Questions and Answers

1. Does this chapter provide a fair reflection of the current situation faced by Scotland's onshore wind industry?

Chapter 1 provides a fair reflection of the fact onshore wind has been largely responsible for the decarbonisation of the energy sector in the UK and that Scotland hosts the majority of UK onshore wind capacity. Scotland is a net exporter of renewable energy capacity to the rest of the UK and the demand in England has driven a centralised approach to energy development and its transportation through the national grid. **To date onshore wind expansion has occurred alongside protecting Scotland's designated sites, National Scenic Areas, National Parks and Wild Land Areas. We see no reason why further expansion over the next 10 years cannot take place within policy parameters that continue to protect the country's designated landscapes, its Wild Land Areas and its peatlands.**

The Onshore Wind Policy Statement could be more closely aligned with the NPF4 policy direction by mentioning the Scottish Government's continued commitment to safeguarding Scotland's landscapes and its peatlands. NPF4 draft wording (policy 19) states renewable energy must take into consideration effects on wild land. It also states that renewable energy development proposed in National Parks and National Scenic Areas will not be supported. NPF4 draft policy 32 provides a presumption against renewable energy development in Scotland's Wild Land Areas. Aligning NPF4 to a Net Zero energy system, so that onshore wind expands in a way that is consistent with other policies on land use, is one of the recommendations in the UK Climate Change Committee's Progress Report to the Scottish Parliament from December 2021.

Aligning the Onshore Wind Policy Statement with NPF4 wording on wild land and peatlands would send a strong signal to developers and be the backbone of a more planned approach to future expansion of onshore wind in Scotland. A planned approach to onshore wind would consolidate development in already managed landscapes and around or on brownfield sites. Doing so would protect Scotland's wilder places, ensuring the viability of upland peatlands for carbon storage and landscape scale programmes for nature's recovery (essential if Scotland is to protect 30% of land for nature by 2030 in a meaningful way). Recognising that the Onshore Wind Policy Statement draft consultation will close before the final NPF4 is approved by Parliament, it would still be helpful to make sure the policy statement includes more references to the protection of landscapes and wild land so that this policy statement and NPF4 reinforce clear Scottish Government messaging on the role of nature restoration in the context of a climate and biodiversity emergency.

The current situation faced by onshore wind should be viewed in the context of other renewable technologies. The Policy Statement should take care in not over-stating the role of onshore wind in the coming decade. The Scottish Government has to balance policy signal making with ensuring flexibility to support emerging and effective offshore renewable energy technologies that belong to a just transition. Offshore wind has huge potential for growth and expansion off the Scottish coastline in the next 10 years – the same timeframe as this Onshore Wind

Policy Statement. The Scottish Government's Offshore Wind Policy Statement published October 2020 states 'as much as 11 GW of offshore wind capacity is possible in Scottish waters by 2030' which signals current policy support for offshore wind. The UK Climate Change Committee has set out four 'exploratory scenarios' for electricity decarbonisation across the UK by 2050. It states that 'in all four scenarios offshore wind is the backbone' with targets of 40 GW of capacity in 2030, rising to 95 GW by 2050. Offshore wind has advantages over onshore wind including the near constancy of the wind offshore, identified sites suitable for the deployment of floating and fixed technologies, potential to redeploy skills and expertise from the offshore industries and the additional revenue and jobs it would create in Scotland. Whilst not without challenges, the scaling up of offshore power is important policy context to the future of onshore.

4. This section also underlines the Scottish Government's strong commitment to the role of community energy, and to community benefit and shared ownership. In what ways can we maximise the benefits of these policies as onshore wind development and repowering increases over the coming decade?

With the amount of capacity that is already installed and in planning, now is the time to promote and prioritise models for governing ownership of onshore wind in Scotland so that communities have a greater investment share of a centralised approach and benefit from increased decentralised approaches. This is a time to promote and support more small scale community ownership of renewable energy. In the paragraphs below we outline some ways that the Scottish Government could maximise benefits of community energy as well as realise more community benefit from large scale renewables.

The Scottish Government should prioritise local and community owned development over new large scale commercial development that is not already in the planning pipeline or has not already been consented. The average payment to local communities of onshore wind operating companies applying the good practice principles is £5,000 per MW per annum. Whilst this can make a difference to communities, it is no match for the level of community benefit delivered by wind farms which communities have shared ownership of or which communities own. The latter can provide an average of £170,000 per MW per annum of installed generation capacity in funding to the community (report issued in June 2021 by Aquatera Ltd for the Point and Sandwick Development Trust).

The Onshore Wind Policy Statement could signal the Scottish Government's commitment to supporting more rural communities into energy ownership as part of a just transition with a policy statement to double the 2GW target for community and locally owned to 4GW renewables as part of meeting the 8-12 GW target. This target could be justified on grounds of achieving a just energy transition for communities. A report from Aquatera Ltd published in June 2021 for the Port and Sandwick Development Trust found that community owned wind farms have paid their communities 34 times more than that paid to communities by commercial wind farm companies. This represents a striking mismatch between financial gains for communities from community owned wind farms compared to commercially owned.

In 2018, according to the Energy Savings Trust, there were 18,830 operational community and locally owned renewables installations with 697 MW of capacity. Operators included community land trusts, housing associations, councils, local businesses, farmers and other small landholders. This represents about just 1% of the total onshore wind capacity. The Scottish Government has a target of raising the output of onshore wind from community owned development to 2GW of capacity by 2030. That would bring local and community renewables up to roughly the same level as SSE's entire onshore wind capacity (SSE's website states it has a 'a portfolio of around 4GW of onshore wind', correct as of December 2021 https://www.sserenewables.com/offshore-wind/scotwind/). We believe achieving a just transition requires the Scottish Government to be more ambitious with its target for the amount of onshore wind capacity that is in community ownership.

The Scottish Government should put more emphasis in the good practice principles on discussions of shared ownership from the outset of new large scale development proposals. This would mean communities are not merely consultees in the early design and development process but are considered as potential investors and financial stakeholders in a development from the outset. There are advantages to developers of holding early discussions with a community about shared ownership. More often than not, communities are divided in their views on whether a development should proceed. If communities were involved in site selection and design stages, with a view to having shared ownership from the outset, a community would have a sense of control over the changes to land use and could potentially unite behind a proposal. They would also be able to add local knowledge and understanding to help realise local, place-related benefits from a development.

A revision of the principles of best practice could cite approaches taken by Local Authorities that have developed onshore wind with the intention of using profit to fund public and community services. This is the case for the three proposals that have come forward in the Orkney Isles where Orkney Council is the developer. As the developer, they intend to use any profit to fund local services, benefiting people who live in Orkney. The Council agreed five guiding principles on the community benefit derived from the project. These were as follows:

- 'The key purpose of Orkney's Community Wind Farm Project is to generate profit to be used for the benefit of the people of Orkney.
- This will be done via a 'Community Fund' to be used in the interests of Orkney and its inhabitants.
- The project will be financed in such a way that we can achieve profit which can be used for community benefit as soon as reasonably practicable.
- It won't be possible for private individuals to take a shareholding in any project.
- As the communities located closest to projects will be impacted most by developments these communities will get a 'location-specific community benefit payment'.

These principles could be incorporated into principles of best practice for any Local Authority in Scotland to use to develop a site for renewable energy.

The Hagshaw energy cluster is an inspiring model for future development frameworks that can guide extensions to existing wind farms and repowering

of existing wind farms with community benefits in mind. The process of creating the Hagshaw development framework has led to agreement amongst developers to handover community funds for distribution by members of the local community for the local community. This replaces the model where a developer establishes a community fund but retains control and power over how that funding is allocated. In addition, by involving communities in creating development frameworks for energy clusters, communities can be aware of the strategic investment opportunities for their community. Development frameworks, which represent a collective vision for shaping the environment around an established and emerging energy cluster of wind farms, can be used to leverage public funding and grants for community projects such as active travel routes, woodland regeneration and restoration and improved recreational access across an extended network of wind farm sites.

5. What more can be done to ensure that financial mechanisms are available to support development at differing scales?

To support community scale renewable energy development, including onshore wind, that is in full or part ownership by the community, the Scottish Government should maintain the existing Community and Renewable Energy Scheme. Even with funding in place, people and communities can face barriers to accessing it. Increasing the breadth of communication channels so people know where to find information about the finance available and sharing stories or examples of how communities have raised money can help overcome access and information barriers. The Scottish Government could maintain or increase support for organisations in Scotland that are already advising communities on the funding options available for community owned renewables. They could also direct public funding bodies to signpost communities to information about renewables as part of place-based funding support.

In addition to incorporating community renewables advice into existing government funding programmes, the Scottish Government could make more funding available in every Local Authority for communities to create local energy plans. Once a community has a local energy plan they have identified and agreed energy needs and a basis for communicating the need alongside costed project budgets to potential investors such as local businesses, the Local Authority, grant making charities, landowners and individuals. The local energy plan becomes a way to organise fundraising efforts and leverage in funding for a community energy scheme from different sources.

6. What are your views on the installed onshore wind capacity that will be necessary over the coming decade, recognising the ambition Scottish Government have proposed for 8-12GW? Please share any evidence.

We believe that an expansion of onshore wind and other renewable capacity over the next decade can happen alongside protecting Scotland's wild places and Wild Land Areas. This could happen through a combination of:

1) Repowering and extending the operational life of existing wind farms. This approach could include an emphasis on creating energy clusters developed

by frameworks (such as the aforementioned Hagshaw Energy Cluster) and prioritising development in managed landscapes where infrastructure exists already (this would align with an 'infrastructure first' policy in NPF4). According to NatureScot, repowering could add up to an extra 9 GW of capacity.
2) Prioritising building windfarms consented through planning but not yet built, including enabling applications to vary consent of existing planning permissions.
3) Prioritising what is already in the planning pipeline.

The 9.7GW planning pipeline capacity plus the 2.5 GW of current operational capacity that could be repowered referred to in the Policy Statement are key to achieving the 8-12 GW capacity target by 2030. Repowering means taller and more efficient turbines which can double or triple the electricity output of the former wind farm. On a simple model, repowering 2.5 GW of existing installed capacity could result in 5-7.5 GW of additional new capacity (other estimates suggest the increased capacity could be as high as around 9 GW through repowering). If we assumed 50% of development proposals in the planning pipeline proceed to construction, that would add 4.85 GW of capacity. Added to the repowered capacity, this would achieve the 8-12 GW target without the need to destroy our finite natural assets and Wild Land Areas.

The targets set for onshore wind should reflect the fact decarbonisation of Scotland's power sector has been successful to the point 'Emissions savings from the power sector have largely run out' (UK Climate Change Committee Progress Report to Parliament 2021). This is important current context for onshore wind expansion targets because it implies that the real gains for achieving Scotland's climate change targets are in reducing emissions from other sectors of the economy rather than in expanding the amount of renewable energy Scotland has.

The sectors where the future big gains can be made on the decarbonisation pathway in the next 10 plus include transport, buildings and agriculture (see Figure 1.2 of the UK Climate Change Committee Progress Report to Parliament 2021). Decarbonising these sectors is about much more than simply converting their power supplies to renewable electricity. We should take care to not assume that decarbonising Scotland's economy will significantly increase demand for electricity. Decarbonising these sectors is about reducing waste and consumption of materials (which will reduce associated emissions from producing and transporting new materials), adopting circular economy principles (reducing consumption of materials and the carbon associated with producing new goods), managing land as a net sink for carbon, increasing energy efficiency of buildings and processes and people adapting their behaviours and lifestyle choices to low carbon living.

The pace that other renewable technologies are developing to commercial deployment is also relevant for considering what onshore wind capacity will be necessary in the next ten years. Offshore wind technology is developing at an accelerating pace. This technology stands to benefit from the vast marine hinterland of Scotland, which is seven times larger than its land mass. As a sector with the potential for redeploying infrastructure, expertise, and logistical systems developed during half a century of oil production in the North Sea, it could have a significant role

in achieving a just transition for Scotland. The UK Climate Change Committee has set out four 'exploratory scenarios' for electricity decarbonisation across the UK by 2050. It states that 'in all four scenarios offshore wind is the backbone' with targets of 40 GW of capacity in 2030, rising to 95 GW by 2050. On onshore wind, it is more cautious, setting out a target range of between 25 GW and 30 GW by 2050. It does not specify how that capacity should be distributed geographically among the nations of the UK. The huge potential for offshore means there need be no rush towards accelerating the construction of new large scale wind developments across Scotland's Wild Land Areas.

8. In what way(s) can we maximise the benefits of repowering over the coming decade?

The Hagshaw energy cluster provides an inspirational example of how we can maximise benefits of repowering and could provide a model for how repowering takes place across Scotland. This energy cluster is being shaped through a collaborative approach between the energy developers, public bodies such as NatureScot and Historic Environment Scotland, Local Authorities and consultants. The process has resulted in a development framework to guide how the site evolves. This is a strategic but not prescriptive framework to guide but not restrict the development. The development framework makes sure decisions about repowering and extending the development site consider overall land use, spaces for recreation, for nature. In doing so it ensures that the development is meeting multiple outcomes – health, clean energy, biodiversity, access to nature.

With repowering, there needs to be careful consideration and guidance on how this can be achieved along circular economy principles to reduce the emissions associated with repowering activity. Repowering in a genuine sense would mean energy developers sharing tracks, compound stations, cable routes. There would be obvious associated cost benefits to doing so but it takes collaboration and coordination. Scottish Government policy on renewables and a circular economy, as well as best practice guidance and frameworks which stakeholders could use to establish energy clusters, could help to direct collaborative efforts so that repowering sites is achieved in a way that respects materials and keeps carbon emissions low.

11. What are your views on the integration of taller turbines in forested areas?

Where turbines are constructed in plantation forestry, and the construction timescales fit with a forest management plan (e.g. trees were ready to be felled and land would later be replanted) integrating these land uses may be compatible.

The Scottish Government should seek to promote examples of where taller turbines have been successfully integrated into forestry management according to land management plans. Exemplary best practice land management plans will consider how land use and management can restore biodiversity across a site as a fundamental principle of land management. Forestry and Land Scotland, as caretaker of Scotland's forest estate, is partnering with renewable energy companies to install wind turbines on publicly owned forested land. They may be best placed to

provide best practice examples and guidance - informed by on the ground learning from the developments that are operating on publicly owned forest sites as well as by the selection criteria used to award contracts to develop forest sites.

From a land management perspective, removing conifer plantation to create space for turbines could form part of a site-wide habitat restoration programme. For example, former forestry plantation on peatland habitat could, with the removal of the trees, be returned to raised bog. Space between the turbines could, through appropriate land management, regenerate into natural native and mountain woodland. Approaching the design of an energy development site with habitat creation in mind would open up a different, more ecological and holistic approach to design and construction of wind farms. This different approach could make sure renewable energy targets are being met alongside biodiversity targets.

13. What, if anything, is not currently reflected in the good practice guidance for constructing windfarms, in relation to building on peat and other carbon-rich soils?

The good practice guidance does not adequately reflect the national significance of deep peat habitats for carbon sequestration and biodiversity. Peatland is now recognised as one of the world's most important natural stores of carbon. A typical hectare can store five thousand tonnes of carbon – ten times more than a typical hectare of forest. Given the carbon storing importance of peatlands, as well as their importance for biodiversity (as habitat for rare wading birds, insects and specialised plant life), we should not be prepared to allow damage to them at unknown cost.

With this is mind, good practice should incorporate a clear principle of avoidance of deep peat soils. The presumption against developments on deep peat soils for carbon reasons is already recognised in the forestry sector – where it established that the benefits of carbon sequestration through tree growth do not outweigh the damage to peat soils and consequent carbon emissions. There ought to be a similar presumption against large scale onshore wind development on peatlands.

The carbon calculator is supposed to help developers understand how much carbon is emitted from a site as a result of developing onshore wind versus the amount saved through the generation of renewable electricity. However, the calculation method is underestimating the emissions from damaged peatlands. This undermines the overall credibility of the carbon payback period and it is not clear whether the carbon calculator is actually being used to aid decision making. There are few references to the carbon calculator in policy. If the calculator is improved, policy statements could reference the calculator and set the expectation of when and how its results should be used to aid decision making.

The current major deficiencies in the calculator related to evaluating emissions from peatlands are:

1) The extent of drainage is very difficult to predict, due to local formation of pipes within the peats, which can extend the drainage much further than

would have been expected without the formation of pipes. Because it takes a long time to properly estimate extent of drainage, developers are likely underestimating the extent of drainage in their carbon calculations. With this in mind, developers should work to a design that is one of minimum footprint, avoid running tracks through peat and incorporate floating tracks as far as possible with regular checks on site that these tracks are not sinking through time and causing the peats to drain.

2) The carbon assessment takes into consideration carbon savings from peat that is excavated and can be re-used. However this assumes that peatland that is excavated can be re-used. In all reality it is very difficult to save peat once it is dug up and starts to dry out. This is evident in the years it takes to restore damaged peatland and in pictures of excavated peatland which clearly show the peat as dried out. The carbon savings from any peat re-use should be re-visited and developers should be advised against attempts to re-use peat. Instead, developers should be keeping the peat in the ground.

3) Carbon savings from peat restoration could be over-estimated when we know that real life restoration takes decades for peatland to reach a condition when it is storing carbon again. Good practice guidance should be stating clearly that the expected savings from restoration programmes have a long-term horizon that could reasonably be beyond the lifetime of the wind farm. That does not undermine restoration work but could extend the payback period for the wind farm. Recognising this could incentivise more ambitious and site wide restoration of peatland as well as increased avoidance of disturbing deep peat soils during construction.

To aid assessment of the impacts a development would have on peatlands, developers submit peat habitat surveys as part of the Environmental Impact Assessment, but policy on peatlands is needed to help Planning Authorities interpret what extent of harm translates into unacceptable damage. In our view, the way peatlands function means the harm from the turbine infrastructure can be extensive; so extensive, that there ought to be a presumption against large scale onshore wind development on peatlands.

In terms of the wording in the draft onshore wind policy statement at paragraph 1.5 Box 1, we have the following suggested changes:

- 'Position site infrastructure in areas of shallower peat or design an appropriate engineering solution to avoid and/or minimise excavation of peat (for example floating roads and piling solutions)' to 'Position site infrastructure to avoid the excavation of peat'.
- Replace 'Minimise the detriment to peat if excavation cannot be fully avoided' with 'Avoid peat excavation altogether'.
- Replace 'Avoid or reduce peat displacement from the development of excavations' with 'Avoid peat displacement from excavation'.

If paragraph 1.5 Box 1 is updated to place a greater emphasis on avoiding deep peat through design, then the 'Peat Survey Flowchart' that appears further into the document will also need to be updated.

In addition, for any development that does proceed on a site where there is deep peat, good practice needs to emphasise the restoration of peat on a site-wide scale, rather than accept peatland restoration in piecemeal fashion. This is really important given the importance of peatlands for carbon storage and for biodiversity. Piecemeal restoration is not ambitious enough. Instead, peatland restoration should be incorporated into site-wide habitat restoration plans which should be submitted as part of the planning application. Developers of large scale onshore wind already submit habitat and peatland restoration plans but these are not holistic land management plans for a site. There is also little data publicly available to know whether the habitat and peatland restoration activity achieves the intended outcomes. Best practice guidance should encourage developers to report on whether restoration activity is undertaken and what it achieves. For greater transparency and accountability, the reporting should be standardised and made publicly available.

14. From your own experience what can wind farm developments offer in terms of protecting and enhancing the natural environment, in particular through the planting of trees to compensate for those lost during windfarm development and through peatland restoration?

There are few publicly available examples of habitat restoration or enhancement activity that is actually underway or has been completed with outcomes for nature achieved at wind farm sites. This suggests that either protection and enhancement of the natural environment is not happening at wind farm sites or that the developers and landowners or land managers are failing to communicate what protection and enhancement activity is underway. It is also a product of the fact the onshore wind industry is largely self-regulating. There is little evidence of enforcement of planning conditions or of information being gathered on whether outcomes within habitat restoration and peatland restoration plans are being achieved.

The absence of information is at odds with the potential for protection and enhancement given the amount of land between the turbine bases, tracks and associated infrastructure which could be pro-actively targeted with interventions for nature's recovery. The types of interventions that would succeed will be site dependent and should be informed by site surveys. As different types of surveys (bird, habitat, soil, peat) are already required at design stages there would not need to be a duplication of surveys. Instead, some surveys could be more thorough. For example, soil types and habitat mapping would need to more complete so that they can be used to inform where natural regeneration might be possible, whether there is any existing seed source, what level of grazing pressure exists, and which species of trees are likely to thrive if planted.

At the higher altitudes there is no reason why wind farm sites cannot co-exist with a programme for the pro-active recovery of montane woodland. Species associated with this habitat type include woolly willow and dwarf birch (also known as arctic birch). A native woodland recovery programme at a wind farm site may require grazing management plans to reduce the damage caused to young saplings from grazing sheep and/or deer. A step further would be to connect woodland recovery programmes across adjacent wind farm sites. This could be achieved

through development frameworks or by landowner partnerships whereby landowners pool land management expertise, local knowledge and apply for woodland creation grant funding collectively.

Wherever the site allowed, there could be a clear expectation in guidance for natural regeneration of native woodland to increase following a wind farm development. The justification for an overall increase in woodland cover comes from established knowledge on the importance of native woodland habitats for biodiversity recovery and the urgent need to reverse decline. The UK ranks amongst the lowest 12% of global countries and territories for biodiversity intactness (report by the Natural History Museum and RPSB published 2021). The application of this policy or best practice guidance would differ depending on the land use of the wind farm site and the type of trees that are removed.

Best practice and policy must make clear that the removal of ancient woodland must be avoided at all costs at any development site. There is simply no compensation for the loss of rare ancient woodland (see reports and research from the Woodland Trust and evidence provided by the Alliance for Scotland's Rainforest for evidence of the biodiversity importance of ancient woodlands). For other woodland types, an overall gain in native woodland on the wind farm site could be encouraged by natural regeneration or a 'one out, two in' policy and/or best practice guidance for replacing native trees. Any native tree that is removed should be replaced with a suitable native species that is appropriately planted (and protected – e.g. with a protective tree covering to prevent damage from voles, rabbits or deer) or space should be created for natural regeneration with supporting site surveys that indicate the native woodland that would be able to naturally recover with the right intervention (e.g. deer management practices or enclosing areas for natural regeneration).

For wind farm sites where the dominant land use is commercial forestry, compensatory planting of non-native, commercial and fast growing species will not enhance biodiversity to the same extent as re-stocking by planting native woodland would. However, if the site is managed as a commercial operation seeking to harvest timber in short timescales, re-stocking of the faster growing non-natives could be complemented by native woodland planting so that the site overall achieves more for biodiversity than it otherwise would have done. Where peatland exists beneath conifer plantation, removing the conifer and restoring the peatland bog should be considered as a priority measure for protecting and enhancing nature's recovery and natural carbon storage on the site.

There is a lot more that could be achieved on behalf of the natural environment at wind farm sites but without a process for reporting information and follow-up, there will be little accountability. The Scottish Government should consider how it can monitor industry compliance with best practice. So far the industry has been self-regulating, but given the scale of onshore wind development and the need for land to be used judiciously to reverse biodiversity loss and to store carbon, there is justification for closer scrutiny of how land at wind farm sites is being managed for nature. An independent regulator, paid for by the industry, could oversee information reporting, best standards and compliance.

15: Can you provide best practice examples of encouraging biodiversity protection and enhancement, including connectivity between natural areas in wind farm sites?

There are few best practice examples for how wind farm developers and landowners have encouraged biodiversity enhancement and connectivity through careful design and construction. A lack of best practice corresponds with the absence of publicly available information on whether proposed Habitat Management Plans and Peatland Management Plans, submitted often in draft form as part of a planning application, are actually followed through by the developer. There is no publicly available data about whether the outcomes of these plans are achieved and an absence of monitoring or scrutiny on whether planning conditions, attached to the fulfilment of Habitat Management Plans and Peatland Management Plans, are being met.

As an exception, SSE has published Biodiversity reports for 2018 and 2019 containing summary information on habitat management at its wind farm sites. For example, we can learn that for its Griffin wind farm the Habitat Management Plan covers 892 hectares and is focused on 'Native woodland planting, black grouse habitat enhancement, habitat for mammal species'. Whilst useful in summary, without any evaluation reporting available it is impossible to know whether nature is recovering at this site according to the plan and any progress made as a result of it. We suggest, as a condition of planning applications proceeding, developers should be asked to pay towards the costs of regular impartial spot checks at wind farm sites. These would be carried out by experts in land management and ecology to evaluate whether the Habitat Management Plans are being implemented. The evaluation would be shared with the Planning Authority which could then check whether any planning conditions attached to a Habitat Management Plan were being adhered to.

Connectivity for protecting and enhancing nature within wind farm sites must be a consideration at the design stages if it is to achieve its best results. This means accurate and full on-site surveys of species, habitats, ground hydrology and soil types, which can all pro-actively inform the development design so that the site is designed with nature connectivity and nature restoration potential in mind. In doing so the developer will also be in a better position to understand the carbon gains that can be made through natural carbon sequestration, which can help to reduce the carbon payback period over the development's lifetime.

Related to biodiversity enhancement at wind farm sites, we are concerned about the impacts of wind farms on internationally protected golden eagle populations. Golden eagles are particularly vulnerable to more turbine development because their upland habitat and territories overlap with the upland, windy places that developers favour. A recent study by Fielding et al (2021) has found evidence that golden eagles avoid wind farms, leading to range displacement, which could lead to a change in eagle population, range size and food availability. The research looked at the responses of 59 satellite-tagged golden eagles in Scotland to multiple (80) wind farm sites during construction and operational phases. They found that golden eagles avoided wind turbines, with a modelled displacement of 70m from a

turbine hub location. The study indicated that habitat lost to golden eagles due to wind farm avoidance was a substantial adverse impact.

Another research paper, 'Assessing the impact of onshore windfarms on nesting habitat suitability of golden eagles (Aquila chrysaetos) in Argyll and southern Scotland' by a MRes student of Ecology and Environmental Biology at Glasgow University, modelled habitat distribution of golden eagles for current wind farm areas and future planning scenarios. The paper found that in both future scenarios, habitat quality was reduced, with the highest negative effect occurring in the Scottish Borders, which had the highest number of approved and potential wind farms.

Developers are expected to identify the presence of any golden eagles and the potential impact a wind farm could have on the birds individually, as well as at population level, during the Environmental Impact Assessment process. However, evaluating the cumulative impacts of several wind farms on golden eagles can be difficult and, as a result, can be overlooked. We recommend that the Onshore Wind Policy Statement is more explicit about the importance of protecting internationally important wildlife, including golden eagles.

The Onshore Wind Policy Statement, plus any relevant guidance, should: 1) make it clear that golden eagle habitats are a constraint on development, 2) direct developers to use existing and up to date models for predicting the effects that a wind farm could have on golden eagles in combination with other wind farms already sited or proposed nearby, 3) set the expectation for careful monitoring of the effects of windfarms on eagles by developers and local planning authorities.

19. Should government consider options for introducing a sector deal similar to that of the Offshore Wind sector and if not, why is that your view?

Yes. The Scottish Government should consider introducing a sector deal for the onshore wind sector. This seems fair and reasonable if the Scottish Government is to signal support for further onshore wind development in Scotland. **Any sector deal should be asking onshore wind developers and the landowners who lease their land to energy companies to ensure that development contributes to Scotland's biodiversity targets**. Scotland's Updated Climate Change Plan recognised that there is a biodiversity and a climate emergency and that these are inter-linked. Solving one requires solving the other too. We should therefore be solving both together.

In our view, the points that a sector deal needs to cover include:

1) Achieving biodiversity net gain at wind farm sites which would require land owners to work with developers, ecologists, land managers and conservation partners to plan and implement site-wide restoration of habitats and the return of species.
2) Land management frameworks for ecological connectivity between wind farm sites.
3) Monitoring of site-wide restoration activity and transparent, standardised reporting of results.

4) Full reporting on the fulfilment of all planning conditions into Planning Authorities and for Planning Authorities to make the data publicly available.
5) Options for communities to invest in development as part of best practice.

23. Do you have any views on the impact of wind farms on tourism?

Wind farms rarely feature in the promotional material of VisitScotland. As experts in marketing Scotland to the world, this suggests that promoting Scotland as a destination to experience wild and remote glens and mountains – all landforms characterised by predominantly natural forces – brings people here. This strategy will be informed by VisitScotland's Visitor Experience Surveys, which evidence that Scotland's natural landscapes are important for the nation's tourism offer. The evidence gathered by VisitScotland and their view on the impacts of wind farms on tourism would offer valuable insight to answering this question.

The introduction of wind farms in any landscape results in a landscape change but it is generally accepted (in landscape visual impact assessments and guidance) that the less developed a landscape already is, the greater its sensitivity to development. The draft NPF4 states in unequivocal terms that onshore wind development is not appropriate in Scotland's National Parks and National Scenic Areas. However, Scotland has other landscapes of national scenic value which are not designated as a National Park nor a National Scenic Area, but which still attract many visitors per year seeking experiences in wild places, including its Wild Land Areas. To safeguard the natural qualities of these landscapes, considerations of siting, scale and size all remain really important considerations as part of a planning application process. The concerns of local communities – whether about tourism, ecology, economy – are also all equally valid and the onus should be on any developer to gather local opinion at the earliest stages to inform an application.