

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?

It is imperative that a transition to a healthy energy system which is environmentally, socially and economically sustainable is achieved fairly and in the shortest time possible. The vision must be reviewed to place greater emphasis on this need for urgency, and it must also clearly convey the core principle of a just transition; i.e. that no one is left behind. We would recommend the use of the phrase “climate friendly” should be reconsidered as it is not a sufficient term to describe the scale of the climate emergency facing Scotland.

The 2020s are the critical and decisive decade for climate change, and rapid, radical change across all sectors of society is required to cut emissions, protect and restore ecosystems, and prepare for the now unavoidable impacts of climate change and biodiversity loss. Ending our dependence on fossil fuels and achieving a net-zero energy system is crucial but it should be noted that this will not – of itself – address the climate emergency and its consequences.

The inextricable link between energy systems and human and planetary health outcomes – both now and in the future - must be recognised within the vision. We must produce, transport and use energy in a way which is not only affordable, resilient, and clean, but also in a way which minimises harm and maximises benefits to the health and wellbeing of all natural life. The absence of any specific mention in the vision of seeking to create an energy system that contributes to the protection and promotion of human health, the promotion of environmental sustainability, and the protection of biodiversity is a serious omission and stands in stark contrast to the commitments the United Kingdom made as signatories to both the UN Framework Convention on Climate Change’s Paris and Glasgow Agreements and the requirements of UN Framework Convention in Biodiversity. Without these areas specifically embedded into the vision, as opposed to simply stating that a renewed energy system will deliver co-benefits, the Energy Strategy risks becoming wholly focussed on the economics of the energy system to the detriment of both the social justice and the climate justice aspects of creating a just transition. We would recommend the vision is revised to include human health, environmental sustainability, and biodiversity as outcomes to be delivered by the Scottish energy system (albeit within the confines of a UK energy market).

Delivering on the vision to develop a flourishing clean energy system for Scotland has the potential to bring significant benefits to people, places, and the economy. However, all methods of energy production are associated with some degree of environmental impact and the vision should therefore recognise that the required rapid expansion of our renewable energy sector must occur in parallel with efforts to reduced demand through maximising energy savings and improving energy efficiency. The greenest energy of all is energy we do not use.

At both a national and international level, the negative impacts of the climate and ecological crises are disproportionately felt by the most disadvantaged population groups. The scope of this Energy Strategy is appropriately focused on Scotland, but the vision should also recognise our place as a member of a worldwide community who must pull together to effect change. Emissions anywhere affect people everywhere and our energy transition should aim to be just not only for Scotland's communities, wellbeing and economy – but also to contribute positively to global prosperity and climate justice. The way in which we produce and consume energy has implications extending beyond Scotland's borders, and our climate and ecological responsibilities must be considered in relation to all aspects of our energy supply chains.

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?

Scotland's social, economic and environmental well-being is dependent on universal access to sustainable and secure energy supplies for all households and businesses; and a significant overhaul in our energy economy is required to ensure we remain on track to achieve Sustainable Development Goal #7 (affordable and clean energy for all). Energy is an essential service and access to affordable and clean energy should therefore be viewed within a human rights framework. Inequity in energy access and affordability limits the abilities of individuals, families and communities to achieve good health and prosperity.

The continued provision of Government funded subsidies and home energy efficiency advice services are critical in alleviating the impacts of existing fuel poverty, and additional commitments should be made to supporting bans on the forced installation of pre-payment energy meters and ending 'pre-payment premiums' which disproportionately impact those who are already most vulnerable. Over the longer term, the prevention of fuel poverty for current and future generations requires further consideration of upstream actions which could help address challenges with market volatility and high consumer costs – for example seeking to work in close collaboration with the wider UK Government to de-couple the cost of renewable energy from that of the price of gas.

Done right, the economic transformation that is needed to tackle the climate crisis can be a chance to fix many of the wider economic injustices that already exist and to move towards a more sustainable economic model that has equity at its core and values wellbeing and nature as well as profits. However, for the strategy to truly deliver on its goal of achieving maximum benefits for all of Scotland, our transition to net-zero and the potential benefits associated with this process cannot be viewed solely through an economic lens; there must also be an embedded population and planetary health perspective.

The environmental impact of non-renewable energy consumption and the current global energy crisis have already produced considerable shifts in the underlying social and environmental determinants of health, and have widened health inequalities. Fortunately the energy transition can - with the right approach - bring with it a wide array of human and environmental health and health equity co-benefits which would not only partially offset the financial costs of moving to a

net-zero energy system, but which could also, even alone, be strong drivers for societal change and increase the political acceptability of taking decisive climate action.

In some instances, the successful implementation of energy transition policies will bring about a degree of automatic co-benefit for health (such as providing improvements in indoor and outdoor air quality through reduced GHG emissions), but to achieve maximal gains there must be more careful and deliberate consideration of health aspects within policy design. For example, thermal wellbeing within homes improves physical and mental health, yet this is presumed to be wholly addressed by removing fuel poverty, which is not the case.

To ensure that opportunities for recognising and delivering meaningful co-benefits to health and wellbeing are maximised - and any potential adverse consequences identified and minimised - it is vital that Energy Strategy implementation is appropriately underpinned by Health Impact Assessments and Sustainability Impact Assessments (HIAs/SIAs). The absence of a formal requirement to include these into the mix of impact assessments will make it very difficult to achieve meaningful co-benefits for human health, biodiversity, and environmental sustainability of the type being expected to accrue from creating an energy-focused, economic transition.

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

We are supportive of the proposal to explore opportunities for greater shared and community ownership of renewable energy projects in Scotland – and welcome the planned review which seeks to identify examples of best practice and consider how current approaches can be strengthened to maximise the benefits flowing to communities. Please ensure that the scope of this review encompasses consideration of the potential economic, population health and environmental health benefits for Scotland’s current and future communities.

In relation to all aspects of policy, the translation of strategic aims into practice must be underpinned by appropriate Health and Sustainability Impact Assessments; taking a pragmatic approach which respects the needs and timing of decision making and the urgency of progressing action. Where HIAs/SIAs are indicated, these should have meaningful and inclusive stakeholder participation, and local communities must be recognised as key partners in the process. Community participation in HIAs/SIAs and in consultation processes helps to promote transparency of decision making and is critical to understanding the potential impact of proposed policies on local communities from a health, economic and environmental perspective. In addition, public engagement can aid in recognising and subsequently seeking to address the concerns of groups who may be most impacted by energy-system change and can also assist in identifying areas of policy which may risk inequalities being increased for current and/or future generations. Enabling people to adopt an active role in shaping how just transition policies are delivered in their own area of Scotland can help build public support and ensure that policies are implemented in a way which meets community needs and incorporates or respect local values.

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

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

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?

To reach our net-zero ambition whilst simultaneously promoting health and guarding against the creation or worsening of socioeconomic and health inequalities both now and in the future, a significant overhaul in our energy economy is required. We should strive towards a ‘greener’ economic model which has equity at its core, values nature and wellbeing, and accepts the need for necessary trade-offs in relation to continual economic growth and the implementation of sustainable economic policies which aim to fairly distribute economic resources and maximise co-benefits to population and planetary health.

In relation to market and supply chain considerations on an international scale – please see comments regarding response to Q1 regarding the need to ensure that Scotland’s energy transition contributes positively to global prosperity and climate justice.

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?

It is clear that, in considering a just transition, the provision of employment has the potential to avoid current inequalities being increased and to support economic recovery in relation to the COVID-19 and cost-of-living crises. However, job creation alone does not guarantee just outcomes – and in the process of transition there must be sufficient consideration of what jobs are created, how secure they are and who can access them, and access opportunities for education and building the skill-sets required. The long-term sustainability of such employment will be needed to protect against future inequalities both within the energy sector and beyond.

Where possible, areas of Scotland with low rates of employment and/or a high proportion of workers employed in fossil-fuel based and declining industries should be a particular focus in terms of target sites for renewable energy investment and job creation. Those who are currently working in polluting industries should be recognised as key partners in delivering a just transition and should be adequately supported with a route map, means, training etc to enter new employment.

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?

Please see response to Question 7.

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.

In all cases, whatever the ambition set, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government. All actions which seek to translate strategic aims into practice should be underpinned by meaningful Health and Environmental Impact Assessments.

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.

In all cases, whatever the ambition set, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government. All actions which seek to translate strategic aims into practice should be underpinned by meaningful Health and Environmental Impact Assessments.

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

In all cases, whatever the ambition set, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government. All actions which seek to translate strategic aims into practice should be underpinned by meaningful Health and Environmental Impact Assessments.

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?

In all cases, whatever the ambition set, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims

of the Scottish Government. All actions which seek to translate strategic aims into practice should be underpinned by meaningful Health and Environmental Impact Assessments

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.

In all cases, whatever the ambition set, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government. All actions which seek to translate strategic aims into practice should be underpinned by meaningful Health and Environmental Impact Assessments

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?

See responses to Questions 3 and Question 6. Please also ensure that consideration is given to how all renewable energy sectors can, in the process of delivering a just transition, also maximise population and planetary health benefits for local communities and promote socioeconomic and health equity.

15. Our ambition for at least 5 GW of hydrogen production by 2030 and 25GW 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?

The required transformation of our energy system must have a focus on accelerating the deployment of renewables, and therefore the role of fossil-fuel derived 'low-carbon' hydrogen technologies (combined with CCS) in transitioning Scotland to a net-zero future must be considered particularly carefully, including the undertaking of Health and Environmental Impact Assessments where indicated.

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

In relation to renewable hydrogen development, we would recommend seeking to achieve ambitions in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government. All actions which seek to translate strategic aims into practice should be underpinned by meaningful Health and Environmental Impact Assessments

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

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

We would recommend in developing the Bioenergy Action Plan due consideration is given to maximising potential benefits and minimising potential harm in relation to population and planetary health outcomes, and the promotion of socio-economic and health equity.

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

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?

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?

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

- **Further production should be allowed without any restrictions from a CCC test;**
- **No further production should be allowed [please set out why];**
- **Other reasons [please provide views].**

The expansion of oil and gas extraction and its related infrastructure could hinder the progress of a just transition to net-zero. What is needed to boost Scotland's energy security -over both the short and longer term- is rapid and ambitious investment in renewable energy sources together with reduced energy demand. The transition is complex and needs to be developed with the industry and communities

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]:

- **In the context of understanding the impact of oil and gas production in the Scottish North Sea specifically on the global goals of the Paris Agreement, should a CCC test reflect –**
 - A) the emissions impact from the production side of oil and gas activity only;**
 - B) the emissions impact associated with both the production and consumption aspects of oil and gas activity (i.e. also cover the global emissions associated with the use of oil and gas, even if the fossil fuel is produced in the Scottish North Sea but exported so that use occurs in another country) – as proposed in the Strategy;**
 - C) some other position [please describe].**
- **Should a CCC test take account of energy security of the rest of the UK or European partners as well as Scotland? If so, what factors would you include in the assessment, for example should this include the cost of alternative energy supplies?**
- **Should a CCC test assess the proposed project's innovation and decarbonisation plans to encourage a reduction in emissions from the extraction and production of oil and gas?**
- **In carrying out a CCC test , should oil be assessed separately to gas?**

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?

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

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?

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?

Heat and energy efficiency strategies at both local and national levels should recognise that there is the potential for improvements in the quality and energy efficiency of homes and buildings to deliver substantial co-benefits to health and to positively influence its wider determinants. Poor quality and energy inefficient homes can both create and exacerbate health inequalities, and - without the successful and equitable delivery of mitigation measures - there is a risk that the scale of these inequalities increases over time, with the more extreme weather conditions brought about by our changing climate resulting in a greater need to be able to heat and cool our buildings more effectively. To enable heat and energy efficiency strategies to be delivered in a way which promotes social equity and maximises potential benefits to both population and planetary health, appropriate Health Impact and Sustainability Impact Assessments should underpin all relevant aspects of policy design.

In implementing strategies to improve energy efficiency and decarbonise homes, all approaches should consider who the main beneficiaries are likely to be and maintain a particular focus on progressive policies targeting support to less energy efficient homes and households/communities who are at greatest risk of experiencing fuel poverty and its associated health and social harms. Without adequate provision of financial support, there is a risk that affordability becomes a major stumbling block to the widespread and equitable adoption of home energy efficiency measures. National Government should work in partnership with Local Authorities and communities to ensure that funding gaps are filled in a way which leaves no one behind in the transition to sustainable energy supply and use at the household level.

Energy for transport

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

To be successful in decarbonising transport in the shortest timescale possible, policies must also maintain a clear focus on creating a modal shift away from private vehicle dependence and towards more active and inclusive forms of travel, including walking and cycling as well as public transport. There must be appropriate investment in the infrastructure necessary to support this shift, and to maximise social, environmental and economic benefits the transport strategy

implementation must be underpinned by Health Impact Assessments and Sustainability Impact Assessments (HIAs and SIAs).

The direct electrification of road and other forms of transport has a role to play in reducing emissions in the short and medium term. To enable the rapid phase out of fossil-fuel dependent vehicles we must speed up the delivery of the cheap and reliable infrastructure needed to support this ambition, and ensure that all actions are appropriately informed by HIAs and SIAs. We must also accelerate work to decarbonise the indirect use of fossil fuels within the transport sector.

Electrification of, and the use of alternative fuels within, the transport sector must be undertaken in an equitable way which promotes social justice and maximises population and planetary health gains. Current high costs introduces an affordability barrier to increasing uptake of EVs and means that there is a risk that some the potential benefits of making the switch to zero-emission vehicles (e.g. improved local air quality; receipt of financial incentives) are unevenly distributed in favour of higher-income groups.

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?

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

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?

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?

In relation to the wording of this question, it is not clear what is meant by “those least able to pay”. If this means that individuals should not bear the brunt of the cost of creating net zero transport, that would seem an important way of not creating new financial inequalities that will have negative impacts on people and places.

We recommend that the proposed Just Transition Plan for Transport embeds meaningful consideration of the potential impacts on population and planetary health in all aspects of policy. Appropriate use of Health Impact Assessment and Sustainability Impact Assessment will aid in maximising potential benefits for improving health in an equitable and sustainable way which positively influences the socio-economic and environmental determinants of health and wellbeing.

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?

Developing the necessary infrastructure and supporting capital investment to allow communities to develop local transport schemes would seem sensible.

In relation to all aspects of policy the translation of strategic aims into practice must be underpinned by appropriate Health and Sustainability Impact Assessments; taking a pragmatic approach which respects the needs and timing of decision making and the urgency of progressing action. Where HIAs/SIAs are indicated, these should have meaningful and inclusive stakeholder participation, and local communities must be recognised as key partners in the process. Community participation in HIAs/SIAs and in consultation processes helps to promote transparency of decision making and is critical to understanding the potential impact of proposed policies on local communities from a health, economic and environmental perspective. In addition, public engagement can aid in recognising and subsequently seeking to address the concerns of groups who may be most impacted by energy-system change and can also assist in identifying areas of policy which may risk inequalities being increased for current and/or future generations. Enabling people to adopt an active role in shaping how just transition policies are delivered in their own area of Scotland can help build public support and ensure that policies are implemented in a way which meets community needs and incorporates or respect local values.

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?

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?

Whatever action is taken, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government.

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?

Whatever action is taken, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government.

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

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

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?

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?

Whatever action is taken, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government.

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

Whatever action is taken, the SG needs to commit to seeking to achieve this ambition in a way that maximises the positive benefits to people and places that can come from making an effective energy transition which also supporting the sustainable development aims of the Scottish Government.

Chapter 6: Route map to 2045

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

The addition of a more detailed route-map with greater clarity of medium term goals and target milestones (particularly over the climate critical 2023-2030 period) would be helpful in promoting accountability and ensuring progress towards our energy system vision for 2045 remains on track. See also answers 1 and 43.

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?

Please consider the three key points of our response:

- the need for meaningful health and planetary health impact assessments to underpin all actions which seek to translate strategic aims into practice;
- the need to ensure that we maximise the positive benefits to people and places that can come from making an effective energy transition to support sustainable development
- that we recognise that in considering a just transition, we have to address not only the potential for current inequalities being increased, but also the need to protect against future inequalities.

Scotland's transition to a net-zero energy system has the potential to bring with it substantial population and planetary health benefits, and to positively influence the socio-economic and environmental drivers of health inequalities for both current and future generations. Protecting and promoting population and planetary health is crucial to supporting societal and economic prosperity over the longer term and the transition to net-zero will not be sustainable or credible if

it creates or worsens health inequalities To ensure that the just transition truly delivers maximal benefits for Scotland's people and places and that any potential unintended harms are minimised- a health and planetary health perspective must be embedded in strategy design and the vision for achieving a just transition reviewed accordingly. Please also see Questions 1 and 2.

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.

In the absence of a formal impact assessment, it is unclear which – if any – of the proposals could be a source of unfair discrimination.

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

In the absence of a formal impact assessment, it is unclear which – if any – of the proposals could be a source of unfair discrimination.

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?

Full delivery of the existing (2021) Fuel Poverty Strategy? Please also see Q8 and Q27.

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

Just Transition energy outcomes

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

More should be said regarding the human and environmental health benefits. The health benefits which need to be delivered are more than simply providing improved indoor and outdoor air quality. For example, thermal wellbeing within homes improves physical and mental health, yet this is presumed to be wholly addressed by removing fuel poverty, which is not the case.

As noted generally, the absence of a formal requirement to include a Health Impact Assessment or a Sustainability Impact Assessment into the mix of impact assessments makes it very difficult to achieve meaningful co-benefits of the types set out for human health, biodiversity, and environmental sustainability of the type being expected to accrue from creating an energy-focussed, economic transition.

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

See response to Q48..

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