing the need to reduce demand and increase energy efficiency through the development of Scotland's Energy Efficiency Programme

Actions (box p 56/57)

We will provide a full response to the separate consultation on SEEP. High level points will include the following:

- There should be a statutory foundation for SEEP, incorporating targets and governance arrangements.
- There should be a clear target set for overall energy use and for energy performance of buildings by the end of the SEEP Programme (2033 or 2038, with interim targets set for 2025 and 2032. In our view, there should be *no increase* of energy demand, including any growth in population or households; with an overall *decrease* in energy use by 2032.⁶ The ambition for emissions reduction of 6% from fabric efficiency in the Climate Change Plan is inadequate and actually allows for a growth in demand of 9%.⁷
- Different targets will need to be set for the domestic and non-domestic buildings given the different nature and current performance of these buildings. At the same time, it will be important to coordinate action in the two sectors – particularly in mixed tenure buildings, and in making the case for district heating which will often rely commercial heat loads.
- We believe the interim target for the vast majority of domestic buildings should be EPC band C by 2025. There are clear advantages to using the EPC band C: the EPC provides a simple A to G scale, similar to energy ratings for appliances and it is already used and understood. The wide bands provide for flexibility in reaching the target, and it allows tailored approaches rather than prescribing measures. However, we recognise that there are weaknesses in the

⁶ Research by Ricardo Energy and Environment on the energy pathway to 2030, included a 30% reduction in energy demand from buildings to meet climate change targets. For comparison, the Draft Climate Change Plan has an ambition for only 6% emissions reduction from heat demand due to energy efficiency measures.

⁷ Scottish Government evidence to the Scottish Parliament states that domestic heat demand is forecast to grow by 2032 by 15%, reduced by 6% by conservation measures.

http://www.parliament.scot/S5_EconomyJobsFairWork/Reports/EJFWS052017R03.pdf

SAP methodology that need to be addressed – particularly for valuing low carbon heat, flexibility to incorporate new technologies and the lack of a defined link between SAP and actual/ expected energy use.

- SEEP should plan for a more rapid uptake of renewable heat, particularly in off gas grid areas, and for the upgrade (and linking to renewable electricity sources) of electric heating.
- We welcome the consultation on minimum standards of energy performance in the private rented domestic sector, and believe a similar approach should be applied to the owner occupied sector without delay.
- A range of financial incentives and support should be provided to suit landlords and homeowners in varying circumstances.
- A review of any barriers to uptake of energy efficiency and renewable energy measures and analysis of how they can be addressed should be part of the development of the Warm Homes Bill.
- A clear upwards trajectory of public investment for SEEP is needed. We estimate that on average we need £450m per annum public sector support over ten years to reach the interim milestone of band C. This level of sustained investment will lever in private finance and support those who are unable to afford to take action.
- Establish an independent body that would be responsible for the delivery of SEEP. This would be similar to other delivery bodies used to manage infrastructure projects such as roads.

Helping energy consumers to manage their bills, harnessing smart technology in the home and supporting new business models in the retail energy market

Actions (box on p 58)

Two actions are most relevant to EXHA:

- explore opportunities to achieve synergies between energy efficiency programmes and the Smart Meter roll out; and
- support Home Energy Scotland to improve consumers’ understanding of their consumption patterns and help reduce energy bills, to enhance the consumer experience of Smart Meter roll out.

Smart meters

Research published by Smart Energy GB concluded that more than 85% of people with smart meters changed the way they use energy to reduce their usage⁸. This indicates smart meters have a real potential to influence people’s energy use and support decision-making on energy upgrades.

We believe the Energy Saving Trust project to offer householders the opportunity for Home Energy Scotland advice to be informed by their smart energy data (with their permission) could extend the impact of smart meters significantly, and make sure the national energy advice service can offer the best advice based on all available information.

Targeting the SEEP programme activities

We think more research is needed to understand household energy use and how the SEEP programme should be targeted to support both the fuel poor and the ‘able to pay’ high energy

⁸ <https://www.smartenergygb.org/en/resources/press-centre/press-releases-folder/smart-meters-and-energy-usage?tab=1&docspage=1>

users. The Scottish Government has supported useful research on supporting the use of heating controls and this work should be extended as part of SEEP.

We support the recommendations (34-36) in the Scottish Fuel Poverty Strategic Working Group addressing the fourth driver of fuel poverty – how energy is used. These acknowledge the importance of taking a people-centred approach to engagement with householders.

10. What ideas do you have about what energy efficiency target we should set for Scotland, and how it should be measured? In answering, please consider the EU ambition to implement an energy efficiency target of 30% by 2030 across the EU.

We support setting a new energy efficiency target for Scotland. This would be appropriate given the Energy Strategy's emphasis on a whole system approach – with ambitious targets set for both demand reduction and renewable energy generation. Indeed, the energy demand target should be based on the role energy efficiency must play in meeting renewables and climate targets (discussed in our answer to question 1).

Scotland has made good progress against the existing target for energy demand reduction by 2020. We believe Scotland can build on this success, and should be more ambitious on energy efficiency than what is indicated in the draft Climate Change Plan. As stated in our answer to question 2, we think there is too much reliance on the unknown potential of hydrogen and other low carbon technologies, rather than maximising the potential of energy efficiency and behaviour changes – both very cost-effective approaches. We also need to bear in mind the implications of the new Climate Change Bill, and the ambitions in the Paris Agreement, which should lead to even tougher emissions reduction targets.

In developing a target that is in line with EU targets, we should set clear definitions and baselines. The existing target for Scotland is expressed in terms of final energy demand reduction. The EU target is an energy efficiency target. Both the Scottish and EU targets have a similar baseline (2005-2007 average for Scotland, 2005 for the EU). We understand from the European Commission's impact assessment⁹ that an EU 40% energy efficiency improvement target is equivalent to a 30% reduction in final energy demand on 2005 levels. We support setting a final energy demand target for Scotland of 30% by 2030 for the following reasons:

- Builds on current target and allows for easy comparison.
- Sets greater ambition which is consistent with the Paris Agreement.
- Recognises the enhanced role energy demand reduction must play to meet renewables and climate targets.
- Reduces risks of relying on unknown potential of hydrogen.
- Maximises macroeconomic benefits of energy demand reduction – a study by Cambridge Econometrics showed significantly more macroeconomic benefits of a 40% EU target (30% final energy demand) compared to a 30% energy efficiency target. These include GDP growth of 4% compared to 2%, over 4.8m jobs created compared to 2.5m and 30.4 – 55.9 bn/year of savings in health and pollution costs compared with 4.5 – 8.3 bn/year (Euros).¹⁰

⁹ Impact Assessment accompanying the Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/27/EU, Brussels 30.11.2016, SWD (2016) 405 final
http://ec.europa.eu/energy/sites/ener/files/documents/1_en_impact_assessment_part1_v4_0.pdf

¹⁰ CAN Europe's position on the Energy Efficiency Directive Review, February 2017.

11. What are your views on the priorities presented in Chapter 5 for developing smart, local energy systems over the coming decades? In answering, please consider whether the priorities are the right ones for delivering our vision.

Local authority master planning (Para 195)

We support local authority master planning, and have provided detailed comments on this topic in the separate consultation on Local Heat and Energy Efficiency Strategies. We also believe that other relevant local authority strategies and plans should be ‘energy proofed’ – for example, development plans. In particular, the City Deals and regeneration plans may offer some of the best opportunities in the near future to take forward the transition to low carbon heat and highly insulated buildings (see also recent research on 4th Generation District Heating and Technologies – lower temperature heat networks, linking with smart energy networks that could make them more cost-effective¹¹). It is important to make efforts now, as the City Deals are developed, to incorporate the low carbon objectives from the start.

New institutions and agencies (Para 196)

As noted in our answer to question 9, we support idea of an independent national delivery body for SEEP.

12. What are your views on the actions for Scottish Government set out in Chapter 5 regarding smart, local energy systems? In answering, please consider whether the actions are both necessary and sufficient for delivering our vision.

As noted above, we support the plans to place a duty on all local authorities to develop Local Heat and Energy Efficiency Strategies.

13. What are your views on the idea of a Government-owned energy company to support the development of local energy? In answering, please consider how a Government-owned company could address specific market failure or add value.

Given the challenges ahead in decarbonising the heat sector, we think there is a need to explore the role for a Government-owned energy company (GOEC) to support renewable heat as well as the development of local energy.

We also believe there is scope in considering how a GOEC could fulfil the role of a SEEP delivery body as discussed in question 9. We think the Danish Energy Agency model in particular would be worth exploring.

14. What are your views on the idea of a Scottish Renewable Energy Bond to allow savers to invest in and support Scotland’s renewable energy sector? In answering, please consider the possible roles of both the public and private sectors in such an arrangement.

We suggest that the proposal for a Scottish Renewable Energy Bond be expanded to include energy efficiency. This is an idea that has been explored elsewhere, and could provide valuable private finance to support energy efficiency upgrades.

Examples:

¹¹ <https://setis.ec.europa.eu/energy-research/sites/default/files/project/docs/Projectdescription4DH.pdf>

- California, PACE (Property Assessed Clean Energy) Deutsche Bank structured the first-ever securitization of loans for residential energy efficiency with a \$104 million PACE bond in California. The bond helps fund upgrading home insulation and installation of solar panels.¹²
- Climate Bonds ‘opt-out’ model for large-scale projects that automatically include whole areas in retrofit programmes – domestic, non-domestic and industry.¹³
- Qualified Energy Conservation Bonds – US Department of Energy.¹⁴
- Energy efficiency Green Bonds in Mexico – Green Climate Fund.¹⁵

15. What ideas do you have about how Scottish Government, the private sector and the public sector can maximise the benefits of working in partnership to deliver the 2050 vision for energy in Scotland?

We agree that the Energy Strategy can only be a success with the full engagement of the private sector, public sector and householders. This will require clear, long-term targets and milestones, accompanied by the necessary resources, policies and programmes to enable action. It will also need leadership and commitment – from the First Minister and her cabinet colleagues, through to the wider public sector – to leave no doubt that the government is absolutely committed to achieving the targets.

- Local authorities: We believe local authorities will need greater capacity in staff and funding to fulfil their role in developing and implementing Local Heat and Energy Efficiency Strategies.
- Enterprise Agencies: There is a need to support the supply chain in skills development, but also in quality assurance and getting new products to market.
- Strategic Energy Advisory Board: We welcome the proposal to ‘re-focus’ SEAB. The new remit and membership should reflect the whole energy system approach in the Energy Strategy, and include representation from the energy efficiency and low carbon heat sectors.

16. What ideas do you have about how delivery of the Energy Strategy should be monitored?

We welcome the plans to produce an annual energy statement for the Parliament’s scrutiny. It will be important to establish a framework for this statement that encompasses the whole energy system approach, and is balanced between energy demand and supply actions.

As stated earlier, it will be useful to have clear targets and milestones to measure progress. To aid programme development, there should be reports on progress in the different sectors, particularly for buildings and transport.

Delivery programmes should also be designed so they can be properly evaluated, measuring impact of the activities related to the targets. This should include measurement of impact on fuel poverty and co-benefits such as health and jobs.

¹² <https://www.db.com/cr/en/concrete-energy-efficiency-retrofit-bond-securitization.htm>

¹³ <https://www.climatebonds.net/projects/models/energy-efficiency>

¹⁴ <https://energy.gov/eere/slsc/qualified-energy-conservation-bonds>

¹⁵ <http://www.greenclimate.fund/-/energy-efficiency-green-bonds-in-latin-america-and-the-caribbean>

17. What are your views on the proposed approach to deepening public engagement set out in Chapter 6?

We agree that public engagement and support is crucial to the success of the strategy. Therefore, the vision statement should say more than the public is 'informed' – but rather it needs to be positively engaged in the transition to zero carbon buildings – valuing and understanding energy performance in words and actions.

We believe a prerequisite for 'deepening public engagement' is to provide an interesting and accessible vision of what the new energy strategy means for them and their lifestyles in 2030, 2040 and 2050. While we can't say for certain what buildings or transport will be like, we know enough to paint a picture of what low carbon housing will be like, what will be different from today's housing, and what the lived-in experience could be.

Some tools which could help the engagement process:

- Exploring use of the Building Renovation passport¹⁶ – a customised roadmap to deep retrofit tailored to your home.
- Linking smart energy data with Home Energy Scotland advice (with customers permission).
- Supporting deep retrofit (rather than incremental improvements) where possible to demonstrate cost and carbon savings, and provide model for future housing.
- Introduce regulation for minimum energy performance standards at point of sale, rental and major refurbishment, with clear trajectory of rising standards over time.
- Enhance capacity of Home Energy Scotland to provide tailored advice (rather than measures-led) to meet householder's energy needs. Provide pre- and post-installation support to ensure the householder makes the most of the upgrade.
- Provide attractive offers of low cost finance.

¹⁶ <http://bpie.eu/publication/renovation-passports/>