

Our Position on Renewables

This document outlines our position on renewable energy development in the UK with a focus on onshore wind (and the associated grid infrastructure) in Scotland as a main threat to the UK's wild places.

Trust position

1. The John Muir Trust supports a just transition to net zero and believes that renewable energy is fundamental to decarbonising the UK's electricity generation.
2. The Trust also believes the UK's renewable energy targets should be met without destroying the finite resource of our most precious wild places.
3. The Trust would like to see the governments of the UK's four nations plan for renewable energy development and expansion, making use of a variety of technologies, in a way that protects the UK's wild places, which are natural stores of carbon, integral to our landscapes, needed for their biodiversity and valued by people, as part of their culture.

Policy context and history of the issue

Targets and progress towards reaching them

4. The UK has set a target to reach net zero by 2050.¹ Scotland has set a target to reach net zero by 2045.² Decarbonising the power sector and energy supplied through the National Grid is a vital part of the means to achieve these targets.
5. Most electrical energy consumed in the UK is transmitted by the UK's National Grid. The sources of grid electricity are a mix of fossil fuels (gas, coal and oil), nuclear power, and renewables (wind, hydro, solar, biomass). On an annualised basis renewables now account for nearly 50% of UK grid electricity according to the National Grid and *'2020 marked the first year in the UK's history that electricity came predominantly from renewable energy, with 43% of our power coming from a mix of wind, solar, bioenergy and hydroelectric sources'*³.

Onshore wind

6. Onshore wind accounts for the largest share of the UK's renewable energy generation. Installed capacity at the end of 2022 was 14.8GW⁴ and accounted for

¹ The Climate Change Act 2008 commits the UK government to reducing greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. Section 1(1) of this Act states *'It is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline.'* The Climate Change Act 2008 is published on UK Government's website: <https://www.legislation.gov.uk/ukpga/2008/27/contents>

² Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Section A1(1) of this Act states *'The Scottish Ministers must ensure that the net Scottish emissions account for the net-zero emissions target year is at least 100% lower than the baseline (the target is known as the "net-zero emissions target")'*. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 is published on the UK Government's website: <https://www.legislation.gov.uk/asp/2019/15/enacted>

³ <https://www.nationalgrid.com/stories/energy-explained/how-much-uks-energy-renewable>

⁴ This figure is reported in the UK Government's 'Energy Trends: UK Renewables' National Statistics: <https://www.gov.uk/government/statistics/energy-trends-section-6-renewables>

26.8% of the UK's total annual electricity generation in 2022.⁵ In Scotland, onshore wind is currently the main source of renewable energy with nearly 9GW installed at the end of 2022 (accounting for 78% of renewable electricity in Scotland), followed by hydropower (12% of Scotland's renewable electricity output).⁶ An additional 12GW of onshore wind capacity is anticipated by 2030 (which would bring total electricity from onshore wind in Scotland by 2030 to over 20GW).⁷ During 2022, the electricity generated from onshore wind was equivalent to nearly 100% of Scotland's electricity consumption.⁸ With regard to future targets it should be noted that, for onshore wind, there is 4.2GW of capacity that is consented and awaiting construction with a further 6.1GW currently in the planning system at various stages. The 2030 target of 20GW of onshore wind capacity can be compared with the current maximum winter electricity demand in Scotland of 4.5GW with a future predicted maximum demand of 9GW.

7. The onshore wind targets are directly relevant to the future of Scotland's wild places as remoter, wilder areas, away from urban areas, are areas that renewable companies explore for potential wind development locations.

Offshore wind

8. In November 2020 the UK Government published its 'Ten Point Plan for a Green Industrial Revolution'. In September 2022, the UK Government representative presenting the plan at a policy conference in Edinburgh emphasised the significant role of offshore wind in the UK's energy transition. Point 1 of the plan emphasises the role that offshore wind will have in decarbonising the UK's energy sector: '*By 2030 we plan to quadruple our offshore wind capacity so as to generate more power than all our homes use today, backing new innovations to make the most of this proven technology and investing to bring new jobs and growth to our ports and coastal regions*'.⁹ Point 2 emphasises the role hydrogen will have as a low carbon heating option for UK homes and businesses: '*Working alongside partners in industry, our aim is for the UK to develop 5GW of low carbon hydrogen production capacity by 2030*'.¹⁰
9. According to Offshore Wind Scotland - a project developed by Highlands and Islands Enterprise along with the Scottish Government and a range of public and private partners - Scotland now has the potential to deliver up to 42GW of offshore wind capacity by 2035.
10. This means that within 12 years, offshore wind could be generating five times more electricity than all combined onshore wind projects that have been developed in Scotland over the past 25 years and nine times the current maximum winter demand in Scotland.

⁵ <https://www.nationalgrid.com/stories/energy-explained/how-much-uks-energy-renewable>

⁶ Statistics from Scottish Renewables, please see: <https://www.scottishrenewables.com/our-industry/statistics>, website visited on 24 May 2023

⁷ Scottish Government's Onshore Wind Policy Statement, published December 2022, available online at: <https://www.gov.scot/publications/onshore-wind-policy-statement-2022/>

⁸ Scottish Government's Onshore Wind Policy Statement, published December 2022, available online at: <https://www.gov.scot/publications/onshore-wind-policy-statement-2022/>

⁹ The Ten Point Plan for a Green Industrial Revolution, page 8, published online at: <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

¹⁰ The Ten Point Plan for a Green Industrial Revolution, page 10, published online at: <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

Planning policy

11. On 11 January 2023 the Scottish Parliament approved Scotland's Fourth National Planning Framework (NPF4). This publication makes it clear that future proposed development approved in Scotland must contribute to reducing greenhouse gas emissions and must also support biodiversity recovery with a policy objective of biodiversity net gain. The overarching NPF4 Policy 1 gives equal weight to the climate emergency and the nature emergency. Tackling both aspects is a core requirement for the whole of NPF4. The policies on renewables are unequivocal in their support in principle for expanding renewable electricity generation across Scotland and will support the Scottish Government's onshore wind target.¹¹
12. Applying NPF4 policies to planning proposals for renewable energy will mean decision makers will have to evaluate whether a full list of potential impacts has been addressed through planning and design (Policy 11e) and they will have to carefully evaluate whether the development:
 - a. *'will be sited and designed to minimise lifecycle greenhouse gas emissions as far as possible'* (Policy 2a)
 - b. will *'contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats and building and strengthening nature networks and the connections between them'* (Policy 3a)
 - c. will *'have an unacceptable impact on the natural environment'* (Policy 4a)
 - d. if sited on peatland, cannot be sited elsewhere and *'optimises the contribution of the area to greenhouse gas emissions reductions targets'* (Policy 5c).
13. In determining whether or not to approve projects NPF4 requires to be read as a whole. The policies in NPF4 have been designed so that the biodiversity effects (including the effects on peat, landscape and forests as well as animal and bird species) and the carbon costs of any development are factored into its design and reflected in decision making. The policies also make clear that impacts of a development proposal on wild land remain a consideration for Planning Authorities and Scottish Ministers.

Why we care/relevance to the Trust

14. Large-scale renewable energy development, particularly onshore wind, tends to target sites in the UK's wild remote, upland areas. These areas are sensitive landscapes, important as natural carbon stores (the UK's uplands are also where we find our most extensive areas of peatlands and other carbon rich soils) and for rare species and habitats. They can also be places valued by people as part of their culture. The Trust believes these areas, as the UK's remaining wild places, require protecting in direct response to the climate and biodiversity crisis.
15. The Trust reviews new applications for large scale onshore wind developments, plus associated infrastructure (overhead power lines, substations), in or near Scotland's

¹¹ Policy 11 of NPF4 states *'Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported.'* The published NPF4 is available online at: <https://www.gov.scot/publications/national-planning-framework-4/>

Wild Land Areas¹² and wild places, as well as applications for other forms of renewable energy such as pumped hydro schemes, run of the river hydro schemes, battery storage, solar farms and hydrogen producing facilities. Through this work we look closely at the impacts, both scheme specific and cumulative, individual developments could have on wild places, including Scotland's Wild Land Areas, and make formal responses, either objections or recommendations for material design and/or site changes, to applications when we consider those impacts to be significant and/or avoidable.¹³ In this regard there are two aspects to be noted. Firstly, and contrary to what is sometimes set out in WLA impact assessments, there is no "overall integrity" test that is applied in considering the acceptability of effects. Secondly, and contrary to what is sometimes seen in appeal decisions, PLI Reports, and Ministerial decisions, there is no grading of the level of protection for wild land according to the Jenks classification of the sub areas within a WLA. It is the whole WLA that is accorded the same level of protection in policy terms.

The challenges as we see them

Making the targets add up

16. In 2023, Scotland has over 13GW of installed renewable electricity capacity and over 21GW in the planning pipeline.¹⁴ Onshore wind accounts for 8.9GW of the installed capacity with an additional 11.7GW in the planning pipeline.¹⁵ It follows that if all onshore wind developments in the planning pipeline were consented and constructed, the 20GW by 2030 onshore wind target could be achieved. These figures do not take account of the likely repowering of some of the early wind farms that are now close to the end of their planned operational period. For example, the planned repowering of Hagshaw Hill in South Lanarkshire will increase its installed capacity by a factor of five.
17. The progress made installing renewable energy in Scotland up to 2022, when a wind farm wholly within a Wild Land Area was granted planning permission, has been achieved without destroying Scotland's Wild Land Areas.¹⁶ At the time of writing we are aware of one other wind farm, which had been in the pipeline and was consented in May 2023, again wholly within a Wild Land Area.¹⁷ ¹⁸ However, if the remainder of applications in the pipeline were to be consented (alongside some repowering), the

¹² Scotland's Wild Land Areas are the most extensive areas of high wildness in Scotland. They were identified and mapped by NatureScot (formerly Scottish Natural Heritage at the time the maps were published) in 2014. More information available online: <https://www.nature.scot/doc/wild-land-areas-map-and-descriptions-2014>

¹³ This Position Statement gives an overview position on the expansion of onshore wind in the UK with a focus on Scotland. The Trust reaches distinct and separate positions in response to individual planning applications for onshore wind and other types of development based on the content and information related to those applications available at the time and the predicted impacts those developments could have on wild places.

¹⁴ <https://www.scottishrenewables.com/our-industry/statistics>, website checked on 4 May 2023

¹⁵ <https://www.scottishrenewables.com/our-industry/statistics>, website checked on 4 May 2023

¹⁶ In April 2022 the Highland Council's North Planning Applications Committee consented the Sallachy wind farm in the Reay Cassley Wild Land Area. John Muir Trust response to news of the decision: <https://www.johnmuirtrust.org/whats-new/news/1180-trust-reflects-on-news-of-sallachy-wind-farm-approval>. Creag Riabhach wind farm, near Altnaharra, consented in 2016 by the Highland Council, extends into the Fionaven Ben Hee Wild Land Area but is not wholly within in. The John Muir Trust amongst others objected to the development at the time it was proposed.

¹⁷ The Achany Extension wind farm, proposed in the Reay Cassley Wild Land Area, consented in May 2023 by Scottish Ministers. Decision letter is available to view on the Energy Consents Unit's website: <https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00001930>

¹⁸ These permissions are both within WLA 34 and they are both locations where Ministers firmly rejected earlier wind farm proposals without even sending the cases to Public Inquiry. NatureScot has stated that this very extensive affected "arm" of Wild Land Area 34 can now no longer be considered as wild land. In other words, the wild land has been lost.

20GW by 2030 onshore wind target could easily be reached without any new onshore development in Scotland's Wild Land Areas. This demonstrates that Scotland can choose to achieve its onshore renewable energy production objectives without reducing its Wild Land Areas. The above two permissions and the resulting loss of wild land were entirely avoidable harms to wild land.

18. The Trust is aware that the Scottish Government's ambition is to be a net exporter of renewable energy.¹⁹ We believe that policy makers and the Scottish Government need to appreciate and fully understand the practical issues around grid transmission constraints and the consequences that a continuously expanding renewables industry would have on Scotland's landscapes, biodiversity and wild places.

Carbon losses from developing on peatland

19. Onshore wind farms, plus associated substations, transmission lines, access roads and tracks, built on peatland and other carbon rich soils damage and destroy valuable carbon sinks. With the vast majority of the UK's peatlands in Scotland's uplands - areas that are targeted by onshore wind companies - there is a critical trade-off between adding more renewable energy to the grid versus managing land as a natural store of carbon. The evidence that adding more renewables to the grid will reduce overall carbon emissions is not proven for every site developed and indeed, research has concluded that beyond 2040 there will be no worthwhile carbon savings from developing renewables on undegraded peatlands.²⁰
20. The Scottish Government's draft Energy Strategy acknowledges *'that the peatland impacts of onshore wind farms can be significant and we must balance the benefits from onshore wind deployment and the impacts on our carbon rich habitats. This includes being aware that there is potential for development in an area of deep peat to have a net negative carbon impact.'*²¹ Policy 5c)ii) of NPF4 supports renewable energy development and energy infrastructure sited on peatlands where the generation *'optimises the contribution of the area to greenhouse gas emissions reductions targets'*²². In evaluating the contribution of an onshore wind development to greenhouse gas reduction targets we need to understand the full carbon emitting impacts of a proposed development on peatland.
21. We note that the Scottish Government has committed to ensuring *'that adequate tools and guidance are available to inform the assessment of net carbon impacts of development proposals on peatlands and other rich carbon soils'*²³ and we urge the Government to properly resource and prioritise this work to support the application of Policy 5c)ii) in NPF4. As part of this work, the Trust would like to see:

¹⁹ See Scottish Government's Draft Energy and Just Transition Plan, published January 2023, available online at: <https://www.gov.scot/publications/draft-energy-strategy-transition-plan/>. Page 3 states an ambition to become a net exporter of renewable energy.

²⁰ See 'Wind farms on undegraded peatlands are unlikely to reduce future carbon emissions', Jo Smith, Dali Rani Nayak, Pete Smith, Energy Policy, Volume 66, March 2014, Pages 585-591. Paper available online at: https://www.researchgate.net/publication/273824729_Wind_farms_on_undegraded_peatlands_are_unlikely_to_reduce_future_carbon_emissions

²¹ Draft Energy Strategy and Just Transition, Scottish Government page 65, available online at: <https://www.gov.scot/publications/draft-energy-strategy-transition-plan/>

²² NPF4 Policy 5c) ii). The published NPF4 is available online at: <https://www.gov.scot/publications/national-planning-framework-4/>

²³ Scottish Government's Onshore Wind Policy Statement, December 2022, page 14. Statement available online at: <https://www.gov.scot/publications/onshore-wind-policy-statement-2022/>

- a. The carbon calculator revised to reflect improved understanding about how development interacts with peat, including the extent to which development can drain peat, and to provide realistic estimates of carbon savings achieved through restoration of degraded peat (there is a risk that these savings are over-estimated)²⁴.
- b. All proposals on peatland and other carbon rich soils are required to use the carbon calculator to assess carbon emissions associated with the development.
- c. The Scottish Government provide a clearer interpretation of whether or not applications will be granted based on the carbon payback periods produced by the calculator.
- d. Applications submitted that have used the carbon calculator being subject to audit by the Scottish Environment Protection Agency.
- e. Strengthened monitoring and enforcement resources for Local Planning Authorities to ensure that when wind farms are consented the related peat management plan is fully and properly implemented in order to ensure that the specified objectives are actually delivered.

Degraded peatlands are being developed rather than restored

22. The 2022 UK Climate Change Committee Progress Report found that 80% of Scotland's peatlands are degraded and releasing vast quantities of carbon. The report further stressed that to meet its net zero targets, Scotland must achieve its peatland restoration targets.²⁵
23. Constructing turbines on peatland where soils are excavated, drained, disturbed, and stored often in a poorly controlled manner, accelerates the degradation process. Piecemeal peatland restoration projects undertaken by developers as a condition of planning consent cannot compensate for the scale of degradation because restoring peatland is a gradual process that means it can be years before restored peatland is actively absorbing carbon.²⁶ In carbon balance terms, we should be prioritising protecting the remaining undegraded functioning peatlands we have and restoring the degraded peatlands.
24. The Trust would like to see clear planning guidance and firm decision making that guides developers away from undeveloped peatland and supports best practice peatland restoration. These areas are a scarce national as well as global resource (they cover only 3% of the world's surface). They have been mapped and therefore can be located and avoided.²⁷ As economies around the world decarbonise it will become clearer which economic activity is hard to near impossible to decarbonise. To achieve net zero, accepting that some economic activity will continue to produce carbon emissions, will require functioning carbon sinks, and in this scenario, our peatlands - if we have protected and restored them - will be an essential carbon sink for achieving and sustaining net zero.

²⁴ For a news report on carbon emissions from wind farm developments on peat being underestimated please see: <https://www.shetnews.co.uk/2021/10/29/experts-warn-that-wind-farms-should-not-be-built-on-peatlands/>

²⁵ Progress in reducing emissions in Scotland, 2022 Report to Parliament, Climate Change Committee December 2022, available online at: <https://www.theccc.org.uk/publication/scottish-emission-targets-progress-in-reducing-emissions-in-scotland-2022-report-to-parliament/>

²⁶ See 'Quantifying the land-based opportunity carbon costs of onshore wind farms', Fabrizio Albanito, Sam Roberts, Anita Shepherd, Astley Hastings, Journal of Cleaner Production 363, 2022, 132480. Paper available online at: <https://www.sciencedirect.com/science/article/pii/S0959652622020819>

²⁷ <https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/>

Pace of offshore expansion

25. The rate at which other renewable technologies, including offshore wind, will meet future demands for renewable energy in the UK should significantly reduce the need for continual onshore wind expansion. Offshore wind is predicted to make a significant contribution to UK electricity needs in the near future with a UK government target to increase offshore wind capacity from 11GW in 2021 to 50GW by 2030.²⁸ The future need for more onshore wind will have to be re-evaluated as offshore capacity grows in addition to taking into account the predicted role of low carbon hydrogen in decarbonising the transport sector.²⁹
26. The Trust has developed 40 years of expertise in land management for conservation and nature recovery. We are aware that offshore wind comes with risks and harms to marine wildlife but for assessment of the potential impacts of offshore wind proposals, we defer to the opinion of organisations such as the RSPB and Marine Conservation Society who are experts in marine management for nature. As with onshore wind and other types of large-scale development, we expect a proper application process to be followed, including robust and transparent assessments on impacts to the environment, careful design to avoid these impacts, and the deployment of construction methods to reduce and mitigate harm alongside the proper consideration, at the same time, of the often very significant onshore elements directly associated with offshore wind farms.

Biodiversity

27. The Trust believes that enhancing biodiversity begins with better protection of the UK's wild places. As part of the planning process for new onshore wind developments, the Trust is strongly of the view that recognised biodiversity assessments should be completed as part of Environmental Impact Assessments, in addition to Habitat Management Plans. These should detail the current biodiversity on site, how that has evolved, how biodiversity will be measurably and demonstrably enhanced, along with legally binding delivery mechanisms so that, subsequently, there will be clear evidence that enhancement is delivered on a permanent basis. We do not wish to see 'biodiversity offsetting'³⁰.
28. Biodiversity enhancement will be more challenging in harsh windy, wet and cold environments, such as the uplands where most onshore wind energy is installed, as it takes longer for species and habitats to establish. We would therefore expect planning decision makers to take this into consideration when deciding how effective biodiversity enhancement will be at a wind farm site. To date NatureScot has not commissioned any scientific study of the effectiveness of Habitat Management Plans on wind farms throughout Scotland. Current evaluation and decision making then

²⁸ UK Government news story available at: <https://www.gov.uk/government/news/uk-signs-agreement-on-offshore-renewable-energy-cooperation#:~:text=The%20initiative%20is%20expected%20to,8.4%20GW%20today%20%2D%20by%202030.>

²⁹ Please see 'The Ten Point Plan for a Green Industrial Revolution, UK Government Policy paper', November 2020 for UK Government emphasis on renewable technologies beyond onshore wind. Paper available online at: <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

³⁰ We expect recognised biodiversity assessments to detail the current biodiversity on site, how that has evolved, how biodiversity will be measurably and demonstrably enhanced, along with legally binding delivery mechanisms so that, subsequently, there will be clear evidence that enhancement is delivered on a permanent basis. Biodiversity offsetting in a planning context is taking compensatory action for the unavoidable loss of biodiversity from development and land use change at a site. It is supposed to be a last resort option after attempts to avoid and mitigate harm have been made. 'Biodiversity offsetting' can also be used to refer to a market for trading measurable units or gains in biodiversity.

operates on the basis of assumptions about effectiveness and outcomes. We consider that commissioning such a thorough review of these Plans is an urgent requirement.

Policy solutions

29. Taking all of the above considerations into account we believe the expansion ambitions of the onshore wind industry need to be adequately Plan led, managed and restricted in order to protect the UK's wild places. We also believe the Scottish Government needs to continually monitor and evaluate its targets in light of the UK's renewable energy planning pipeline, in particular the predicted energy generation from the UK's offshore industry alongside other forms of energy and all in the context of the predicted future demand for electricity. In the meantime, to protect Scotland's Wild Land Areas and its peatlands, we support a consolidation approach to the further expansion of onshore wind, and the directly associated infrastructure, through a combination of the following:
- a. **Prioritising** all consented but not yet constructed onshore wind projects and all projects in the planning pipeline that are in suitable locations (i.e. avoiding locations in or near Wild Land Areas and other areas with ecosystems that have the potential to absorb carbon and improve biodiversity).
 - b. **Fast tracking the application process for minor modifications** to already consented development, providing the modifications proposed are assessed as not significantly changing the impact of the development on landscape or biodiversity.
 - c. **Repowering wind farms** that replace older less efficient turbines at appropriate sites that do not affect wild land or wild places (with planning applications and S36 applications still required and with appropriately scoped Environmental Impact Assessments), which according to NatureScot, could add up to 9GW of extra capacity to renewable energy produced in Scotland.
 - d. **The application of National Planning Framework 4 policies is supported by peatland protection guidance** (aimed at developers and planners), **strengthened monitoring and enforcement of decisions and an updated carbon calculator**. The latter could be used to provide a clear decision point for whether or not an application is approved based on the quantity of carbon that would be emitted, due to peatland excavation, draining and degradation as a result of a development proceeding, versus the amount of carbon emissions expected to be avoided as a result of renewable energy generation displacing the need for burning fossil fuels given the current grid mix.
 - e. **The application of National Planning Framework 4 policies is supported by the urgent development of a recognised methodology, that takes account of the objective assessment of extant Habitat Management Plans, for assessing and ensuring the delivery of biodiversity net gain**. This is considered essential in order to protect and enhance the current biodiversity of the Wild Land Areas, wild places, and other upland environments.

Policy outcomes

30. The Trust advocates for the following policy outcomes to deliver a much more considered and judicious approach to onshore wind expansion that respects wild land, wild places, and biodiversity:
- a. **That the UK's wild places, including mapped Wild Land Areas, are properly protected** through judicious planning decisions, clear planning guidance and a concerted effort by governments, local planning authorities, renewable energy developers and landowners, to repower, extend and concentrate development where there is existing grid infrastructure in already developed areas.
 - b. **There is greater understanding of the natural carbon saving potential of land and soils, including in the UK's wild places**, through carbon and biodiversity baseline assessments becoming standard practice amongst landowners and developers and being used to inform planning decisions in the UK.
 - c. **Planning decision making is supported by more accurate assessment of net carbon impacts of development proposals on peatlands and other rich carbon soils and development on peatlands is avoided.**
 - d. **Biodiversity enhancement, achieved by biodiversity net gain, is a requirement of every UK onshore wind farm site** through, for example, montane woodland habitat restoration and peatland restoration all based on a rigorous understanding of what works and what does not work.

Approved by Trustees on 31 July 2023
Date last updated: 25 July 2023