Our response to the Scottish Government's Energy Strategy and Just Transition Plan consultation (May 2023)

With thanks to our members for shaping this document and to the Scottish Rural & Island Transport Community for their comments on the transport related questions.

For more information contact artemis@sra.scot
www.sra.scot

Overview

The Scottish Government consultation documents can be found here.

In developing our response, we also considered the evidence provided by the report *Energy system and Just Transition: independent analysis* by Ernst & Young LLP. Links to the report (published 03 March 2023) and supporting data books (published 03 April 2023) can be found within this document.

Our view is that the draft Strategy and Plan sets strong foundations but will fail to move us at the necessary pace, and with the necessary focus, to achieve a just energy transition for Scotland by 2045. While it outlines commendable initiatives and targets, collectively these lack a cohesive framework. Energy is a system, and it requires an integrated systems approach to engendering change. Due to the constraints presented by our grid infrastructure; and also due to the location of potential in the rapid deployment of human resources and tested technology, we believe **an integrated systems approach should foremostly be designed and delivered at local or community network level**, providing demand side flexibility, resource adequacy and system resilience within the context of 100% renewables-dependent generation. There are opportunities to meet energy consumption needs through smaller scale generation, storage and smart local energy systems, with households and businesses educated and supported to reduce or manage their demand, including through exercising agency with regards to transport and heating.

Notably, this approach holds promise for **maximising environmental and community benefits**, something which the Strategy and Plan is demonstrably committed to but, with its current actions and targets, will fall short of delivering. With respect to community benefits, in the current draft, these are mainly associated with community benefit payments and shared ownership arrangements negotiated between communities and developers. While both these mechanisms have a role to play, outright community or local ownership of energy generation and modes of deployment must be supported and incentivised as a means to achieving integrated local energy systems which keep wealth circulating within communities. This is in line with Scotland's aspirations for a wellbeing economy but, crucially also, it is in line with Scotland's responsibility, both domestically and on a global scale, to deliver on the **climate justice** agenda.

Chapter 1 – Introduction and Vision

1. What are your views on the vision set out for 2030 and 2045? Are there any changes you think should be made?

This vision currently frames Scotland's households, communities and business as passive consumers and end users of our energy system.

This needs to change.

The vision should frame Scotland's households, communities and business as active agents who, through behaviour and enterprise contribute to shaping an integrated system that is fit for purpose. Failure to do so risks losing policy sight of interventions that will be critical to creating a resilient energy system at the speed that is needed to mitigate the worst of the climate and biodiversity emergencies, and meet net zero targets.

As an example of the type of intervention that may get lost under the current vision which frames households, communities and businesses as passive end users rather than active agents, the Just Commission (letter of April 14) notes that the strategy needs more weighting towards demand management as "a currently untapped opportunity".

The vision must also situate Scotland's energy system within the global climate justice agenda. It must explicitly recognise Scotland's role to support counties whose natural resources have been

exploited over centuries and whose people suffer the most inequity and disadvantage as a result of the climate and biodiversity emergencies. This includes meeting commitments emerging on the back of COP27's agreement on establishing "loss and damage" mechanisms.

We would suggest a vision redraft with the following emphasis:

Scotland's households, communities and business shape delivery of a resilient, integrated, and climate friendly energy system which drives the development of a wellbeing economy in Scotland and contributes to Scotland's global climate justice commitments.

While changes should be made to the vision, changes are also needed to set out implementation pathways for the vision. There is a disconnect between the current vision and the mechanisms within the draft strategy to deliver on it. The strategy approach, as it is described in Chapter 1 and across the document, lacks clarity on any detailed systems modelling (other than limited scenario planning) that has been undertaken to set or review targets. It also lacks clarity on the route-maps which will be followed to achieve these targets. Where modelling is clearer, e.g. with the analysis undertaken by Ernst & Young LLP on a transition for the OG industry, it is confined to comparing like for like, i.e. how do we entirely replace the OG industry 57,000 jobs and 16% GVA through a future energy system, without questioning whether that is desirable and what other outcomes of the transition, including environmental outcomes, should be taken into account when deciding on targets and a route map.

Furthermore, while the focus on renewables is necessary, there is a basic assumption that all renewables are intrinsically good without any nuance within the (limited) modelling or scenario planning of different types, sizes, locations and ownership of renewables. As we progress in this way, market forces, rather than careful planning, will have more bearing on the energy system we get in the future.

Finally strategy governance and oversight structures need to be explicitly described with community organisations playing a prominent role in these structures going forward.

Chapter 2 – Preparing for a Just Energy Transition

2. What more can be done to deliver benefits from the transition to net zero for households and businesses across Scotland?

a) The strategy vision must recognise households and businesses across Scotland as active participants in an integrated energy system, not just end users
b) The strategy vision must extend this position to communities.
c) As active participants, rather than passive end users, households, businesses and communities must be recognised, supported and incentivised to develop integrated systems, in particular local neighbourhood or community level systems, that are sustainable and resilient. Regulation, financial investment and skills development must pivot to support this approach which is in line with the Scottish Government community wealth building policy.
d) The Scottish Government position on public ownership of energy development and distribution functions must be reconsidered. The statement on page 36 of the strategy that "now is not the time" for a public energy company should be revisited after discussion with the government in Wales on their energy policy. A public agency - Heat and Energy Efficiency Scotland – does not match our country's aspirations in that respect and it should not be referred to as "our National Public Energy Agency" in the document (note the capital letters) as that is misleading.
e) The Scottish Government position on community ownership of energy development and distribution functions must similarly be re-considered in light of the strategy's overall presumption that community benefit payments and shared ownership models should be the main focus of future energy systems. While both these mechanisms have a role to play, policy must still support outright community ownership of energy system assets. To assist this, community-owned energy, shared ownership, and community benefit should not be grouped together within the 800 MW already achieved and 2 GW target for community energy, but should be treated as distinct models, each with its own route map, targets, and investment plan. There must be a

target set for community ownership in 2045. There must also be policy incentivisation and an enabling regulatory regime which permits community generators to sell energy locally.

f) It is important to acknowledge in respect of c, d and e that some of the relevant policy areas are partially or wholly reserved, however this fact should translate into a concrete route map for cross-border negotiation, not rely on a "call for the UK Government to act".

g) While suggestions (a-e) above underpin an energy system which enables wealth to remain within households, businesses and communities, there is no doubt that additional, targeted financial mechanisms and non-financial advice will be needed to deliver a just transition. We agree with the Just Transition Commission (letter to SG on 15th Feb) that to date, the strategy has failed to account for the systemic nature of inequality created through the current energy system, or that may be exacerbated by the transition. Such inequality does not require remedy solely in the form of welfare payments, it requires systems change. Systemic discrimination by Ofgem, for example, whose tariff policy has contributed to thousands of off-gas customers living in fuel poverty in rural and island places, has not been highlighted in this strategy as a specific area for attention or action.

h) The strategy must align with the Heat in Buildings Strategy principles and offer pathways to review existing delivery programmes including Warmer Homes Scotland and area-based schemes so that more households and businesses benefit at a faster pace.

i) We urge the Scottish Government to develop appropriate metrics and reporting structures which enable a full picture of just transition impacts to be understood. Metrics should also be developed to help evidence how each agency with a responsibility to do so is meeting/exceeding or failing on its obligations.

j) We also urge the Scottish Government to use the opportunity of this strategy to clarify how various policies, including planning policies, will seek to balance tensions between safeguarding the environment and biodiversity and consenting to energy related developments. As the John Muir Trust points out, recognition the impacts of energy infrastructure on Scotland's landscapes and biodiversity is missing from this strategy.

k) Lastly, we are part of a global system and supporting the global system will bring significant benefits to our domestic households, communities and businesses. The strategy vision, and action within it, must explicitly address the global climate justice agenda.

3. How can we ensure our approach to supporting community energy is inclusive and that the benefits flow to communities across Scotland?

In the immediate to short term, we welcome the fact that the Scottish Government has funded ClimateXchange to commission research into "Leveraging community and local energy for a just transition: a review of current and future opportunities for Scotland".

We note that the research contract has been won by Regen and is due to publish in June. We request the Scottish Government to sense check the report findings and recommendations with communities, including micro businesses, as part of a process to ensure that the strategy approach to supporting community energy is inclusive and that the benefits flow to communities across the whole of Scotland. It may be possible to do this sense checking, at least from a rural and islands perspective, in partnership with Community Energy Scotland and others at the next Scottish Rural & Islands Parliament.

Further to this, we caution that the current focus of the strategy on supply mechanisms, especially large scale installations, overlooks the potential benefits from an enabling investment and regulatory approach to smaller scale generation coupled to demand side management systems.

4. What barriers, if any, do you/your organisation experience in accessing finance to deliver net zero compatible investments?

Community owned and smaller scale energy projects

In the UK, the growth in community owned electricity generation capacity was just 2.4 % between 2020 and 2021, compared with 81% between 2016 and 2017. This sluggish growth is set against record-levels of energy investment and expansion across other parts of the low-carbon energy

sector. Alongside the dilution or removal of supportive policies like the Feed In Tariffs (FITS), a common barrier to growth is a combination of the lack of capital grants and poor access to affordable capital finance.

Community energy projects, whether generation or distribution or demand management, are seen as high risk by investors. Community organisations are therefore frequently faced with inflated 'due diligence' costs or indeed, completely cut out of investment opportunities. This is juxtaposed against the well-recorded benefits of such projects.

Financing project lifecycles is also challenging. There tends to be more money and logistical support, e.g. from CARES or enterprise agencies, available in the development phase compared to once projects have been commissioned, despite the fact they may take a while to generate sufficient profit to become self-sustaining.

Furthermore, community energy projects at the forefront of innovation see complex regulatory challenges as they do not fit in a 'business as usual' box. As an example, like mainland counterparts, community and smaller scale generators contributing to Orkney's Active Network Management (ANM) scheme are subject to curtailment events. Unlike the mainland generators however, Orkney generators do not receive a constraint balance of payments for curtailment, resulting in significant lost revenue. Effectively, Orkney generators despite being at the cutting edge of developing integrated energy systems, are penalised by inflexible regulation for participating in the ANM.

Community heat and buildings projects

There has been a notable increase in funding and financial packages, including loan packages, to support heat decarbonisation and building improvements projects taken forward by households, business and communities. While this is positive, the regulatory environment which dictates what type of projects are eligible for investment disadvantages communities, especially those in remote and island places, who may lack access to the expertise (accredited tradespeople) or the materials to progress improvements.

It has been suggested in previous Scottish Government consultation responses from our members that the target of "decarbonising 1 million homes by 2030" must be rural and island proofed, with a reasonable proportion of those homes being in rural and island places. Similarly, the investment of over £1.8 billion in decarbonising homes and buildings through Heat and Energy Efficiency Scotland must be rural and island proofed.

There are huge challenges in retrofitting many homes in rural and island Scotland, and tailored funding and specific support to local agencies to do so is greatly needed (e.g. allowing organisations such as Tighean Innse Gall the flexibility to adhere to and fit the needs retrofit standards rather than adhere to the strict rules and regulations which have not been island proofed.) We strongly recommended that there is consideration that the local workforce is supported to retrofit homes, and does so in a way that is not financially challenging for the many homes who are already in fuel poverty.

In terms of community spaces, we welcome the current CARES Community Heat Development programme which supports community action on retrofit – extending this to individual houses and not just community buildings. However, this programme does not fund installations, so there is a need to identify sources of financing perhaps through community benefits from renewables, working with SNIB on financing community retrofit projects, and facilitating collective purchase or third-party schemes to reduce costs and/or spread them over time.

Community transport projects

For community transport projects, one of the most significant barrier to investing in net zero fleets is the availability of locations to charge vehicles. In order to provide the capacity to charge electric buses and mini-buses, substantial investment is required in upgrading depots (for both charging and maintenance requirements) and investing in a high mileage, low operational cost vehicle fleet.

Where this has been successful, this has typically been with smaller capacity vehicles that are able to charge at public or at-home charging station. In the outer islands communities of Hoy and Eday, Community Energy Scotland provided each community with two Nissan eNV-200 electric vehicles: one seven seater capacity and the other is a five seater plus wheelchair access. Meanwhile, in Glasgow, Community Transport Glasgow received 5 electric minibuses through a 100% grant provided by SP Energy Networks Limited.

Whilst the capital costs of electric vehicles and associated charging infrastructure are decreasing, they still present a significant barrier to community transport operations.

Recommended action

In brief we recommend the following actions:

1. Community owned energy, heat and transport projects must be specifically incentivised and de-risked, both financially and with respect to introducing an enabling regulatory regime;
2. Communities must be informed, educated, engaged and supported to look at integrated system solutions. A good example of exactly this process is the Carbon Neutral Islands (CNI) project. Information on the CNI project currently within the draft strategy is inaccurate and should be updated;
3. Policy targets and implementation strategies must be rural and island proofed.

5. What barriers, if any, can you foresee that would prevent you/your business/organisation from making the changes set out in this Strategy?

Some barriers and solutions have been proposed under the previous question. In addition, we agree with the Just Transition Commission's (JTC) statement on grid capacity and management being a significant constraint to community owned energy projects, both generation and demand management. As per the JTC, communities, which includes the range of organisations (community organisations, micro enterprises and social enterprises) should have fair access to the grid, reserved capacity for community projects and reduced connection costs for community energy generation.

Interconnector capacity and other relevant infrastructure which is currently lacking will also prevent Scotland as whole, let alone business and communities, from achieving the vision of this strategy. On a smaller, yet also significant scale, smart meters are not universally available to households and businesses across Scotland with many rural and island places struggling to get appointments with providers to install one. Providers argue that telecom networks do not support the meters or else, they argue they do not have enough installers.

Workforce constraints can be a significant barrier to all types of community projects (energy, heat, transport and mobility infrastructure) reaching financial close. The lack of locally rooted micro-businesses and sole traders in Scotland's energy/heat and transport sectors who can support communities, including through provision of turnkey services is acute. Larger companies based in the central belt frequently charge significantly higher overheads, especially if the project is in a remote rural or island setting.

Finally, one of the biggest barriers is current public awareness of the issues around the climate and biodiversity emergencies, and what individual households and businesses or communities can do to address them. It is critical that people are engaged and informed so that they may contribute to integrated energy systems through they own agency – making lifestyles choices, tapping into investment and working collectively on projects. The Carbon Neutral Islands project is an emerging example of a one stop shop for community mobilisation around decarbonisation. Similar on-the-ground initiatives couple with dedicated support services such as through Warmer Homes Scotland, and national campaigns must be stepped up.

6. Where do you see the greatest market and supply chain opportunities from the energy transition, both domestically and on an international scale, and how can the Scottish Government best support these?

On market and supply chain opportunities, much focus has been on the wind, hydrogen and to a lesser extent, the CCU industries and we agree with these. It is important that supply chain plans do not focus exclusively on serving large scale developments. Hydrogen, for example, which is a relatively untested technology is likely to find space for innovation at community level. Local hydrogen schemes such as on Eday in Orkney, where an electrolyser enables the production of hydrogen from curtailed energy, offer opportunity as small-scale test beds for hydrogen application in home heating with learning generated that can support other areas. For this kind of initiative to take place, there needs to be a change in focus regarding funding and research, to support the development of approaches, workforce and supply chains that support local and community-based systems and also have the ability to scale up.

There are equally important opportunities within the supply chains for demand management and flexibility services technology, for micro renewables generation and for materials innovation in retrofitting, that can be marketed domestically and internationally. Circular economy approaches, such as decommissioning or repurposing OG installations also create significant market and supply chain opportunities.

The Scottish Government can best support these opportunities through stimulating innovation within all sizes of enterprise through flexible financial packages that enable product testing and refining. Equally important is the development of an enabling procurement strategy, in line with proposed Community Wealth Building legislation, which sits parallel to this Energy Strategy and Just Transition Plan and gives market confidence and fair opportunities to local businesses, including micro enterprises. It is noteworthy on the whole that procurement, both as just transition stimulus (e.g. linked to fair work conditions) and as an industry stimulus, has not been explored, even superficially, within the current draft strategy.

7. What more can be done to support the development of sustainable, high quality and local jobs opportunities across the breadth of Scotland as part of the energy transition?

The current draft strategy contains a lot of information on different pilots, which collectively may give rise to hundreds if not thousands of jobs. It also contains information on Government intentions to support a just transition for existing OG workers. There is a need for a long-term Workforce Development Plan linked to this Strategy and Just Transition Plan, which will include clear assessment of workforce development requirements across different regions of Scotland and different sectors, including the community sector.

We are concerned that these growth opportunities will not be taken unless the government provides the regulatory certainty for investment. SMEs are not willing to invest in retraining, new certifications or additional employees unless they can be assured of a steady pipeline of work with any financial support system designed to address the supply chain's need for cashflow. Previous experiences of SMEs with FiTs being offered to incentivise a sector, then withdrawn, have resulted in low trust for governments long term intentions and damage to fragile economies.

For the rural and island places in particular, the following mechanisms will support the development of sustainable, high quality local jobs:

- Focusing on education and skills development in and of itself with high quality, flexible jobs made available in the education sector to support the energy transition. It is critical that rural and island people can re-train and take up jobs where they live in order to stem depopulation in these areas.

- Tailored, wrap-around support (handholding service) for rural and island micro-entrepreneurs and sole traders of the type provided by Growbiz and InspirAlba, not Business Gateway's generic support services.
- Support for costs or lost income as a result of undertaking training/reskilling;
- Investment in apprenticeships which enable young people to get skills in energy and related sectors while remaining rooted in their communities.
- Streamlining of accreditation processes, reducing the need to comply with multiple
- consumer costs.
- Investment in increasing affordable housing stock

8. What further advice or support is required to help individuals of all ages and, in particular, individuals who are currently under-represented in the industry enter into or progress in green energy jobs?

Not answering this question

Chapter 3 – Energy supply - scaling up renewable energy

9. Should the Scottish Government set an increased ambition for offshore wind deployment in Scotland by 2030? If so, what level should the ambition be set at? Please explain your views.

It is not clear what modelling has been done to arrive at the target ambition, so we do not feel able to comment. It is not clear for example whether the overall strategy targets are based on a realistic assessment of Scotland's own future energy needs, especially as we move towards electrification of heating, industry etc. and what the Scottish Government hopes for export are.

It is not clear whether the targets take into account the reality of capacity within our energy infrastructure and the timescales and investment which will be required to address infrastructure constraints.

Finally, it is important to note that there are concerns, leading to strong objections, from many communities where large onshore windfarms are situated or proposed in the pipeline.

10. Should the Scottish Government set an ambition for offshore wind deployment in Scotland by 2045? If so, what level should the ambition be set at? Please explain your views.

As per question 9, it is not clear how the current targets have been set.

11. Should the Scottish Government set an ambition for marine energy and, if so, what would be an appropriate ambition? Please explain your views.

No answer

12. What should be the priority actions for the Scottish Government and its agencies to build on the achievements to date of Scotland's wave and tidal energy sector?

No answer

13. Do you agree the Scottish Government should set an ambition for solar deployment in Scotland? If so, what form should the ambition take, and what level should it be set at? Please explain your views.

We agree that there should be an ambition for solar deployment in Scotland. The focus of this ambition should be to stimulate capacity, confidence and innovation in this sector so that solar is recognised and supported as part of developing integrated local energy systems.

This means that the focus of ambition should not be exclusively on major installations but equally on smaller scale, neighbourhood and household level installations with a view to increasing the capacity for flexibility of local systems. By 'flexibility' we specifically mean the intelligent management of generation, demand and energy storage.

14. In line with the growth ambitions set out in this Strategy, how can all the renewable energy sectors above maximise the economic and social benefits flowing to local communities?

Across the strategy, we note there is very limited consideration of supply mechanisms beyond large scale wind developments and on technologies including hydrogen and CCUs, which are still in an early testing phase. Consideration of demand management and flexibility services is also limited.

Micro hydro, for example, should be part of the Scotland's energy future as a proven technology with rapid deployment capacity that can be combined with other technologies such as solar to create resilient local systems. It is concerning that the only meaningful activity the Scottish Government proposes to support micro hydro (and, indeed pumped hydro) is to "urge the UK Government to provide appropriate market mechanisms" for these installations.

Community energy and neighbourhood level systems (as pioneered by communities in Scotland and Europe, including the "Centrales Villageoises" in France) should also be part of Scotland's energy future. They represent a critical means of accelerating a sustainable and equitable energy transition. These systems have been harnessing micro-generation from wind, hydro, biomass and solar, increasingly coupled to innovations in the intelligent management of demand, in energy storage and wider heating and transport decarbonisation projects. They need to be recognised and incentivised in part through providing long-term funding to a dedicated community service, potentially located within Community Energy Scotland, which can support communities and neighbourhoods to design integrated energy systems. Note that public agencies such as Local Energy Scotland and Home Energy Scotland tend to focus on discrete elements of these systems dependent on what investment programmes are available and therefore fail to see the big picture.

In a broader sense, this question also goes back to issues of community empowerment and community wealth building. There is a need to involve organisations such as Community Energy Scotland, Scottish Rural Action, DTAS and others in sense checking any recommendations that arise from the paper "Leveraging community and local energy for a just transition: a review of current and future opportunities for Scotland" before they are incorporated into strategy.

Finally with respect to offshore wind, the Scottish Government should acknowledge that a review of the multiple failings and modest successes of the ScotWind project is a priority and outline concrete action. Instead, the current strategy relegates this critical matter to a single, ambiguous sentence on page 59: "*We recognise that this now needs to be reviewed in light of the market ambition expressed in response to the ScotWind leasing round and the associated economic, social, net zero and energy security benefits which could be delivered for Scotland*."

15. Our ambition for at least 5 GW of hydrogen production by 2030 and 25 GW by 2045 in Scotland demonstrates the potential for this market. Given the rapid evolution of this sector, what steps should be taken to maximise delivery of this ambition?

No answer

16. What further government action is needed to drive the pace of renewable hydrogen development in Scotland?

No answer

17. Do you think there are any actions required from Scottish Government to support or steer the appropriate development of bioenergy?

No answer

18. What are the key areas for consideration that the Scottish Government should take into account in the development of a Bioenergy Action Plan?

While we believe that small scale (household/township level) peat and wood harvesting schemes can be the most carbon efficient approach to heating homes in some circumstances, we agree with SCCC that the Scottish Government should consider the land use implications of scaling up bioenergy. Large scale expansion of feedstocks from energy crops and forestry established explicitly for burning is unlikely to represent the most efficient use of land. Such an approach offers only single output rather than the multiple benefits which can be garnered from well-planned food production in line with the Good Food Nation agenda, and mixed woodland planting to complement this.

Another area for considerations should be the implications of biomass burning for human health.

19. How can we identify and sustainably secure the materials required to build the necessary infrastructure to deliver the energy strategy?

No answer

Chapter 3 – Energy supply - North Sea Oil and Gas

20. Should a rigorous Climate Compatibility Checkpoint (CCC) test be used as part of the process to determine whether or not to allow new oil and gas production?

No. Scottish Ministers should strongly oppose any new gas and oil, starting now. Instead of CCC testing, focus should be on supporting a just transition, in particular in the North-East of Scotland and in Shetland. There is, therefore, no need for a Climate Compatibility Checkpoint (CCC) test in determining whether or not to allow new oil and gas production.

21. If you do think a CCC test should be applied to new production, should that test be applied both to exploration and to fields already consented but not yet in production, as proposed in the strategy?

No answer

22. If you do not think a CCC test should be applied to new production, is this because your view is that:

No answer

23. If there is to be a rigorous CCC test, what criteria would you use within such a test? In particular [but please also write in any further proposed criteria or wider considerations

No answer

24. As part of decisions on any new production, do you think that an assessment should be made on whether a project demonstrates clear economic and social benefit to Scotland? If so, how should economic and social benefit be determined?

No answer

25. Should there be a presumption against new exploration for oil and gas?

Yes.

26. If you do think there should be a presumption against new exploration, are there any exceptional circumstances under which you consider that exploration could be permitted?

No.

Chapter 4 Energy demand

Heat in Buildings

27. What further government action is needed to drive energy efficiency and zero emissions heat deployment across Scotland?

We have already mentioned the need to rural and island proof the Scottish Government's ambitions to decarbonise more than 1 million homes by 2030 so that rural and island places are not left behind.

It is estimated that approximately 11,000 renewable heating systems have bene installed since 2021, which is significantly below what is required if the Scottish Government is to achieve the ambition. Furthermore, the Scottish Government committed to allocate £1.8 billion to support heating decarbonisation over the life of this parliament, however as of January 2023, less than 10% of this had been spent – only £155 million. In the face of this, the energy strategy should provide detail on how the necessary scaling up and spend will be achieved working with organisations such as those involved in the Existing Homes Alliance to agree action.

In addition, the following is necessary:

a. Improved public engagement and awareness raising through on-the-ground initiatives and national campaigns
b. Reviewing the current regulatory framework to ensure landowners and homeowners know they will be required to make and by when. This includes an 'efficient and renewable heat ready' standard for existing homes and zero emissions heat regulations for properties.
c. A focus on community-level (neighbourhood-level) decarbonisation projects including district heating systems, whole-tenement improvements etc.

d. Provide clarity on the role of hydrogen for heating. The consensus amongst academics and experts is that hydrogen will play a minimal role in heating our homes and for the vast majority of homes, the most appropriate and desirable heating destination will be energy efficient homes, heated either by individual heat pumps or via heat networks.
e. Mitigate costs for local authorities and social landlords so they may deliver robust Heat & Energy Efficiency Strategies.

Energy for transport

28. What changes to the energy system, if any, will be required to decarbonise transport?

Trips by all modes of transport in rural areas of Scotland are characterised by a higher propensity to travel longer distances – reflecting the distances between the dispersed settlements, whilst the majority of trips undertaken are less than 5 miles. But this higher propensity to travel longer distances drives a requirement for sufficient capacity in electric and other low-carbon fuels in rural communities.

This will necessitate a significant improvement in the supply-side capacity of low carbon fuels to be able to provide charging and other similar infrastructure in rural areas. Much work has already been undertaken, for example by ChargePlace Scotland, but this investment has primarily focussed on larger towns, and is based on an assumption of low electric vehicle take-up.

Similarly, in order to enable low carbon short sea shipping, investment in associated infrastructure at ports will be necessary. Scotland has a significant number of short sea shipping routes used by passengers and freight, for which 'range anxiety' for ships will not be an issue.

29. If further investment in the energy system is required to make the changes needed to support decarbonising the transport system in Scotland, how should this be paid for?

For investment in electric charging infrastructure and vehicles, it is expected that grants are likely to shift away from the personal car market more towards subsidising the purchase of faster charging points and larger vehicles for freight, public transport, and community transport. The market for low-carbon fuels within these sectors is less mature, and is likely to require significant support to be realised.

30. What can the Scottish Government do to increase the sustainable domestic production and use of low carbon fuels across all modes of transport?

For short sea shipping, one of the most pressing issues as noted by the UN is that of fuel choice. There are divergent opinions between regulators, policymakers, shipowners and shipyards regarding which technology will prevail in the future. This hesitation leads to delays in building the ships of the future and investing in port facilities. The Scottish Government has significant leverage in this space through the specification and procurement of many ferry services. But it needs to play a more significant role in specifying the preferred technology for short sea shipping within Scotland, providing ports and ship builders with the confidence necessary to invest in it.

31. What changes, if any, do you think should be made to the current regulations and processes to help make it easier for organisations to install charging Infrastructure and hydrogen/low carbon fuel refuelling infrastructure?

We have no comments.

32. What action can the Scottish Government take to ensure that the transition to a net zero transport system supports those least able to pay?

For those on low incomes, and for those in rural and isolated communities, ensuring a just transition requires focussing on modes of transport that those communities are most likely to use. Data from Transport and Travel in Scotland reveals that people in such groups are more likely to use public transport, walking, and in the case of rural and island communities car sharing and ferries.

Immediately, this would require financial support and incentives for decarbonising such modes of transport from the Scottish Government. This can take the form of grants for electric car clubs, support for the purchase of low carbon vehicles, and revenue support for rural bike share. The Scottish Government can also incentivise the market through its own procurement, for example by stipulating as part of procurement that future ferry operators and operators of supported intercity buses that low-emission vehicles must be used.

33. What role, if any, is there for communities and community energy in contributing to the delivery of the transport transition to net zero and, what action can the Scottish Government take to support this activity?

Community energy potentially has a significant role to play in decarbonising transport in rural and islands communities, especially the latter. In fact, this is an essential pre-requisite for communities where access to the main National Grid network is not possible. Already, Scotland is pioneering work in island communities in utilising community energy to support decarbonisation of transport. Examples include Orkney and the Carbon Neutral Islands Project.

34. Electric vehicle batteries typically still have around 80% of their capacity when they need replacing and can be used for other applications, for example they can be used as a clean alternative to diesel generators. What, if anything, could be done to increase the reuse of these batteries in the energy system?

We have no comments to make on what can be done to increase the re-use of these batteries, but this is something that we support.

Energy for agriculture

35. What are the key actions you would like to see the Scottish Government take in the next 5 years to support the agricultural sector to decarbonise energy use?

The Irish Government's Ag Climate roadmap explicitly supports the significant update of renewable energy on farms, recognising the potential of landowners and land managers to contribute to sustainable energy systems as well as sustainable food systems. We would be supportive of a similar approach in Scotland, bearing in mind however that the size of Scotland's farms are relatively small. Over half are under 10 HA (c28,000 units). This has implications for the type of renewables that are appropriate, with micro-installations being an obvious approach.

Any strategy to decarbonise energy use in the agricultural sector, including for heat and transport, must align with emerging strategy and legislation on the back of the recent Agriculture Bill consultation.

Energy for Industry

36. What are the key actions you would like to see the Scottish Government take in the next 5 years to support the development of CCUS in Scotland?

No answer

37. How can the Scottish Government and industry best work together to remove emissions from industry in Scotland?

No answer

38. What are the opportunities and challenges to CCUS deployment in Scotland?

No answer

39. Given Scotland's key CCUS resources, Scotland has the potential to work towards being at the centre of a European hub for the importation and storage of CO2 from Europe. What are your views on this?

No answer

Chapter 5: Creating the conditions for a net zero energy system

40. What additional action could the Scottish Government or UK Government take to support security of supply in a net zero energy system?

Firstly, the strategy should take account of the need to mitigate the significant fluidity of patterns of future energy demand. External events and processes can prompt changes in energy demand and behaviour. The Covid-19 pandemic, for example, highlighted the flexibility and adaptability of the social practices that influence domestic energy use, given the increased time spent at home and adjustments made to comply with lockdown measures. In addition, the surging energy costs throughout 2021 and 2022 have worsened existing vulnerabilities and revealed new ones.

Secondly, the focus on moving away from oil and gas and meeting Scotland's energy needs through renewables is correct. However and in addition to this, energy security can best be served through:

1. Improving public education and awareness on energy topics;
2. Developing resilient and integrated community or neighbourhood level energy systems;
3. Reducing energy demand by making our homes more energy efficient. On this point, research by the Centre for Research on Energy Demand Solutions identified that past investment in energy saving has contributed more to energy security and emissions reductions than supply side investment.

Finally, it is critical that the Scottish Government recognises the need to serve a global climate justice agenda as core to pursuing domestic and international security of supply.

41. What other actions should the Scottish Government (or others) undertake to ensure our energy system is resilient to the impacts of climate change?

More local and small scale integrated energy systems with a mix of generation sources (hydro, solar, wind) will have more resilience to the impacts of climate change (adverse weather, erosion etc.) and will have less impact on land and biodiversity. As part of local systems, community spaces need to be identified as resilience hubs and invested in accordingly.

Further to this there needs to be clarity within planning legislation and regulations regarding the hierarchy of energy system developments. For example while a presumption in favour of such developments is positive, these systems should not be built at the expense of the environment and biodiversity (i.e. infrastructure should not be higher in the decision-making hierarchy).

Chapter 6: Route map to 2045

42. Are there any changes you would make to the approach set out in this route map?

The route map includes multiple policies which are interdependent, and it is critical that the workstreams are managed effectively as a programme. Getting the sequencing correct is essential, as is ensuring that services are geared up to manage increased in demand flowing from the publication of regulations.

43. What, if any, additional action could be taken to deliver the vision and ensure Scotland captures maximum social, economic and environmental benefits from the transition?

No answer

Impact assessment questions

44. Could any of the proposals set out in this strategy unfairly discriminate against any person in Scotland who shares a protected characteristic? These include: age, disability, sex, gender reassignment, pregnancy and maternity, race, sexual orientation, religion or belief.

No answer

45. Could any of the proposals set out in this strategy have an adverse impact on children's rights and wellbeing?

No answer

46. Is there any further action that we, or other organisations (please specify), can take to protect those on lower incomes or at risk of fuel poverty from any negative cost impact as a result of the net zero transition?

Flexibility will be key in meeting our resource adequacy challenge. Household Demand side flexibility is currently something that only early adopters or people who can afford PV/EV and batteries are able to benefit from. There will be a situation where wealthier people are going to be selling energy to less well-off and entrenched energy injustice will be exacerbated. There needs to be more policy drivers to enable community (sub-Station) flexibility through a drive to smart places and smart local energy solutions.

47. Is there further action we can take to ensure the strategy best supports the development of more opportunities for young people?

Young people across Scotland are struggling with the rising cost of living crisis, compounded with a real lack of affordable housing and access to land. We recommend that their interests be at the heart of the Just Transition and subsequent interventions, and we would encourage those in government to work with young people on their ideas for the future. In particular, Scottish Rural Action is seeking to support a Rural and Island Youth Parliament: we would encourage the Scottish Government, and any other public body, to consult and work with youth via a Taskforce, appropriate consultation processes, etc.

Just Transition energy outcomes

48. What are your views on the approach we have set out to monitor and evaluate the Strategy and Plan?

We have already suggested that the targets for the plan require review, including how the targets for community ownership are framed.

It is also desirable that this framework makes use of related monitoring efforts on the Fuel Poverty Strategy and the delivery of fuel poverty schemes.

49. What are your views on the draft Just Transition outcomes for the Energy Strategy and Just Transition Plan?

We agree with them however we encourage the development of measurable outcomes and baselines to allow for a better understanding of progress. For example, 'more' and 'better' jobs should be quantified – and this point applies to all the outcomes in this section.

50. Do you have any views on appropriate indicators and relevant data sources to measure progress towards, and success of, these outcomes?

The Levelised Cost of Energy has been used as the metric to determine what is the lowest cost of energy, we now need to move to a metric that is more nuanced that will allow us to understand what 'best value' is. The BHA are calling on the UK Government to use 'Enhanced' Levelised Cost of Energy as a metric that is more likely to show the 'actual' value of energy that takes into account multiple other factors that are going to deliver energy security and a just transition.