

Review of the Strategic Planning Policy on Renewable and Low Carbon Energy

ISSUE PAPER RESPONSE

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Introduction

Sustainable Northern Ireland (SNI) works with Northern Ireland's public sector to inspire, influence, and inform sustainability and climate change action. We support and empower public sector collaboration to accelerate action on climate change and deliver a sustainable future for all.

We welcome the opportunity to respond to the Department for Infrastructure consultation on the Review of the Strategic Planning Policy on Renewable and Low Carbon Energy. We are looking forward to its update and the next step of the consultation in 2022.

Summary

As stated by the Department for Infrastructure (DfI), the review of strategic planning policy on renewable and low carbon energy is the first step to full public consultation in 2022. The review follows a call for evidence (2016) and aims to amend the Strategic Planning Policy Statement (SPPS). The scope is to ensure that renewable energy development contributes to the overall energy systems announced in the recently published new Energy Strategy by the Department for Economy (DfE) and in the broader context of a Green Growth Agenda for Northern Ireland.

We endorse the aim of this review to create a strategic planning policy that will consider the triple bottom line framework of sustainability, including analysis on the climate emergency and recognise that action is required through global and local cooperation.

However, we believe that preparing a strategic planning policy should acknowledge the environmental, social, and economic impact of past incentives schemes like the Northern Ireland Renewables Obligation (NIRO). In this issue paper, it is stated that "The subsidy played a pivotal role in achieving the expansion of renewable energy development and to reach energy targets", but new policies should consider the high economic and human costs, for instance, involved in Renewable Obligation Certificates (ROCs) being paid even if the turbine did not have planning permission.

We want to underline that the leading process to a new Energy Strategy taken on by DfE has shown some alarming blind spots. We hope the Department for Infrastructure will highlight and consider that in the updates to strategic planning policy. The potential of the development of technologies proclaimed to be green, including proposals to trial blue hydrogen and develop new gas storage facilities, may be seen as a step backwards from the commitment in the Energy Strategy to achieve Net Zero carbon by 2050 and target to achieve 70% renewable electricity by 2030.

In this response, we offer ideas for reviewing the strategic planning policy on renewable and low carbon energy development and infrastructure, highlighting some issues to consider, hoping to see a clear commitment to the climate emergency in the coming consultation.

Consultation Questions

Q1. How should future strategic planning policy continue to help NI achieve any new targets for increasing energy from renewable and low carbon sources arising from the emerging Energy Strategy and, in doing so, assist in addressing the climate emergency?

Future strategic planning policy should focus on helping local places build robust strategies to navigate to Net Zero. SNI suggests combining cutting-edge energy system modelling with local stakeholder insights to inform future planning policy and investments, prioritising the needs of people and the environment in decision making.

Although complete with scenario planning, forecasting, variation analysis and system optimisation, whole system modelling does not always work since the 'one-size-fits-all' approach might not be the most cost-effective way to achieve Net Zero.

Each local area is unique, and the right decarbonisation strategy will depend on the geography, building types, energy infrastructure, energy demand, resources, urban growth plans and low carbon ambitions of the local community (source: [Decarbonising Local Places](#)).

Therefore, we advise devolving more power to local authorities in an already two-tier planning system.

It is essential to look at energy supply and distribution networks alongside future trends in energy consumption as part the review of strategic planning policy. There is a need to redesign and reinforce the electricity grid, focusing on parts of the country where large volumes of renewable energy are located.

Total replacement of fossil fuel backup generation with zero-carbon solutions (e.g. through demand response and energy storage technology) can be guaranteed by planning authorities, developers, and distribution network operators working together, recognising the limits of the current grid. An electricity system designed for fossil fuel generators is not suitable in a future where most of the country's electricity, by law, must come from renewable sources.

To address the climate emergency, we envisage that future strategic planning policy should ban oil/gas exploration in Northern Ireland, as Great Britain and the Republic of Ireland have done. It should not include references to land use and site identification for petroleum licencing and hydraulic fracturing of underground layers of rocks for gas extraction, nor endorse potential for producing and injecting hydrogen (blue hydrogen) into the existing gas network.

SNI would like to see the application of a bottom-up approach centred on community-led Local Development Plans, that places local social, economic, and environmental wellbeing at the heart of every decision. Small and medium-sized energy businesses that could potentially benefit from planning applications should not be excluded from the definition of 'local society' and should be able to easily make planning applications to provide energy to meet local energy demands.

We wish to see a renewable model in future planning policy that promotes sustainable design and construction standards to encourage more buildings being required to meet a proportion of their energy demands on site through small and medium-scale renewable technologies.

We foresee the potential of zero-carbon technologies from decentralised energy sources (e.g. small-scale hydroelectric energy, Combined Heat and Power (CHP), biomass, solar and wind power), which can increase the security of supply, reduce transmission losses and lower carbon emissions.

Investing in decentralised networks will bring down prices, improve energy security, cut carbon and make communities more prosperous and resilient.

SNI supports the advice of the Scottish Government on onshore wind farming on Landscape Capacity Assessments (LCA). This assessment process should be considered a supportive study relevant to development management and planning policy related to natural heritage and landscape management.

Planning authorities may wish to undertake or update their landscape capacity studies to provide a clearer steer on development management (source: [Onshore wind](#))

This approach will improve the process to:

- establish a better view of local landscape sensitivities
- identify acceptable levels of landscape change
- identify cumulative effects and set objectives and guidance to managing those effects
- determine the scope for further development

Q2. What are your thoughts on introducing new provisions within strategic planning policy to provide for a more strategic spatial approach for the siting of wind and solar farm (or others types of renewables) development through identifying suitable and/or unsuitable areas in principle?

SNI supports the introduction of new provisions to provide for a more strategic spatial approach for identifying wind and solar energy sites. Therefore, we suggest introducing a methodological framework to be followed nationally and locally, including the application of several siting criteria (technical, spatial, economic, social and environmental).

It is well-established that offshore wind capacity and efficiency is significantly higher than onshore wind. This enables countries with limited land areas but extensive coastlines, such as Northern Ireland, to produce environmentally friendly energy (Dimitra G. Vagiona and Manos Kamilakis,

2018). In the article "[Strategic Planning of Offshore Wind Farms in Greece](#)" (2020) there is an excellent five-stage framework that could be adopted by the new strategic planning policy in Northern Ireland:

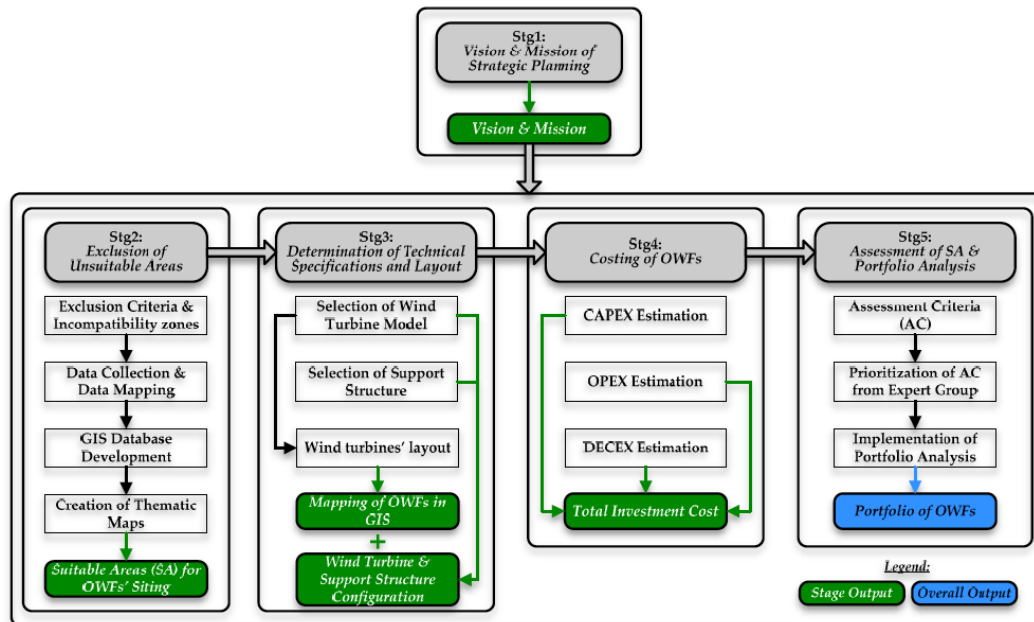
Stage 1 – Vision and Mission of Strategic Planning

Stage 2 – Exclusion of Unsuitable Areas

Stage 3 – Determination of Technical Specifications and Layout

Stage 4 – Costing of Offshore Wind Farms

Stage 5 – Assessment of Suitable Areas and Portfolio Analysis



Choosing an appropriate site for offshore wind energy is complex and based on various technical/mechanical, environmental, socio-economic parameters and the relevant national legislation concerning marine spatial planning.

We recommend that an approach is set within planning policy, combining a methodological framework, like the one suggested above, along with GIS modelling. Through GIS modelling, technical and environmental constraints and a spatially continuous resource economic assessment model are applied, helping to identify the most suitable sites for siting wind and solar farms.

In terms of policy, SNI would like to suggest including the evaluation of other countries' findings, where their portfolios of renewable energy projects developed to date are taken into account in setting guiding principles for national and regional energy planning. Although it is essential to support a comparative analysis, we should also consider the significant national differences in economic, legal-procedural, socio-political and cultural-historic contexts.

We endorse the adoption of "smart practice" instead of "best practice" in the context of renewable energy since best practice always depends on the particular context in which a specific approach is situated ([Bohumil Frantál, Dan Van der Horst et al., 2018](#)).

Smart practice in the planning and siting of renewable energy production systems would have to:

- effectively produce energy based on renewable sources
- seek to minimise environmental harm in each stage of its production, operation and disposal (life cycle)
- seek to avoid potential conflicts among individual users (or groups of users) of the landscape where it sited, throughout the participation, collaboration and planning

Q3. What are your thoughts on introducing new provisions within strategic planning policy to require new wind farms to be capable of being sited in perpetuity?

SNI supports introducing new provisions within strategic planning policy for permanent use of sites for new wind farms. However, even where an individual wind farm proposal may have an operational duration specified by condition, the site should be suitable for use as a wind farm in other respects. Identifying an operational lifespan, commonly spanning 25 years for wind turbines, should not be used as mitigation for adverse impacts arising from the operation of the wind turbine. Instead, this

consideration ensures that developments that are going to be in place for several decades are appropriately sited and designed so that any impacts are limited, and accepted by local communities. The permanent suitability of a site for wind farm use is essential as it relates to the potential repowering of a place and the expectation that a wind farm in use today will, in principle, be acceptable in the long term if reconfigured. This is essential if we are to meet our targets for renewable electricity generation and sustain them in the future.

Q4a. How best should strategic planning policy provide for the consideration of such matters when plan-making and decision-taking?

Considering the role of a strategic planning policy as the heart of the planning system, SNI advises creating and implementing a clear framework with a requirement set in law that planning decisions must be taken in line with the development plan (Source: [Plan-making](#)). We suggest a framework to set out a vision for the future development of an area, including needs and opportunities about housing, the economy, community facilities and infrastructure, and for conserving and enhancing the natural and historic environment, mitigating and adapting to climate change, and making places resilient. Such a framework must be kept up to date. The strategic planning policy should provide guidelines for local authorities to adopt digitally accessible plans and open data along with an evidence base supporting procedures. The nature of the area and matters to be addressed may vary, but all plans need to be as focused, concise, and be as accessible as possible. The strategic policy should provide essential procedures within the process of project development. For instance, where sites are proposed for allocation, sufficient detail should be given to provide clarity to developers, local communities and other interested parties about the nature and scale of the development.

Q4b. Do you consider strategic planning policy should require a mandatory separation distance for wind energy? If so, what distance and why?

We assume the question refers to separation distance for wind farms, which SNI strongly advises to include in the strategic planning policy. However, the separation distance should not be intended as a ban on wind farm development in the identified area but be used more as an assessment and safety measure. The character of some settlements can, in part, be defined through their relationship with their surroundings. In some territories, this relationship is more important than in others. The separation distance would prevent a settlement from being harmed by an insensitively sited or designed wind farm. Within identified areas, wind farm proposals can be expected to have a visual impact on the character of the settlement considered in fine detail, particularly from essential views. More emphasis is placed on a more sensitive design of wind farms located in designated areas with separation distance. Although no statutory separation distances are stipulated in Northern Ireland, distances for onshore wind farms are calculated based on the noise level. The minimum desirable distance between wind turbines and occupied buildings calculated based on expected noise levels and visual impact will usually be greater than that necessary to meet safety requirements. Fall over distance (i.e. the height of the turbine to the blade's tip) plus 10% is often used as a safe separation distance. There are different positions on this across the UK and Ireland. For instance, Scottish Planning Policy states that separation distances within spatial frameworks should be identified not exceeding 2km. SNI advises that no wind turbine developments shall be constructed near a residential property; however, noise and amplitude modulation issues can be present up to 2km away. Therefore, unless through assessment, it can be demonstrated that there would be acceptable noise levels within the 2km radius of a residential property, the minimum distance should be 2km ([Wind Turbines: Planning and Separation Distances, NI Assembly](#)).

Q5. What are your thoughts on the best approach to decommissioning and restoration of future wind turbine and solar farm development?

SNI highly recommend following the guidelines for sustainable decommissioning produced by the European Task Force for Dismantling and Decommissioning of wind turbines, due to the lack of an

international standard. The Task Force identified the principal regulations for dismantling onshore wind farms in key European countries, including the UK.

The regulatory mapping, included in the guidelines, considers the national legislation for waste management and site restoration. As the objective is circularity, the waste from this process is treated following resource management procedures for oils, rare earth elements (REE), metals, composites, concrete, electric cables, etc. (Source: [Wind Europe](#)).

We want to advise an interdisciplinary approach to deliver an integrated decommissioning policy that incorporates circular economy principles to maximise value throughout the lifecycle of energy infrastructure ([D.C. Invernizzi, G. Locatelly et al., 2020](#))

Regarding solar farms, we strongly endorse the statement in the SPPS about developments such as wind farms and solar farms. The applicants will be required to continue to provide by legal agreement details on future decommissioning, including proposals for site restoration. We also would recommend a framework for local authorities as a guideline to avoid development mistakes that do not consider:

- unrealistic timeframes
- grid issues
- delays due to supporting reports (e.g. ecology reports)
- consultancy support
- inadequate procurement processes

A [report from Solar Energy UK](#) in 2019 detailed how increased biodiversity on a solar farm can help tackle the climate and nature emergency and help change the perception of those who may still be sceptical about solar farms. Researchers from [Lancaster University](#) found that changes to how solar PV parkland in the UK is managed could see sites support four times as many bumblebees.

Q6. Do you consider strategic planning policy should prioritise non-agricultural land for renewable energy development, such as solar energy? If so, how and why?

SNI supports the focus on non-agricultural land or land of lower agricultural quality for renewable energy developments. Still, being a very sensitive matter, we recommend including essential provisions within the strategic planning policy:

1. Being sensitive to nationally and locally protected landscapes and nature conservation areas, supporting opportunities to enhance the ecological value of the land.
2. Minimising the visual impact where possible and maintaining appropriate screening throughout the project's lifetime (with proper land management and ecology plans in place).
3. Engaging with the community in advance of submitting any planning applications.
4. Encouraging land diversification by proposing continued agricultural use or incorporating biodiversity measures within any projects.
5. Encouraging as much buying and employing locally as possible.
6. Acting considerately during construction.
7. Seeking the support of the local community and listening to their views and suggestions.
8. Encouraging investing companies to commit to using the solar farm as an educational opportunity, where appropriate.
9. Guarantying the return of the land to its former use at the end of the project life where possible.

Q7. Should strategic planning policy provide for the appropriate co-location of renewable, low carbon energy and supporting infrastructure? If so, how best might this be achieved and why?

Yes, SNI considers appropriate co-location of renewable, low carbon energy and supporting infrastructure as an essential step to inform decision-making in this area and in the local development plan process. However, whilst the existing Planning Policy Statement 18 and the SPPS helped facilitate the development of renewables during the 2010s, the policy requires substantial revision to unlock new development in low-carbon renewable energy required under the new Energy Strategy. The policy needs to consider, for instance, the co-location of battery storage and widen the scope of where specific types of renewable energy development are acceptable in a particular landscape. The best way to achieve that is by including in the spatial policy frameworks where sites of ecological value and significant protection are listed and carefully avoiding these in proposals.

While battery storage facilities may be relatively small compared to the development of renewable energy infrastructure, rights to place batteries on the land will still be needed. Land rights granted by the landowner to the renewable energy generator may be limited to a particular form of development such as solar or wind, and variations to, or new leases, may require renegotiations.

Q8. Should strategic planning policy provide for and/or encourage the re-powering of wind turbines as they come to the end of their consented lifespan and require/allow that all new wind farms should be sited in perpetuity?

Yes, we must consider circularity as a priority in the planning process. Therefore, modernising the existing wind fleet and repowering wind turbines could set the stage for future wind industry investments and help maximise wind energy development in the energy transition. Wind repowering enables owners to retrofit power plants on existing sites with new and refurbished technology, including erecting taller and more efficient wind turbines to increase productivity. Using existing grid connections and infrastructure, repowered projects can often gain further cost-saving advantages relative to new rural (or vacant-plot) developments. While many regions have plentiful wind resources, siting decisions and competing land-use needs can make it challenging to find new places for wind turbines. It is logical to take advantage of the available space by upgrading the infrastructure already there. Other reasons for repowering include reducing noise emissions, better aesthetics, and political considerations ([Lena Kitzing et al., 2020](#)).

Q9a. What do you consider to be the emerging technologies and how best should strategic planning policy provide for their consideration by relevant planning authorities when planning and decision-taking?

SNI considers that the key to securing affordable, low-carbon energy could be investing more in storage technologies to make the most of the renewable energy already available. Within the next five years, the [International Energy Agency \(IEA\) expects](#) global power storage capacity to expand by 56% to reach more than 270 GW by 2026, driven by a growing need to create flexible electricity systems which rely more on renewable sources. Utility-scale batteries, Pumped Storage Hydropower (PSH), Concentrated Solar Power (CSP) storage, and cryogenic batteries are emerging storage technologies we consider relevant for future planning and development. Green Hydrogen, made from water and renewable energy, is also expected to boom in the decades ahead as governments [plan to replace the fossil fuels used in power plants, factories and heavy transport](#) with a clean-burning, green alternative. But green hydrogen can also be used as a form of energy storage, so we highly recommend policy that promotes and enables the development of this technology. The Energy Strategy has plans for “blue hydrogen” development as it offers a quick fix and can displace fossil fuels sooner than green hydrogen, which is not yet available at scale. However, blue hydrogen investment could extend and prolong our reliance on fossil fuels as it is produced from natural gas. Producing large quantities of hydrogen from fossil gas (blue hydrogen) would lock Northern Ireland into costly infrastructure and increase carbon emission. [Blue hydrogen could be up to 20% worse for the climate than fossil gas](#) because of the emissions that escape during its production, multiplied by the amount of gas required to make the equivalent amount of energy from hydrogen. A better form of clean energy, [geothermal](#), is an emerging solution to decarbonise Northern Ireland’s power and heat networks. Research is currently underway to determine the geothermal potential of Northern Ireland and we would endorse further funding in this area to understand the feasibility and potential applications. SNI recognises there are a range of low-carbon energy technologies and recommends the development of a robust regulatory framework for each of the emerging technologies that will be considered for potential investment. Based on the fact that the new Energy Strategy has endorsed geothermal energy as an emerging technology in Northern Ireland, we advise addressing issues such as ownership, licensing for exploration, development and production, and reporting in the strategic planning policy. SNI recommend consulting the [‘Policy Statement for Geothermal Energy for a Circular Economy’](#) by the Department of the Environment, Climate and Communications (DECC) in the Republic of

Ireland as an excellent example of how the strategic planning policy could provide guidance to inform consideration of emerging technologies by relevant planning authorities.

Q9b. How best should strategic planning policy provide for the consideration of battery energy storage systems by relevant planning authorities when plan-making and decision-taking

SNI would like to highlight a critical point that policymakers must keep in mind regarding the greenhouse gas impact of battery energy storage. This is whether the type of energy used to charge the storage system is cleaner than the type of generation avoided when the storage is used; otherwise, storage could produce pernicious results and increased GHG emissions ([Hittinger and Azevedo, 2015](#))

The Infrastructure Planning (Electricity Storage Facilities) Order 2020 removes electricity storage facilities (except pumped hydroelectric storage facilities) with 50MW or more in England and 350MW or more in Wales from the category of generating stations whose construction or extension requires consent under the Planning Act 2008. As a result, grid-level energy storage projects sit in an unusual limbo.

SNI advises avoiding a similar mistake by not excluding the process plant and power equipment sectors from the strategic planning policy's scope. This approach can prevent public policy from excluding any equipment used to store power when the policy does not exclude equipment to supply and generate energy.

Battery storage systems are localised deployments with little planning and environmental impact when the source of the stored energy is renewable. Therefore, these systems should be preferably assessed locally. However, it does not mean encouraging the development of battery storage projects that could harm public health if within the proximity of residential areas.

The strategic planning policy should set the framework for Local Authorities and green energy companies to install these facilities in pockets of existing brownfield land or industrial estates. Such structures incorporate already existing waste management or energy-generating functions to minimise community impact – but that may have to be offset by higher costs to get them to households and businesses.

Q9c. What do you consider to be any other issues relevant to renewable and low carbon energy development and how best should strategic planning policy provide for their consideration by relevant planning authorities when plan-making and decision-taking?

SNI is concerned about the projects of blue hydrogen and the biomethane production included in the new Energy Strategy. The Strategy sets out a proposal to trial the production and use of blue hydrogen despite peer-reviewed evidence showing that blue hydrogen produces on average 20% more emissions than gas and 60% more than oil ([Howarth and Jacobson, 2021](#)).

If not highly regulated and controlled, biomethane production has the potential to be a net carbon emitter (due to gas leakage in production) and produce the same air contaminants as the combustion of fossil fuels. In addition, farms producing biomethane emit harmful pollutants into the air and discharge nitrates into groundwater. Other potential negative environmental aspects include noise pollution, odour complaints, and the need for abundant water resources for biogas digesters which may be an issue in summer months, particularly under future climate scenarios.

SNI advises introducing regulations in the SPPS to prevent new hydrocarbon development. In addition, it should provide the appropriate definitions and guidelines for local development plans to follow when plan-making and decision-making, in line with the principles of sustainable development, ensuring that economic, social and environmental objectives are secured together.

The policy review must include the market reform to ensure that any new system is efficient and cost-effective. Planning and developing the electricity grid will not be easy, but appropriate policies must guarantee engagement with communities destined to host new wind farms or new grid infrastructure. Strategic policies should ensure communities are empowered to be part of the energy transition and assist political, economic, and social forces in finding ways to adapt and meet any raised concerns.

Reinforcing the critical objectives of the SPPS must be a priority to ensure that the strategic planning policy will provide the consideration of those issues by relevant planning authorities.

We highly recommend including the points listed below as guidelines for Local Development Plans and developers in the strategic planning policy. These features should be treated as a priority when assessing renewable energy proposals.

Any adverse outcome of the assessment should bring to the rejection of the proposal (Source: [Belfast LDP](#)):

- public safety, human health, or residential amenity;

- visual amenity and landscape character;
- biodiversity, nature conservation or built heritage interests;
- local natural resources, such as air quality, water quality or quantity; and
- public access to the countryside

The same considerations should be done on plans for hydrocarbon development, and the strategic planning policy should regulate and ban such practices.