
Onshore Wind Policy Statement



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Ministerial Foreword



Scotland has a long and positive association with renewable energy.

Nationally and internationally, our country has an excellent reputation – not only for the size, scale and strength of our renewable resource, but for the ways in which successive Scottish Governments have encouraged and supported its development.

That support has taken the form of legislation, clear and positive planning policy and guidance, and strong messages to national and international investors – both about Scotland’s potential, and the ambitious targets to which we aspire. That positive approach and framework has combined well with the spirit and determination of investors and innovators, and the openness and appetite of communities across the country to become involved themselves.

The result is that we met the equivalent of an estimated 54% of our electricity demand from renewables in 2016, representing tremendous progress towards our target of 100% by 2020, and a significant contribution to our target of 50% of all energy from renewables by 2030. And while our intention remains to ensure that these targets are met from as wide and diverse a range as possible of renewable technologies, there can be no question about the dominant and hugely valuable role played by onshore wind – and we continue to see further capacity installed.

Onshore wind is now amongst the lowest cost forms of electricity generation of any kind. It has achieved this status by building and learning from projects at an increasing scale and benefits from economies of scale in the manufacturing process. These have in turn led the case for investment in stronger and smarter electricity networks across Scotland, creating a wider platform for other technologies on which to build.

There is no question that onshore wind is a vital component of the huge industrial opportunity that renewables more generally create for Scotland. The sector supports an estimated 7,500 jobs in Scotland, or 58% of the total for onshore wind across the UK, and generated more than £3 billion in turnover in 2015. Developers are increasingly managing international onshore wind projects from their bases in Scotland.

Our businesses have developed real strengths across the whole supply chain – in project development, civil engineering, and operation and maintenance.

Machrihanish, near Campbeltown is also home to the UK’s only turbine tower fabricator. I am determined to build on this, and to make sure that Scotland continues to capture the economic and industrial awards which our positive policies and a healthy project pipeline will create. Indeed, it is our intention to increase the share of the supply chain opportunities that Scotland gains from future projects.

Onshore wind also plays a valuable role in empowering and rewarding local communities located near developments, with over £12 million in community benefits payments paid out in the last year. The next generation of projects must continue this positive and valuable relationship with local communities. Indeed, we aspire to go further in looking for co-investment opportunities to secure shared revenue models, and other new avenues to help regenerate local communities.

Our energy and climate change goals mean that onshore wind will continue to play a vital role in Scotland's future – helping to substantively decarbonise our electricity supplies, heat and transport systems, thereby boosting our economy, and meeting local and national demand.

This important role means we must support development in the right places, and – increasingly – the extension and replacement of existing sites, where acceptable, with new and larger turbines, based on an appropriate, case by case assessment of their effects and impacts.

To achieve this, we must ensure there is a route to market for the electricity generated – and in ways which reduce and ultimately eliminate any additional costs for consumers.

This needs developers and communities to work together to ensure that projects continue to strike the right balance between environmental impacts, local support, benefit, and – where possible – economic benefits deriving from community ownership. Indeed, securing economic benefit is an important objective to reward support for the industry within local communities.

We will pursue this partnership approach in a way which is compatible with Scotland's magnificent landscapes, including our areas of wild land.

Achieving appropriate environmental protection means that the relevant planning and consenting processes must remain aligned with the policy context and desired outcomes. A major review of the Scottish planning system is well under way; it will continue, as now, to fully reflect the important role of renewable energy and energy infrastructure, in the right places and with appropriate protection for the environment.

The Scottish Government's Consents Unit has provided, over many years rigorous, committed and streamlined processes for a host of electricity related applications, including those for onshore wind developments over 50 MW. We intend to consult early next year on proposals designed to ensure that the Unit remains properly resourced, and able to build on the high standard of service that it currently offers.

However, we are also looking hard at the wider statutory and legislative framework for determining larger electricity generation applications under the Electricity Act 1989. There is significant scope to improve the current framework, and a compelling case – which we will explore and pursue with the UK Government – for changes to be made which reflect the world now, rather than as it was when some of these legislative provisions and requirements were introduced.

I am grateful to all those who took part in the conversation regarding our draft Onshore Wind Policy Statement and who have helped shape the document as it now stands.

Looked at overall, the Statement underlines our view on the extent to which the current system is, as a whole, working effectively. While our consultation included some proposals aimed at placing a greater emphasis on project efficiency, and on the potential for a more strategic approach to project development, we have decided against pursuing these, based on the feedback we received.

Where there are areas that we believe we our approach or procedures can be improved, we will continue to pursue these – just as we will carry on working with all of our stakeholders to make sure that onshore wind development continues to deliver the best outcomes in terms of our energy goals, for the environment, and for local people.

A handwritten signature in black ink, appearing to read 'Paul Wheelhouse', written in a cursive style.

PAUL WHEELHOUSE MSP
Minister for Business, Innovation and Energy.

Onshore Wind Policy Statement

The Scottish Government published a draft Onshore Wind Policy Statement (OWPS) in January 2017.

Our aim was to obtain the views of as many organisations, groups and individuals as possible and to help inform and shape our understanding of the issues raised by onshore wind power. It included proposals designed to help to maintain the contribution that we expect this mature form of generation to continue to make.

The consultation elicited a wide range of comments and views, for which the Scottish Government is extremely grateful. The responses reflected the extent to which onshore wind can be the subject of strong and diverse views, ranging from the value and importance of its current and future contribution, to its suitability in particular areas.

WHY Research undertook an analysis of the [consultation responses](#), which can be viewed [HERE](#)

Our draft OWPS raised questions and invited views in the following areas:

- Route to Market
- Repowering
- Strategic Approaches to New Development
- Barriers to Deployment
- Protection for Residents and the Environment
- Community Benefits
- Shared Ownership

This final version of the Scottish Government's Onshore Wind Policy Statement revises and supersedes the draft statement published in January 2017. It reflects the considered views of Scottish Ministers, based on their assessment of consultation feedback.

Chapter 1: Route to Market

In our draft Onshore Wind Policy Statement (OWPS), the Scottish Government raised and discussed a number of issues about how to improve the route to market for onshore wind. These included:

- The considerable economic benefits of onshore wind, including supply chain activities, consultancy and ongoing maintenance contracts.
- The impact of the UK Government's decision to close the Renewables Obligation early and to focus future Contracts for Difference auctions and support on "less established" technologies.
- The related UK Government decision to reduce Feed-in-Tariffs and introduce deployment caps, and its impact on small-scale and community wind projects.
- The significantly higher load factors experienced by island wind projects, and the importance of a mechanism which gives these projects an opportunity to drive down costs and to compete.
- The potential and value of a developing market in longer term corporate Power Purchase Agreements as a means to helping to finance new projects, alongside (or in the absence of) any other market mechanism(s).
- The potential to include efficiency as a material consideration within the section 36 application process.
- Additional ways in which the Scottish Government might support innovation within the sector and help reduce costs.
- Anything else that the Scottish Government might do to help establish a route to market for new developments.

1. As of October 2017, Scotland had 460 onshore wind developments, either operational or in planning (with local authorities or the Scottish Government's Consents Unit, depending on the capacity proposed). This figure consists of:

- 65 planning applications (2650 MW)
- 79 projects awaiting construction (2511 MW)
- 53 projects under construction (1667 MW), and
- 281 projects currently operational (6556 MW).

2. The Scottish Government is determined to influence, enable and deliver a clean and integrated energy system, delivering reliable supplies at an affordable cost. Onshore wind, a mature and established technology, is now amongst the lowest cost forms of generating electricity, renewable or otherwise. We expect onshore wind to remain at the heart of a clean, reliable and low carbon energy future in Scotland.

3. In order for onshore wind to play its vital role in meeting Scotland's energy needs, and a material role in growing our economy, its contribution must continue to grow. Onshore wind generation will remain crucial in terms of our goals for a decarbonised energy system, helping to meet the greater demand from our heat and transport

sectors, as well as making further progress towards the ambitious renewable targets which the Scottish Government has set.

4. This means that Scotland will continue to need more onshore wind development and capacity, in locations across our landscapes where it can be accommodated.

5. That will sometimes take the form of further investment in existing wind farms – such as measures to extend the life of components and turbines at such sites, and / or proposals to remove and replace existing turbines with newer, more efficient (and larger) machines. It will require developers to continue to reduce costs and increase innovation – for example, taking advantage of increasing opportunities to combine wind generation with energy storage.

6. All such developments generate new scope and opportunities to benefit Scotland's economy – taking advantage of the supply chain that has developed over the past fifteen years. Our businesses have developed expertise and a strong commercial reputation for the development, installation, operation and maintenance of onshore wind.

7. Our draft advice on net economic benefit and planning sets out how developers and planning authorities can capture the contribution of development proposals to the economy, alongside potential impacts, and take account of this in planning decision making.

8. The industrial opportunity, and the extent to which we can continue to capture these benefits, remains a top priority for Scottish Ministers. The success and reputation for quality of CS Wind in Campbeltown serves as a reminder of Scotland's ability to serve these markets – we are determined to build upon that, and to continue to attract investment and jobs to Scotland.

9. We know that new projects face a highly uncertain route to market. The arrangements which have enabled onshore wind to expand and to reduce its costs so successfully, are no longer in place. Continued innovation and cost reduction, a supportive and well-resourced planning system, and continued advances in turbine and blade technology will help close the gap that currently exists – but not sufficiently, and not for all developments.

10. Helping to secure this route to market for onshore wind, at all scales, remains a priority for the Scottish Government – building on the successful development of the sector and technology over the past two decades, and capitalising on the learning and reductions in cost that these developments have brought about.

11. We believe that new onshore wind projects can and must be developed at no additional subsidy cost to consumers. However, we also believe that this will require some limited market intervention to protect projects against variations in the wholesale price of power.

12. We share the view that technology-neutral contract auctions, and the competitive process which these entail, can help the sector reduce the costs of onshore wind farms still further. We agree that these outcomes can be achieved through the provision of contracts designed to remove risk by protecting developments from fluctuations in the market price of power.

13. These would ensure that consumers are able to benefit from the low cost contribution onshore wind can make to a decarbonised energy future – but at no additional cost to their energy bills. By giving onshore wind this opportunity, and making it subject again to the same competitive forces that have driven down the costs of other technologies so dramatically, we believe that we can make progress towards Scotland's renewable and low carbon targets at the lowest possible cost.

14. We have already seen the UK Government demonstrate welcome flexibility in its decision to consult on access to support for wind generation on Scotland's islands – that inclusive and flexible approach needs to extend to low cost renewables across the country. **That is why the Scottish Government is continuing to call upon the UK Government to deliver the required solution – using the reserved powers and market mechanisms which are currently established and well understood by the sector and investors.**

15. We believe that the arguments in favour of this outcome are very strong. However, we will continue in parallel to explore other avenues, using all of the options, tools, powers and resources at our disposal in Scotland. For example, the Scottish Government is continuing to develop the scope to offer increased power purchase agreement (PPA) provision as part of our national collaborative contract for electricity supply.

16. There are clear and welcome signs of growth in the global market for corporate PPAs – agreements (on the part of non-utility or energy companies or organisations) to buy or off-take power from a particular development. These potentially offer new routes to market for developers in the absence of, or alongside, any further revenue stabilising mechanisms that might be made available.

17. This is a welcome trend, and the Scottish Government remains keen to understand and explore this in more detail. We welcome discussions both with the energy sector, and with those on the demand side who might be interested in the growth and availability of such PPAs.

18. We also remain determined to pursue opportunities for further development across the public estate, where that can be accommodated. For example, Scotland's national forest estate now has an installed capacity of almost 1 GW of onshore wind, generating enough electricity for around 500,000 homes each year.

Efficiency

19. Our draft OWPS asked for views and evidence on whether there was a case for including efficiency as a material consideration in the section 36 consenting process.

20. Although there was support for this approach in principle, there was little to no consensus on how this could be defined and delivered. Applications are typically based on the developer's considered view of the most efficient site, turbines and layout possible, balanced against the anticipated acceptability of associated environmental impact.

21. We have reflected on the potentially sensitive commercial and legal issues which could be involved in assessing and comparing the efficiency of individual applications, and the difficulties and delay which could be involved in addressing these.

22. Based on that further reflection, we have decided not to pursue the inclusion of efficiency as a material consideration in the section 36 consenting process. However, we will continue to invite applicants to explain clearly how environmental impacts have been balanced against energy yield during design iteration, and reported as part of the information provided in support of applications.

23. Many of our stakeholders equated or interpreted the concept of efficiency as strongly, if not wholly, related to the increasing size and power of wind turbines. We acknowledge that onshore wind technology and equipment manufacturers in the market are moving towards larger and more powerful (i.e. higher capacity) turbines¹, and that these – by necessity – will mean taller towers and blade tip heights².

24. The technology shift towards larger turbines may present challenges when identifying landscapes with the capacity to accommodate larger scale development, as not all will be suitable. However, fewer but larger wind turbines may also present an opportunity for landscape improvement, as well as increasing the amount of electricity generated

25. The Scottish Government acknowledges the way in which wind turbine technology and design is evolving, and fully supports the delivery of large wind turbines in landscapes judged to be capable of accommodating them without significant adverse impacts. Our planning policy already supports the development of appropriately sited wind turbines – we anticipate that this will enable a range of turbine sizes in the future. Individual decisions on wind turbines and wind farms will continue to be considered on a case by case basis.

26. There will continue to be an onus upon both developers and consenting authorities, to address fully and transparently the impacts associated with increasingly larger turbines. **We will continue to monitor the challenges and opportunities arising from proposals with larger turbines as applications come forward, and to consider whether any future action might be required.**

¹ Recent reports – such as the Energy & Climate Intelligence Unit's "Blown Away" – point out that average turbine sizes in other European countries are growing, quoting an average EU nameplate capacity of 2.2 MW, and 3.3 MW for turbines in Sweden.

² Current Civil Aviation Authority (CAA) guidelines require aviation lighting for any structure over 150 metres in height. Further information on their policy in this regard is available on the CAA [website](#).

Innovation

27. The Scottish Government believes that scope exists to continue improving the performance and contribution – thus lowering the cost – of onshore wind developments. Part of this will come from the learning available to developers from current developments, and the performance of existing turbines, blades and other components.

28. There is also the more focused innovation activity being carried out and supported by bodies such as the Offshore Renewable Energy Catapult (OREC) – which, despite the focus implied by its name, is supporting work on innovative blade erosion solutions, the components of which may be equally applicable to onshore wind turbines.

29. The Scottish Government intends to continue its support for innovation across the energy sector, exemplified not only by our contribution to the work of OREC, but also the projects and initiatives funded to date through our [Low Carbon Infrastructure Transition Programme](#).

30. This continuing support for innovation – for example, the development of smarter networks, active management and storage technology – can have a positive effect on the integration and economics of onshore wind generation. Innovation in the onshore wind sector can help the Scottish supply chain to grow, creating jobs and opportunities, and securing Scotland's position as a hub for innovation and investment.

31. We believe that there is specific and increasing potential for **energy storage**, which could include Pumped Storage Hydro, to enhance the economics, performance and value, of onshore wind. Energy storage technology is experiencing considerable activity, innovation and cost reduction. The [Batwind system](#) being developed by Statoil at its Hywind floating offshore generating project illustrates the benefits and value of being able to capture generation which is surplus to demand or capacity, and which can be used or released when demand is high.

32. The Scottish Government welcomes the recent commitments in the [UK Smart Systems and Flexibility Plan](#) to simplify and smooth the integration of storage alongside new and existing energy developments. We believe that these proposals offer potential improve the ability of variable generators, such as onshore wind, to manage generation and demand. This will increase their potential to reduce network and curtailment costs, and offer valuable response and services to the network.

33. The Scottish Government will work collaboratively with the renewables sector, UK Government and Ofgem on ways to ensure that these benefits are fully extended to, and available across, Scotland.

Chapter 2: Repowering

In our draft OWPS, the Scottish Government set out its view on several topics relating to repowering.

- ***Increasing efficiency and reducing costs***: changes in the market are driving developers to design repowered sites to maximise efficiencies and increase returns.

- ***Maximising value***: we recognise that advances in technology offer an opportunity to maximise the efficiency (and value) of individual sites, but there is also the scope to build on our distinct approach to energy policy and maximise value for Scotland in terms of economic, social and environmental benefits.

- ***Wider economic and social benefits***: repowering offers an opportunity to further pursue additional Scottish Government policy aims – in particular, shared ownership with communities and the encouragement of local involvement and community benefit.

34. Many established onshore wind sites will be coming to the end of their consented life during the coming decade and beyond. As the need and demand for renewable power increases, we expect developers to review the potential for “repowering” at existing sites. This could be in the form of measures designed to extend the life of components and turbines at such sites, or replacing and replanting existing turbines with new turbines

35. The Scottish Government’s position remains one of clear support in principle for repowering at existing sites. This is on the grounds of its potential to make the best use of existing sites, and – through the continued use of established infrastructure, grid connections and strong wind resource provide a cost effective option to deliver our renewable and decarbonisation targets.

36. We accept that repowering is a term that can be used or applied to mean a number of different things, depending on the nature and scale of what is being contemplated or proposed at any given site.

37. This is why – while recognising calls for repowering applications to be subject to a clear and distinct assessment process – we propose to continue to discuss and to assess the right approach to such applications on a case by case basis, in accordance with established process and principles. This means that the range of potential impacts and effects associated with any proposal can be properly assessed, and thus the level of environmental assessment, monitoring and information that may need to be undertaken and provided.

38. Applicants and consenting authorities will also benefit in many cases from readily available monitoring information on existing sites.

39. We have highlighted the particular interest of Scottish Natural Heritage (SNH) in repowering, given its responsibilities and wider role in considering and advising upon impacts of onshore wind development on the natural heritage.

40. SNH is continuing, in liaison with Scottish Government and others, to develop guidance on repowering applications, encompassing advice on landscape and visual effects, visualisations, bird surveys and wider ecological assessments, and hopes to consult on their guidance in 2018. In the meantime, SNH will continue to advise on individual applications on a case by case basis.

Duration of Consent

41. It's worth noting in the context of this issue as a whole that there appears to be a common (although not universal) assumption that a 25 year lifetime limit is a requirement of the consent for all onshore wind applications. However, there are no current statutory or legislative limits to the duration of consent for a proposed development. Our approach, as now set out in SPP (2014), is that areas identified for wind farms should be suitable for use in perpetuity. The operating period of an individual wind farm is a matter which developers can consider and discuss prior to the submission of an application. It should be noted that this does not remove the need for decommissioning provisions, where considered appropriate.

Shared Ownership / Community Benefits

42. Our *Good Practice Principles* on [shared ownership](#) and [community benefits](#) were not in place when many of the early wind farms were consented. However, since their introduction, they have been embraced by developers and communities alike.

43. The Scottish Government would encourage developers to renegotiate community benefits and /or shared ownership arrangements, or introduce new discussions on these aspects, at an early stage of any repowering application or decision, and to do so in line with these good practice principles.

Chapter 3: A Strategic Approach to Development

In our draft OWPS, the Scottish Government considered options for a more strategic approach to wind energy developments, in the context of previous proposals for **national** or **regional spatial plans** and targets.

Having confirmed that we do not intend to revisit these approaches – a position which still holds – our consultation set out two further options.

Locally co-ordinated approach – this approach involves fostering more co-ordination where possible amongst commercial developers.

Business as usual – we continue with the established systems which are currently in place for processing and determining applications above 50 MW, working with developers and other stakeholders to identify and pursue opportunities for co-ordination on a case by case basis.

44. Our draft OWPS considered potential options for a strategic approach to wind farm site development, including the identification of new sites where the greatest capacity could be achieved within appropriate landscapes.

45. It is natural for developers – with commercial interests to protect – to work in isolation from their competitors. However, there may be scope under certain circumstances for developers to come together and to discuss, with the Scottish Government, planning authorities and communities, options to consider how new wind farm or repowering proposals might make an improved and more efficient use of land and supporting infrastructure.

46. A coordinated approach of this kind could have the potential to reduce the cost of delivering individual generation projects. It could also provide other benefits, such as more efficient use of existing grid assets, identification of energy storage options, more widely coordinated habitat restoration and the potential to discuss with communities broader impacts and outcomes for an area.

47. This could take the form of a separate process at the pre-scoping or pre-application stage. Developers interested in adjacent or proximate sites within a region would be encouraged to work together to consider the ‘best’ use of land and energy networks – i.e. outcomes which are better designed in landscape terms, and are more strategically efficient and cost-effective. The goal would be to minimise impacts on the environment and residents, while obtaining the greatest amount of renewable generation.

48. Our [Land Use Strategy](#) already supports such an approach, through its emphasis on balancing competing interests; indeed, it goes further in its encouragement for all land users to work together to ensure multiple benefits, meaning that one developer or other stakeholder should not work in isolation from others.

49. We believe that the current system, as described in our consultation as “business as usual”, continues to represent an effective and efficient process for considering applications for developments in excess of 50 MW. However, we still expect developers of such projects to make every effort to find opportunities to collaborate, and to reduce potential local landscape impacts.

50. That means a renewed focus on communicating effectively with each other, and with affected and relevant communities. We remain happy to assist and broker this kind of collaborative approach on a case-by-case basis, but will be prepared to examine further measures to bring forward greater collaboration if necessary.

51. On a separate but related front, meanwhile, our proposals for planning reform move the current strategic planning focus – on preparing the statutory development plan – towards local authorities working together to provide regional input to an enhanced National Planning Framework, and to more active, co-ordinated infrastructure investment and development delivery at this scale.

52. Our aim is to allow and encourage all areas of Scotland to undertake strategic planning activities where they will add value – and in a way which is sufficiently flexible to allow wider regional scale partnerships to respond to, and build on, local circumstances and relationships. **Further detail on changes to strategic development planning are set out in the Planning Bill.**

53. Many stakeholders believe that the existing system has worked effectively thus far, and can continue to deliver projects that will help the Scottish Government achieve our renewable energy targets. Proposals to strengthen the status of the National Planning Framework and Scottish Planning Policy will build on this, by ensuring greater clarity and consistency in development plan policies.

54. The Scottish Government agrees that cross-boundary collaborative working at this scale should continue to be pursued, as it is now, wherever possible, and will continue to encourage and support such partnerships between developers and other key stakeholders.

Chapter 4: Barriers to Deployment

In our draft OWPS, the Scottish Government described several technological or administrative barriers to the deployment of onshore wind projects, and sought comment on our current or proposed activity to overcome these.

Electricity Networks – deploying more onshore wind will require accompanying investment in the transmission and distribution networks. Network capacity and control will need to keep pace with development, enabling new projects to connect in a timely and cost-effective manner and to export power to where it is needed.

Civil Aviation Radar – wind developments can impact significantly on civil air traffic control primary radar systems because they appear as clutter on radar displays, potentially obscuring aircraft flying above them from view. This is a common factor in creating delay and cost to wind power developments.

Military Aviation Radar – wind developments can also impact significantly on military radar systems and the operations of the RAF. This is a common factor in creating delay and cost to wind developments of all scales above micro wind.

Eskdalemuir – this policy statement makes it clear that the Scottish Government would like to see the most efficient use of Scotland’s wind energy generating potential. Eskdalemuir is an area where it is proposed it would be beneficial in practice to use a strategic initiative to maximise the generating output of an area.

Networks

55. Investment and innovation in the planning and operation of our networks will play a key role in supporting the deployment of onshore wind capacity.

56. Scotland has been at the forefront of network innovation, with Active Network Management schemes operated by the network companies now ‘business as usual’. Smart technologies and innovative approaches to network management are enabling network and generation assets to be used more effectively. This is delivering significant benefits, as capacity and constraints on Scotland’s networks are better managed – generators are offered faster and cheaper connections, and consumers avoid paying for costly grid reinforcements.

57. The evolution of Distribution Network Operators to Distribution System Operators is an important next step, and can play a huge role in unlocking the transition to a flexible, smart low carbon economy. This is likely to involve the network companies taking on additional roles and responsibilities. This transition needs to be managed in a way that ensures the best interests of consumers, and takes into account the needs of users of the electricity networks.

58. The Scottish Government views progress in this area as vital to ensure that we get the greatest benefit from the network infrastructure. We will continue to work with all energy stakeholders and the regulator to ensure

future network arrangements meet the needs of Scotland's energy system and consumers. Alongside sufficient network capacity, network charging arrangements can have a huge influence on investment. At a minimum, developers need to be able to forecast network costs with a greater degree of certainty. Stability does however need to be balanced against the potential benefits of improving current arrangements.

59. Both Ofgem, and National Grid as System Operator, are pursuing comprehensive reviews of current charging arrangements. These will include connection and queue management arrangements, important issues for generators.

60. The Scottish Government will continue to play an active part in these reviews. We will engage with stakeholders to ensure that the potential impacts on Scotland's energy system are understood, and that Scotland's interests are well represented and reflected in decision-making processes.

Civil Radar

61. The main mitigation method which has been deployed in numerous schemes over a number of years involves 'in-filling' from a radar which has no line of sight of the turbines in question.

62. While this is a proven mitigation (albeit not one that can be deployed for every development), the Scottish Government recognises that it can result in a significant financial burden, especially in cases where more than one in-fill feed is necessary. Since the financial environment facing wind energy development has changed radically, we believe that we need to reconsider this approach.

63. The Scottish Government remains committed to working with airports, radar operators and the wind industry in order to pursue and develop a more strategic approach to mitigating impacts of wind development on civil aviation radar.

64. Wind farms are no longer the new and unexpected feature that they once were, and are an established part of Scotland's landscape. **Given this, we expect in the longer term, a move on the part of the air navigation industry towards self-management of this issue. This could be achieved through the deployment of wind farm tolerant radar, or other technical solutions.**

65. In the shorter term, we will support any strategic use of radar, with a special focus across the central belt, where there is potential to maximise the application of mitigation and reduce costs.

66. The Scottish Government will also continue to work as part of the UK Government Chaired Aviation Management Board (AMB), and as part of the Renewable UK Aviation Working Group to make progress on this issue.

Military Aviation Radar

67. A mitigation solution exists for Air Defence Radar, which may be applicable to new developments. However, we recognise that the cost of securing an assessment of this potential mitigation may be prohibitive for smaller developments. **The Scottish Government will continue to liaise with the radar operators and the MoD on this issue.**

68. We are also working with the MoD and developers to investigate technologies which have the potential to mitigate impacts at Air Traffic Control (ATC) radar installations. However, the high cost of mitigating impacts of wind development on military ATC radar threatens to make proposed developments uneconomic.

69. The MoD's approach to financial risk means that developers may be required to provide levels of financial security which, for many developments, will be untenable. Discussions on this issue have been taking place for several years. **The Scottish Government is determined to unlock these affected projects in the early part of 2018.**

Eskdalemuir

70. The UK is bound, by the Comprehensive Nuclear-Test-Ban Treaty, not to compromise the detection capabilities of the Eskdalemuir Seismology Array, the operation of which can be affected by the seismic vibrations resulting from wind turbines.

71. In 2014, the Eskdalemuir Working Group commissioned and published a physics-based report on the seismic vibration produced by wind turbines. Among other matters, this research demonstrated the increasing severity of the impact of turbines on the array, the closer to the array they are situated. The working group considered that increasing the non-development zone from 10 km to 15 km could lead to a greater volume of projects being able to be deployed in the area – a proposal which our draft OWPS endorsed.

72. We acknowledge that the planning process for onshore wind farms is multi-faceted, and that Eskdalemuir constitutes only one aspect of many in this area. Our goal remains to unlock as much of Scotland's renewable potential as possible, encouraging carefully designed development in the right places. Having considered this issue more fully, we accept that the effect of increasing the non-development zone risks limiting prematurely development in an area where it may otherwise be appropriate. **We no longer propose, as a result, extending the zone to 15 km.**

73. The Ministry of Defence will continue to be consulted in relation to any development within 50 km of the array, and will object where they see fit to protect their asset. We would encourage developers to engage with the Ministry of Defence as early as possible when developing proposals in this area.

Chapter 5: Protection for Residents and the Environment

Our draft OWPS set out the Scottish Government's view that onshore wind development should be compatible with the interests and protection of Scotland's environment and residents. It considered:

- **Residential Amenity** – Wind Farm Impacts Study, published by ClimateXChange (CXC) in 2015.
- **Residential Amenity** – ClimateXChange undertook a further study, on the potential impact of wind farm developments on house prices. This was completed in October 2016 and concluded no consistent negative effects were present.
- **Peatland Policy** – this policy brings together ambitions in relation to land use and energy and supports delivery of multiple benefits from our peatland.
- **Carbon Calculator** – the Scottish Government's tool, available to support the process of determining wind farm developments in Scotland. The purpose of the tool is to assess, in a comprehensive and consistent way, the carbon impact of wind farm developments. This tool was updated in June 2016 as a web-based application and central database.

74. The Scottish Government believes that our ambitious renewable energy goals are very much in the interests of Scotland's citizens and environment. We also believe that developments can and must strike the right balance between utilising Scotland's significant renewable energy resources whilst protecting our finest scenic landscapes and natural heritage.

75. The [Wind Farm Impacts Study Report](#), published in 2015, was the first of its kind in the world and presented the findings of a two-year study involving a wide-range of interest groups. Since its publication, the Scottish Government has taken a number of actions to address the recommendations contained in the report.

76. The Scottish Government continues to believe that the draft [Peatland Policy Statement](#) and the Carbon Calculator support and add value to wind farm design and to the consenting process. **However, we will continue to monitor their design, effectiveness and value in the future, and welcome the role and contributions that our stakeholders can play in this process.**

77. We understand too that wild land remains an important issue for many stakeholders. The Scottish Government, through its planning policy and frameworks, continues to deliver significant protection for wild land areas, while avoiding a blanket restriction. We believe that this remains the right approach, and are determined to maintain what we believe is a strong track record on balancing environmental protection with our ambitious renewable energy goals.

Chapter 6: Community Benefits

Our draft OWPS set out the Scottish Government's consistent and clear approach to Community Benefits. To date, this has encompassed

- Publication in 2014 of our '*Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments* - this is a practical guide which seeks to bring transparency into the process and showcase best practice
- The launch of a public register of community benefits available on the [Local Energy Scotland website](#). This allows developers and communities to provide details of their community benefit deals and how the funding is supporting a wide range of local community projects.

78. Community benefit payments are a valuable source of income for those communities located near to onshore wind developments. As of November 2017, over £12 million had been paid out to communities over the preceding 12 month period. A variety of important and beneficial projects have been supported, excellent examples of which can be found on the [Local Energy Scotland](#) website. A brief summary of only a few of the many projects across Scotland is included at Annex B of this document.

79. These projects can make a real difference to communities, and in many cases can be transformational. We believe that the relationship between the developer and the local community is critical to ensuring a positive experience and outcome for all parties.

80. We welcome that developers and communities across Scotland have adopted the Good Practice Principles. This has helped to bring transparency into the process, while increasing trust and credibility. It is important that the next generation of onshore wind continues this positive and valuable relationship with local communities. However the Good Practice Principles have not yet been universally adopted.

81. Our expectation remains that developers should continue to offer meaningful community benefits in line with our Good Practice Principles.

82. However, we so also accept that there has been a profound change in the support mechanisms and investment conditions for new onshore wind projects, and understand that the prevailing uncertainty around a route to market might lead developers to review their community benefits offer.

83. The Scottish Government commits to reviewing the [Good Practice Principles for Community Benefit](#) during the course of 2018. We intend this review to consider and explore in more detail new business models, legacy arrangements, and repowering opportunities, with the aim of ensuring communities

continue to benefit from local projects in a manner that is appropriate for the current and future context in which projects are developed.

Chapter 7: Shared Ownership

The Scottish Government's approach on Shared Ownership.

- In 2015 we published our “Good Practice Guidance for Shared Ownership of Onshore Renewable Energy Developments”.
- In November 2015, the Chief Planner issued a letter to Heads of Planning Scotland, highlighting the relation of shared ownership to net economic benefits in Scottish Planning policy.
- Community schemes and those with a minimum element of shared ownership are eligible for **non-domestic rates relief**.
- Onshore wind currently makes up the largest portion of community shared ownership – although the Scottish Government believes that it should be offered across all renewable technologies.

84. The Scottish Government's ambition is to see a significant increase in shared ownership of renewable energy projects in Scotland – putting energy into the hands of local communities, and delivering a lasting economic asset to communities across Scotland. All stakeholders stand to benefit from this goal being achieved, and from the greater partnership working that it can engender across a range of renewables developments.

85. Our ambition remains to ensure that, by 2020, at least half of newly consented renewable energy projects will have an element of shared ownership. The Scottish Government continues to encourage all developers to engage with local communities early in the process, and to offer – as standard, in any new or repowered development – the opportunity for shared ownership.

86. Shared ownership will play a key part in helping to meet our targets of 1GW of community and locally owned energy by 2020 and 2 GW by 2030. We expect community involvement in onshore wind developments to continue to play a vital role in reaching these targets.

87. The new CARES contract up to 2020 has supporting shared ownership opportunities as a top priority. The support and advice available through Community and Renewables Energy Scheme (CARES) has been praised by both developers and communities. Through CARES, communities can be advised and supported through a network of development officers to build capacity at a local level. This includes bespoke support for communities to guide through the range of interactions and relationships they can have with developers.

88. An offer of shared ownership does not constitute, nor should it be seen as, a proxy for community participation in the decision making process. Communities may object to a particular development application, but still be able to participate in discussions about a commercial arrangement should permission be granted.

89. There remains broad and welcome support from developers and communities for the principle of shared ownership. The benefits of local and community ownership are also highlighted in National Planning Framework 3.

90. The Chief Planner clarified, in 2015 that ownership itself is not a material consideration in determining the acceptability of development proposals in planning terms. However, this also clarified that the net economic impact, including the community socio-economic benefits such as employment, associated businesses and supply chain opportunities are relevant considerations and these are aspects that Ministers are keen to see strengthened in future projects.

91. The Scottish Government is committed to continuing discussions with key stakeholders on shared ownership. **These will form a key part of our review of Good Practice Principles for Shared Ownership of Onshore Renewable Energy Developments, which will take place during the course of 2018.**

ANNEX A

POTENTIAL PROJECTED ONSHORE WIND CAPACITY IN SCOTLAND

Number of wind generating sites, turbines and capacity (MW) in Scotland, by technology and planning status

Data as at 5th October 2017

Technology	Application Submitted			Awaiting Construction			Under Construction			Operational			Total		
	No. of sites	No. of turbines	Capacity (MW)	No. of sites	No. of turbines	Capacity (MW)	No. of sites	No. of turbines	Capacity (MW)	No. of sites	No. of turbines	Capacity (MW)	No. of sites	No. of turbines	Capacity (MW)
Offshore Wind	.	.	.	11	533	3,562	2	89	618	4	61	191	17	683	4,371
Onshore Wind	65	820	2,650	79	883	2,511	35	632	1,667	281	3,274	6,556	460	5,609	13,384
Total	65	820	2,650	90	1,416	6,074	37	721	2,285	285	3,335	6,747	477	6,292	17,755

COMMUNITY BENEFIT CASE STUDIES

The Kyle of Sutherland Development Trust (launched in 2011) covering Ardgay and Creich districts seeks to secure long-term, sustainable benefits and opportunities for both the local community, and the wider region.

Community benefit from three onshore wind farms; SSE Achany, E.ON Rosehall, and Beinn Thaurisinn has supported the Trust in taking forward a variety of projects of real value to local communities and visitors alike, including;

Falls of Shin Visitor Centre

The rebuilt Falls of Shin Visitor Centre (originally destroyed by fire in 2013) opened earlier this year, offering locals and visitors to the area a range of services including a restaurant and gift shop, picnic and children's play facilities, meeting and wedding facilities, crazy golf, woodland walks and the opportunity to see wild salmon leap the Falls.

Since its opening in May the centre has seen in excess of 90,000 visitors.

Ardgay Regeneration Project

The Ardgay Regeneration Project encompassing the demolition of a derelict hotel site in the centre of Ardgay village creating a new, mixed use site with a village square, 200 square metres of office rental space, and storage space for a local expanding business. The project also includes 4 terraced houses (developed by Albyn Housing Association), and 1 self-build plots for sale through The Highland Small Communities Housing Trust.

As well as contributing to economic regeneration in the local area and creating jobs, it is hoped that Ardgay on completion will also complement future investment from the private sector and surrounding communities.

Keep Active Together

Part funded by community benefit (as well as the Scottish Government's People and Communities Fund) the Keep Active Together Project provides a range of health and wellbeing activities, training opportunities, and sessional work for local communities.

Over the last 4 years, community benefit flowing in from onshore wind has helped Kyle of Sutherland Development Trust to secure £5.5 million in key inward investment to the local area that would otherwise not have materialised.

Hoprigshiels - 'The Fishermen Three' (Wynken, Blynken and Nod)

Hoprigshiels Wind Farm developed by Berwickshire Housing Association (BHA) in partnership with Community Energy Scotland (CES) was opened by Energy Minister Paul Wheelhouse MSP on the 28 March 2017. This is the first wind farm developed by a Housing Association in the UK.

The 7.5 MW, 3 turbine wind farm will generate an estimated 25 GWh each year, enough to power around 6000 homes.

The windfarm is expected to generate £20 million over the next 25 years, enabling BHA to build 500 new affordable homes, to meet demand in the local area.

In line with the Scottish Government's Good Practice Principles, BHA has committed to provide an annual community benefit payment of £5000 per megawatt of installed capacity, which equates to around £37,500 per year or £1 million over the life time of the project.

These future funds will be split equally between the Oldhamstocks Community Association, and Cockburnspath and Cove Community Council, directly benefitting local communities, and allowing them to take forward a wide range of local projects.

Clashindarroch Wind Farm, Aberdeenshire

Swedish developer Vattenfall set up their Clashindarroch wind farm community benefit fund three years ago. The fund provides an annual sum of £185,000 (index linked) for the benefit of those living or working in the community council areas of Huntly, Strathbogie, and Tap O Noth, and the area of Cabrach in Moray (the wind farm is near the Moray border).

Cabrach is a remote area, which over the decades has suffered severe depopulation. In response to this, the Cabrach Trust, a social enterprise, was established to preserve the rich cultural heritage of area and its remote communities, and to attempt to attract business to the area and support local people to set up businesses.

The Trust owns Inverharroch Farm and 170 acres of land surrounding this, and is leading a regeneration project that will develop a heritage centre and a historic craft whisky distillery at the site, as well as refurbishing a cluster of buildings (the Old Cabrach Hall, the Acorn Centre and the Old School House) to provide a community facility, visitor accommodation and a training hub. Any profits from the distillery, heritage centre, visitor accommodation and letting of the training facility will be used to further benefit local people, providing jobs, housing, and local services in the area.



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Any enquiries regarding this publication should be sent to us at
The Scottish Government
St Andrew's House
Edinburgh
EH1 3DG

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