Department for Infrastructure

Strategic Environmental Assessment Non-Technical Summary

Regional Strategic Planning Policy on Renewable and Low Carbon Energy

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Author	Poppy Grange/ Sofija Semjonova	**Technical reviewer**	Rob Edwards/Nisha Rehm
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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

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1 WHAT IS THE ENVIRONMENTAL REPORT AND WHY HAS IT BEEN WRITTEN?

RSK has been instructed by the Department for Infrastructure to carry out a Strategic Environmental Assessment of the draft revised Regional Strategic Planning Policy on Renewable and Low Carbon Energy (R&LCE), which when published in final form, will replace the Subject Policy 'Renewable Energy' contained within the Strategic Planning Policy Statement (SPPS) for Northern Ireland (pages 90 – 93 refer).

Strategic Environmental Assessment is a systematic process for evaluating the environmental consequences of proposed plans or programmes to ensure environmental issues are fully integrated and addressed at the earliest appropriate stage of decision making, with a view to promoting sustainable development. The process of Strategic Environmental Assessment was introduced under European Directive 2001/42/EC12 on the assessment of the effects of certain plans and programmes on the environment (Strategic Environmental Assessment Directive), and came into force in 2001.

The Directive requires the Department for Infrastructure, as the programming authority, to assess the likely significant effects of its plans and programmes on: "*the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship of the above factors*" including "*secondary, cumulative, synergistic, short, medium, and long-term, permanent and temporary positive and negative effects*".

The requirements of the Strategic Environmental Assessment Directive are transposed into Northern Irish domestic law through the Environmental Assessment of Plans and Programmes Regulations (Northern Ireland) 2004 (SR 280/2004).

The Environmental Report evaluates the likely environmental effects of implementing the Policy as per the requirements of the Directive and the Strategic Environmental Assessment Regulations. This includes an assessment of realistic alternative approaches and options, as well as suggested mitigation and enhancement measures to prevent, reduce and offset any significant adverse effects on the environment of implementing the Policy.

The Environmental Report has been issued into statutory consultation by the Department for Infrastructure and is available to view and comment on by other interested organisations and members of the public in parallel with the consultation period for the Policy. This Non-Technical Summary is a concise summary version of the Environmental Report.

2 WHAT IS THE CURRENT RENEWABLE ENERGY POLICY WITHIN THE STRATEGIC PLANNING POLICY STATEMENT?

2.1 Background

The Department published the Strategic Planning Policy Statement for Northern Ireland in September 2015. The Strategic Planning Policy Statement consolidates some twenty separate policy publications into one document, and sets out regional strategic planning policy for a wide range of planning matters. It also provides the core planning principles to underpin delivery of the two-tier planning system with the aim of furthering sustainable development. The Strategic Planning Policy Statement provides the strategic direction for councils to bring forward detailed operational policies within future local development plans and it is also a material consideration in the determination of individual planning applications, the vast majority of which are determined by councils.

On 21 April 2021, former Infrastructure Minister, Nichola Mallon announced her decision to review regional strategic planning policy on renewable & low carbon energy, as contained in the Strategic Planning Policy Statement. Officials have been progressing the review in accordance with policy development best practice, including during the tenure of the last DfI Minister (John O'Dowd).

Regional strategic planning policy for renewable energy development is set out within the Department's Strategic Planning Policy Statement and Planning Policy Statement 18 'Renewable Energy,' which is currently retained under the transitional arrangements of the Strategic Planning Policy Statement. The overall policy approach is to facilitate the achievement of targets for renewable energy generation whilst balancing other important planning considerations, such as impacts on landscape character, visual and residential amenity, nature conservations interests, public safety etc.

The stated aim of the Strategic Planning Policy Statement (2015) in relation to renewable energy is as follows: 'to facilitate the siting of renewable energy generating facilities in appropriate locations within the built and natural environment in order to achieve Northern Ireland's renewable energy targets and to realise the benefits of renewable energy without compromising other environmental assets of acknowledged importance'.

The current planning policy framework has played its part in facilitating, meeting and exceeding the Strategic Energy Framework target. However, the new Energy Strategy (2021) established a renewable electricity consumption target of 70% by 2030 that was then increased to 80% by 2030 by the Climate Change (Northern Ireland) Act 2022.

A main principle of new Energy Strategy is to replace key fossil fuels with renewable energy and become more self-sufficient strengthening Northern Ireland's security of supply. The Energy Strategy takes account of the cost of living crisis (which includes the sharp rise in energy costs).

2.2 Policy Themes

The Department developed a number of Policy Themes that runs through the renewable and low carbon energy section of the Strategic Planning Policy Statement. The themes used in this assessment are below:

- **(PT1) Policy Theme 1 -** Regional Strategic Planning Policy & Energy Targets
- **(PT2) Policy Theme 2** - Locational Considerations
- **(PT3) Policy Theme 3** - Siting New Wind Farms in Perpetuity
- **(PT4a) Policy Theme 4a** - Wind Turbines & Amenity Considerations (Theme 4a – Noise Assessment)
- **(PT4b) Policy Theme 4b** - Wind Turbines & Amenity Considerations (Theme 4b - Separation Distances)
- **(PT4c) Policy Theme 4c** - Wind Turbines & Amenity Considerations (Theme 4c- Shadow Flicker)
- **(PT5) Policy Theme 5**: Decommissioning and Site Restoration for New Development
- **(PT6) Policy Theme 6**: Solar Farms and Agricultural Land
- **(PT7) Policy Theme 7**: Co-Locating Renewable, Low Carbon and Supporting Infrastructure
- **(PT8) Policy Theme 8**: Re-Powering Existing Wind Farms
- **(PT9) Policy Theme 9**: Emerging Technologies & Other Issues
- **(APT) Additional Policy Text:** (remaining policy text that did not follow one of the themes)

3 WHAT IS THE CURRENT STATE OF THE ENVIRONMENT IN NORTHERN IRELAND?

3.1 Current State of the Environment

Ecology and Nature Conservation

Strengths and Opportunities

- Northern Ireland has a large area of national and international nature conservation value which supports a wealth of biodiversity and includes a range of ecological sites of importance.
- Northern Ireland hosts a variety of habitat types and species protected under the Habitats Directive, over the last decade the marine protected area has increased.
- Northern Ireland is notable for its large area of freshwater habitats, their flow dynamics, nutrient characteristics and biodiversity.
- Demonstrating an astonishing 650 km of coastline, the intertidal loughs, estuaries and marine area are a significant component of Northern Ireland's biodiversity.
- The proportion of protected habitats in Northern Ireland under favourable management has demonstrated a stable and improving trend.
- Over half of features within Marine and Terrestrial protected sites were in favourable condition in 2021/22.
- Northern Ireland is committed to establishing Marine Conservation Zones to protect biodiversity.
- Improved environmental performance has improved due to a wider societal participation in supporting biodiversity.
- Many assessed breeding bird species populations are increasing.
- Mapping confirmed that the upland blanket bogs and lowland raised bogs are well represented in Northern Ireland.
- Conservation projects delivered across Northern Ireland include restoration of peatlands and management of nature reserves for biodiversity benefit, hosting many priority species.
- In 2020/21 much of the new woodland was established by private landowners and part funded under the Forestry Grant Schemes. The Woodland Trust has been working towards restoration and surveying of ancient woodlands.

Weaknesses and Threats

- Invasive species are increasingly affecting rural land across Northern Ireland.
- It is estimated that only around 1% of Northern Ireland's peatlands have been restored in the past three decades.
- Much of the lowland raised bogs have been lost or altered due to peat extraction, forestry and drainage in recent decades.
- Over recent decades there has been a large-scale move away from mixed farming leading to the loss of semi-natural habitats and hedgerows.
- The area of woodland in Northern Ireland is the lowest of any United Kingdom regions.

- Ammonia is seen as a threat for two thirds of Northern Ireland's terrestrial priority habitats and as a threat of high significance for almost half of these habitats.
- Open waters and wetlands in Northern Ireland are of particular importance for recreation and tourism, but they have become increasingly eutrophic.

Transboundary Considerations

- Ireland has designated hundreds of ecological protection and conservation sites of international and national importance covering both marine and terrestrial habitats.
- There are numerous Natural Heritage Areas spread across Ireland, including many raised bogs and blanket bogs.
- Over half of the Habitat Directive-listed species in Ireland are in favourable condition, while over two thirds demonstrate stable or improving trends.
- Increases in countryside bird and seabird species populations over a two decade period.
- The 2019 assessment of the European Union protected habitats and species status in Ireland demonstrated most of the habitats are in unfavourable condition.
- Agriculture is identified as a major contributor to the declines in habitat conservation status with over half of habitats of being impacted by agri-practices.

Population and Socio-economics

Strengths and Opportunities

- The population of Northern Ireland was estimated to be 1,904,600 in June 2021 showing an increase since 2011 census data.
- The employment rate in September-November 2022 demonstrated an increase reaching 71.3%.
- The unemployment rate for September-November 2022 decreased over the year to 2.8%.
- The proportion of working age people with high-level skills reached 38.4% in 2017. The figures representative of working age population which still had no formal level of education has fallen to 13.3% in 2019.

Weaknesses and Threats

- It is estimated 17% of the Northern Ireland's population were in relative poverty and 12% of the population were in absolutely poverty in 2020/21.
- In September – November 2022 the rate of economic inactivity rate was estimated at 26.6%.
- Deprivation in Northern Ireland varies geographically with a tendency for more deprived areas around Belfast. The predominant majority of the most deprived areas are classified as rural.
- The long-term unemployment rate in 2022 has seen a slight increase in comparison with the unemployment rate in 2021.

Health and Quality of Life

Strengths and Opportunities

- In 2021/22 almost three-quarters of Health Survey respondents rated their general health as 'very good' or 'good', reaching pre-pandemic levels.
- Life satisfaction and happiness scores were higher in 2021/22 compared with year prior. Average recorded levels of anxiety also decreased.
- Between 2011 and 2020 the health and social care workforce in Northern Ireland grew by 17%.
- The life expectancy for females is estimated at 82.4 years which is almost four years higher than for males at 78.7 years.

Weaknesses and Threats

- In 2021/22 Health Survey respondents living in the most deprived areas were less likely to rate their health as 'good' or 'very good' than those living in less deprived areas.
- The population living in the most deprived areas were also four times as likely to rate their general health as bad or very bad compared with those living in the least deprived areas.
- Close to half of those living in the most deprived areas had concerns about their own mental health in the past year, compared with over a third of those living in the least deprived areas.
- National Health Services are under pressure due to a combination of increased demand presented by an ageing population and a comparative reduction in funding relative to historic levels.
- In 2019/2020 more than half of adults were either overweight or obese. The proportion of children classed as overweight or obese has remained at roughly a quarter being overweight or obese.

Soil and Land Use

Strengths and Opportunities

- Northern Ireland has significant natural resources such as carbon-rich peatland and high quality agricultural grassland.
- For its relatively compact size Northern Ireland is one of the most geologically diverse regions in the world.
- It is predicted that soil phosphorus concentrations will steadily decline in the long-term prospects.
- Peaty soils and semi-natural peatlands cover approximately 30% of Northern Ireland's land area combined, they also account for over half of the soil carbon pool.
- The Northern Ireland Peatland Strategy 2021-2040 public consultation document identifies the ecosystem services provided by healthy peatlands, details the factors affecting peatlands and sets out the objectives to support sustainable peatland management.
- The new Environmental Farming Schemes opened in 2017 and by the end of 2020 there are three tranches of the scheme.
- Agri-Food is one of Northern Ireland's largest and most successful industries, with exports in particular increasing.

- Over half of Northern Ireland's woodlands and semi-natural forests are owned and managed by the Forest Service.
- In 2020/21 there was a 34.7% increase on woodland plantings since 2017/18.

Weaknesses and Threats

- In 2016/17, there were slightly more soils that were either under or over-enriched with phosphorus compared to 2010/11.
- Currently less than a tenth of Northern Ireland's farmland has an up-to-date soil analysis, whilst more than half of soils are not at optimum pH.
- The area of land managed through agri-environment scheme agreements dropped by 84.3% in years spanning 2015-20 due to the expiration of the agreements under the older schemes.
- Recent condition assessment for designated peatlands has demonstrated that a high proportion of the sites is generally in 'unfavourable' or 'unfavourable-recovering' condition.
- There is limited information on the current status of peatland in Northern Ireland, particularly in relation to soil structure, pH and nutrient profiles.
- A loss of vegetation in lowland raised bogs, upland bog and fens was recorded between 1992 and 1998 due to overgrazing, drainage and peat cutting.
- Potential threats to Northern Ireland's geological sites include landfill, coastal defence work and changes to natural systems.
- Northern Ireland has a low woodland cover of 9% and much of it lacks active management and is not easily accessible by the public.
- Northern Ireland has a legacy of land contamination as records estimate that there are over 12,000 sites that have had some form of previous industrial use.

Water

Strengths and Opportunities

- 99.8% of all sites monitored for nitrate levels in 2019 had an annual mean concentration of less than the threshold value
- Lakes Lough Neagh and Upper and Lower Lough Erne make up over 90% of the total area of lakes greater than 50 ha in Northern Ireland.
- Concentration of groundwater nitrate levels across Northern Ireland are generally low with most of the stations meeting the threshold in 2019.
- Based on 2015-18 data over half of the beaches monitored met the 'excellent' standard, approximately a quarter met the 'good' standard.
- In 2018 nine beaches and two marinas were awarded Blue Flag status meeting a number of criteria such as water quality, safety, facilities and information.
- The majority of the Northern Ireland's coastline is protected as many of the coastal species and habitats are recognised as internationally important.
- Drinking water quality (public and private) remains at the highest level of compliance since 2004.
- Northern Ireland has successfully decreased water demand by 15% through control of leakages.

Weaknesses and Threats

- In 2021 no river waterbodies achieved ‘good’ or ‘high’ overall quality status.
- Of the three main river basins in Northern Ireland water quality is noticeably better in the North West.
- In 2021, no waterbodies monitored in Northern Ireland achieved ‘good’ overall status indicating a deterioration trend in the water quality of waterbodies
- Consents and permits compliance rate for private sewage fell to 72% in 2019.
- The compliance rate for trade effluent decreased to 93% in 2019.
- In 2019 over half of the pollution incidents were identified as having an impact on the water quality of the receiving waterway, with farming practices identified as the lead cause.
- A 10% decrease in the volume of water public supply available in Northern Ireland in the nearest decades Is predicted.

Transboundary Considerations

- There are a number of rivers that run through both Ireland and Northern Ireland and a number of lakes that straddle the border.
- Two sea loughs, both designated sites, Lough Foyle and Carlingford Lough are located between the border of Ireland and Northern Ireland.
- Lough Foyle is classified as having a ‘good’ status and Carlingford Lough is classified as having a ‘moderate’ status as of 2018.
- Irish Sea surface temperatures are estimated to increase by 2-3°C by 2100.
- Sewage and diffuse agricultural sources are the main threat to Ireland’s surface water quality.
- Local authority wastewater discharges must be authorised and conditions may be imposed in order to protect the environment.
- Significant work has been undertaken to assess the level of risk associated with flooding in Ireland through the Preliminary Flood Risk Assessment.
- Programmes aimed at direction provision in Ireland’s long-term flood risk management and mitigation plan have been established.
- The ‘GWClimate’ project aims to establish a long-term strategic groundwater level monitoring network and develop an approach to evaluating the impacts of climate change on groundwater.
- Ireland’s third River Basin Management Plan sets out the actions to improve overall water quality and achieve 'good' ecological status in water bodies.
- Regional Water Resources Plans are currently under development and will allow Irish Water to review water supply needs collectively for the entirety of Ireland.
- The proportion of rivers and streams with ‘good’ or ‘moderate’ quality have increased in 2020. However, the proportion with ‘high’ water quality declined in the same period.
- 91% of bathing water sites surveyed had good water quality and 97% had sufficient water quality in 2021.
- There had been an increase in the proportion of samples showing low volumes of nitrates in groundwater. The percentage of samples with high nitrates levels have also increased since the late 90’s.
- Peat extraction and drainage of peatlands has been identified as a significant pressure in 8% of water bodies that are at risk of not meeting their water quality objectives.

- Just over half of river water bodies are in ‘high’ or ‘good’ ecological status and almost half are in ‘moderate’, ‘poor’ or ‘bad ‘ecological status.

Air Quality

Strengths and Opportunities

- There are 19 Air Quality Management Areas in Northern Ireland - 9 of the 11 district councils have declared at least one.
- Target values and air quality objectives have been met for the following pollutants: particulate matter, Nitrogen Dioxide, Ozone, Carbon monoxide, benzene, sulphur dioxide and metallic pollutants.
- In 2020 levels of Nitrogen Dioxide at ten sites did not breach the United Kingdom Air Quality Strategy annual target values; the annual mean concentration of particle matter did not breach the target values either.
- Northern Ireland’s air quality has seen a marked improvement in recent decades due to a reduction of coal and oil used for domestic heating.

Weaknesses and Threats

- The access to public transport services in rural areas is poor, leading to a high dependency on cars.
- Ozone levels remain variable from year to year as ozone concentrations are affected by long-range, metrological and local factors.
- Benzo[a]pyrene has been monitored at three different sites and while all sites met the target values, two of the three sites is continue to exceed air quality objectives.
- Ammonia emissions have increased by approximately 8.5% from 2001 to 2019.
- There is a lack of a downward trend in the most widely exceeded pollutant, Nitrogen Dioxide, which has remained generally level since the late nineties.

Transboundary Considerations

- As Ireland shares a land boundary with Northern Ireland there is potential for transboundary air quality impacts.
- Air quality in Ireland is generally improving, as an overall reduction trend in emissions between 1990 and 2022 is seen.
- Ireland ranked 98th out 106 countries in the Air Quality Index rankings 2021 which is perceived as a ‘good’ average.
- Ireland has high average per capita emissions of methane and nitrogen dioxide primarily due to high agriculture emissions.
- Ammonia emissions have increased by approximately 14.4% between 1990 and 2019 predominantly due to emissions from livestock.
- Ireland continues to be compliant with the air quality standards for most pollutants such as particulate matter, nitrogen dioxide and ozone.
- There are some localised air quality issues in smaller towns and villages associated with pollutants such as nitrogen dioxide and particulate matter.
- Emissions of sulphur dioxide in Ireland continue to be within the required emission limits and continue to decrease due to the switch to lower sulphur content fuels in electricity generation and transport.

Climate Change

Strengths and Opportunities

- Northern Ireland's Climate Change Act 2022 legally requires that all Northern Ireland Departments contribute to delivering its targets, carbon budgets and climate action plans.
- The Northern Ireland Executive's Green Growth Strategy sets out how the Climate Change Act will be delivered, driven to meet its targets and grow the Northern Ireland economy in a sustainable way.
- Northern Ireland's total greenhouse gas emissions have seen a reduction of 18% since 1990.
- There is great potential for carbon storage in due to the strategic aim to double the area of tree cover over the next 50 years. There is also a very high percentage of grassland cover available in to capture carbon.
- The 'Northern Ireland Energy Strategy – the Path to Net Zero Energy' and its associated action plan established a renewable electricity consumption target of 70% by 2030 that was then increased to 80% by 2030 by the Climate Change (Northern Ireland) Act 2022.
- In 2022 the total electricity consumption generated from renewable sources located in Northern Ireland was at 51%.
- 85.3% of all renewable electricity generated in 2022 was generated from wind.
- The climate, facilities and processing capabilities for food production in Northern Ireland are favourable.
- Public concern regarding environmental issues was high in 2020/21, with 82% of respondents expressing their concern about the environment.
- In 2022 the total electricity consumption generated from renewable sources located in Northern Ireland has seen an increase of 9.7%.

Weaknesses and Threats

- During the 21st Century Northern Ireland is projected to experience increasing average temperatures, an increase in average rainfall in winter, and a decrease in average rainfall in summer and rising sea levels.
- The third United Kingdom Climate Change Risk Assessment identified that more action and further investigation was needed in a number of environmental areas in Northern Ireland.
- The most recent projections demonstrate that Northern Ireland is not likely to achieve a target of 35% reductions in greenhouse gas source emissions by 2025.
- Norther Ireland accounted for 4.3% of total United Kingdom greenhouse gas emissions in 2018.
- By sector agriculture provides the biggest contribution to emissions in Northern Ireland at 27%.
- Inclusion of emissions from degraded peatland in the emissions inventory could add around 9% to Northern Ireland's total emissions.
- Due to limited availability of natural gas resulting in the high consumption of coal in the residential sector, Northern Ireland presents a higher than average share of United Kingdom domestic emissions.

- Total greenhouse gas emissions from the transport sector in Northern Ireland have increased by 21.5% between the 1990 and 2019 despite improvements in efficiency of transport vehicles.

Material Assets

Strengths and Opportunities

- Northern Ireland is underlain by extensive deposits of economically valuable minerals, as there are nearly 600 occurrences of economic minerals.
- Northern Ireland has significant natural resources such as water, carbon rich soils and high quality grassland, whilst natural resources are also available for renewable energy generation.
- Approximately 90% of raw materials are sourced from local industry.
- Northern Ireland has deposits of coal, peat and lignite; the latter has the greatest potential for future production and power generation estimated at over 1 billion tonnes.
- A regeneration plan for the closed Magheramorne Quarry in County Antrim, is expected to transform the site into a major recreational and leisure attraction.
- Household waste recycling has increased reaching 51.9% in 2019/20.
- The municipal waste collected by local authorities sent for reuse, dry recycling and composting reached a record high in 2019/20.
- The quantity of waste sent to landfill has declined each year since 2004/05, decreasing the rate at which landfilled biodegradable waste emits pollutants into the atmosphere as it decomposes.
- Northern Ireland's councils sent over half of all biodegradable waste to landfill during 2020/21.

Weaknesses and Threats

- Agriculture is highly susceptible to disruption due to climate change and extreme weather events such as prolonged periods of rainfall, drought and snow.

Cultural Heritage

Strengths and Opportunities

- The built heritage of Northern Ireland includes archaeological sites and monuments, historic buildings, industrial and military remains, gardens, historic landscapes, shipwrecks and other underwater features.
- The rural, largely undeveloped nature of Northern Ireland has helped preserve its archaeological sites and built heritage better than in other countries.
- There are over 50,000 heritage assets recorded, a quarter of which are protected by formal designation, and many sites and monuments in state care which are subject to an ongoing conservation programme.
- In 2019/20, there were a total of 2,008 scheduled monuments including settlements, defences, workplaces, routeways and sites for ritual and burial.
- Application numbers for scheduled monument reached 97 in 2019/20, the highest number presented since before 2004/05.

- There has been a modest increase of 9.8% in the number of listed buildings since 2003/04 to 2018/19.
- In order to encourage building conservation activities, repair grant aid is offered to owners of listed buildings.
- In terms of archaeology, the Sites and Monuments Record holds information on over 16,000 archaeological sites and historic monuments.
- There are also more than 16,000 features listed in the Industrial Heritage Record, including mills, mines, canals and railways.
- Peatlands are valuable as an archival record of climatic and vegetation history and archaeological remains.
- The Northern Ireland Heritage Gardens Archive contains a comprehensive record of over 700 historic parks, gardens and demesnes (manorial estates).

Weaknesses and Threats

- In the period between 2003/04 and 2019/20, 305 buildings and monuments were removed from the list due to achieving conserved status.

Landscape

Strengths and Opportunities

- Northern Ireland has attractive, largely unspoilt and high quality rural landscapes, numerous protected area designations and major rural tourism attractions.
- There are 130 Landscape Character Areas across Northern Ireland.
- Major rural tourism attractions include the Giant's Causeway, the Mourne Mountains and the Glens of Antrim, whilst the Antrim coast is considered to be of very high seascape value, particularly along the Causeway Coast.
- It is estimated that in the period 2017-19, 20% of total overnight trips in Northern Ireland were trips to The Causeway Coast and Glens.
- The Giant's Causeway and Causeway Coast site was inscribed as a World Heritage Site in 1986, and contain areas of exceptional natural beauty and aesthetic importance.
- There are nine areas designated as Areas of Outstanding Natural Beauty in Northern Ireland.
- There are plans to create a national park in the Mourne Mountains which is supposed to cover the area stretching from Slieve Croob to Newcastle and Carlingford Lough.
- Agriculture subsidies are shifting more towards landscape and nature conservation objectives rather than solely focusing on production.

Weaknesses and Threats

- There are currently no national parks in Northern Ireland.
- Semi-natural grasslands have declined significantly over the last 60 years due to fragmentation and agricultural intensification.
- Forest cover remains at just 9% despite increasing afforestation.
- Landscapes in Northern Ireland have been strongly affected by rural development, windfarms as well as by agricultural intensification.

Transboundary Considerations

- Ireland has 6 areas recognised as nationally important landscapes; all of these are National Parks.
- Ireland currently has three Global Geoparks, and a number of other geotourism projects.
- Ireland's land use is predominantly agricultural, and the countryside has become increasingly important for forestry, recreation and tourism.

Natural Capital

Strengths and Opportunities

- The United Kingdom National Ecosystem Assessment revealed values that have been placed on some of the ecosystem services that Northern Ireland provides.
- The majority of Northern Ireland's coastline is protected for its nature conservation interest, but more importantly it includes productive and biologically diverse ecosystems, with features that serve as critical natural defences against storms, floods and erosion.
- Northern Ireland's habitats such as grassland and peatland are excellent carbon stores if managed appropriately, whilst the extensive hedgerow provides connectivity through the landscape and minimises soil erosion.
- In 2019 Northern Ireland welcomed 5.3m visitors, an estimated record breaking expenditure of £1bn.
- The 2018 estimate indicates that spending on overnight trips broadly equates to around 2.5% of the local economy.

Weaknesses and Threats

- Public access to land in Northern Ireland is more restricted than other parts of the United Kingdom, as most farms are of a much smaller scale with a proportionately higher number of the population with land owning interests.
- There is a widespread disparity in public access to woodland with most being located far from where people live.

4 HOW HAS THE POLICY BEEN ASSESSED?

The Policy has been assessed against a number of Strategic Environmental Assessment objectives designed to cover the broad range of environmental issues facing the policy area:

- **Ecology and Nature Conservation** – Protect, enhance and manage biodiversity assets and ecosystems
- **Socio-economics** – Improve prosperity and reduce deprivation
- **Health and Quality of Life** – Improve health and quality of life
- **Soil and Land Use** – Protect and enhance soil quality
- **Water** – Protect, enhance and manage water resources and flood risk
- **Air Quality** – Reduce air pollution and ensure continued improvements to air quality
- **Climate Change** – Minimise contribution to climate change and adapt to its predicted effects
- **Material Assets** – Protect and conserve natural resources and reduce waste production
- **Cultural Heritage** – Protect, enhance and manage archaeological and cultural heritage
- **Landscape** - Protect, enhance and manage the character and quality of the landscape
- **Natural Capital and Inter-relationships** – To support the transition to renewable energy while maintaining natural capital benefits including carbon sequestration, protection from flooding and access to the countryside

These objectives are used within high level and detailed assessment matrices to ascertain the magnitude of likely impacts, the sensitivity or value of the receiving environment (including people and wildlife) and the resultant significance of effects of the priorities of the Policy.

Assessments of alternatives to the Policy have been undertaken, along with an assessment of likely cumulative effects of the Policy itself and accounting for likely in-combination effects with other plans and programmes. Opportunities for improvement and measures to address possible effects have also been identified.

5 WHAT ARE THE ALTERNATIVES?

Consideration of alternatives is a key feature of the Strategic Environmental Assessment process as defined by the Strategic Environmental Assessment Directive and the Strategic Environmental Assessment Regulations. In practical terms, it refers to possible alternative mechanisms for delivering the Policy, and the assessment of the impacts of each of these options against the Strategic Environmental Assessment objectives.

Each Policy Theme has a number of policy options. Each of these have been assessed against the Strategic Environmental Assessment objectives.

5.1 Assessment of Alternatives

Policy Theme 1 - Regional Strategic Planning Policy & Energy Targets

OPTION 1: Retain the existing policy approach of the Strategic Planning Policy Statement.

OPTION 2: Revise existing regional strategic planning policy to remove the reference to renewable energy targets but maintain the broad existing policy approach.

OPTION 3: Revise the policy approach to reflect the latest wider contemporary context and strengthen the link between planning and the ambitions of the Energy Strategy and the Climate Change Act.

OPTION 4: Option 3 above plus a requirement to undertake a site specific assessment which considers the impact of development on peatland, including the likely effects on carbon emissions, to assist in the determination of planning applications.

Policy option 3 and 4 under PT1 have strong beneficial effects on climate as this would likely increase the number of planning applications for renewable & low carbon energy especially where developments are shown to positively contribute towards targets. However, depending on the locations of the developments, this may increase the risk of adverse effects on historic environment, landscape and ecology and nature conservation. Option 4 which considers the effect of renewables on peatlands may lessen adverse effects by steering developments to other areas. However it would not necessarily stop all development on peatland, and may increase development pressures and aggregation on non-peatland locations.

Policy Theme 2 - Locational Considerations

OPTION 1: Retain the existing regional strategic planning policy approach.

OPTION 2: Revise regional strategic planning policy to introduce a new spatial approach to provide more clarity on where is, and where is not, acceptable for the provision of new and additional development. It is accepted that there are a number of options as to how a spatial approach for Northern Ireland could be introduced.

Policy Option 1 is deemed to be the preferred option under PT2 as this will place less restriction on the location of schemes meaning likely beneficial effects on climate and socio-economics. Under this options, location of schemes can be assessed on a case by case basis where environmental sensitivities and landscape character can be determined at a site specific level.

Policy Theme 3 - Siting New Wind Farms In Perpetuity

OPTION 1: Retain the existing regional strategic planning policy approach.

OPTION 2: Revise the policy approach to support the long term re-use of land for new wind farm development on appropriate sites (subject to the need to satisfy the usual planning requirements when submitting new applications for wind farm development on such sites).

Beneficial effects are assessed for climate under Option 2 as this will help to support the ongoing need for renewable energy infrastructure. Siting wind farms in perpetuity makes the best use of resources and existing infrastructure. Extant planning permissions are currently long term meaning developments should already be sited and designed to ensure effects are minimised and protect an acceptable level of amenity for adjacent communities.

Policy Theme 4a - Wind Turbines & Amenity Considerations (Theme 4a- Noise Assessment)

OPTION 1: Retain the existing policy approach to noise in the Strategic Planning Policy Statement and continue to use ETSU-R-97 (noise assessment methodology guidance for wind farms) as the assessment methodology.

OPTION 2: Provide new policy direction in the Strategic Planning Policy Statement on noise impacts and wind turbines specifically. This could mean tailoring policy / bringing existing policy under the headline or developing new policy to provide either a more stringent or flexible approach to the consideration of noise impacts from wind turbine proposals.

From a Strategic Environmental Assessment perspective there are uncertainties around both options in terms of health and quality of life due to lack of certainty surrounding the effects these options would have on safeguarding residential amenity from inappropriate development in terms of noise. Otherwise the assessment is neutral as it is not expected this policy theme would have wider implications for the other Strategic Environmental Assessment objectives. The ETSU-R-97 standard and its good practice guidance is the current methodology for noise assessment and remains the preferred methodology for the acoustic measurement of noise from wind turbines in Northern Ireland.

Most of the Strategic Environmental Assessment objectives remain neutral as a policy change regarding noise assessments is unlikely to have wider significant environmental effects beyond those specifically related to noise emissions as discussed.

Policy Theme 4b - Wind Turbines & Amenity Considerations (Theme 4b - Separation Distances)

OPTION 1: Retain the existing approach and standards in relation to separation distances to occupied property.

OPTION 2: Continue to include flexibility in relation to separation distances but to consider the appropriateness of the current standards and their application for wind farms and single turbines.

OPTION 3: Strengthen the current approach (for example to encompass proximity to road networks) and introduce mandatory separation distances to be applied for all wind turbines (not just wind farms).

Option 1 - 3 perform identically in the Strategic Environmental Assessment matrix. On balance, it is likely that Option 2 would allow for developments to be assessed on a case by case basis, in terms of separation distance while taking into account best practice guidance and lessons learnt in order to update standards if needed. Option 4 to relax the current policy approach is assessed to have minor adverse effects on residential amenity and therefore health and quality of life but would see minor beneficial effects for climate change due to a likely increase in renewable & low carbon energy development.

Most of the Strategic Environmental Assessment objectives remain neutral as a policy change regarding separation distance alone is unlikely to have significant environmental effects.

Policy Theme 4c - Wind Turbines & Amenity Considerations (Theme 4c - Shadow Flicker)

OPTION 1: Retain the existing approach to shadow flicker, as per the Strategic Planning Policy Statement and Best Practice Guidance.

OPTION 2: Strengthen the policy approach in relation to shadow flicker.

OPTION 3: Relax the policy approach in relation to shadow flicker.

Option 1 and 2 perform similarly in the Strategic Environmental Assessment matrix with positive effect on health and quality of life due to safeguarding of residential amenity. Option 3 to relax the policy approach is assessed as minor negative effect on health and quality of life but would see minor positive effects for climate due to less restrictive policy.

Most of the Strategic Environmental Assessment objectives remain of neutral effect as a policy change regarding shadow flicker alone is unlikely to have significant environmental effects.

Policy Theme 5 - Decommissioning And Site Restoration For New Development

OPTION 1: Retain the existing policy provisions on de-commissioning and site restoration as currently worded i.e. ‘In relation to developments such as wind farms and solar farms, applicants will be required to provide details on future decommissioning, including proposals for site restoration. In such cases planning conditions (or a legal agreement where appropriate) should be used.’

OPTION 2: Revise the policy approach to strengthen the requirements for decommissioning and site restoration (For example, to provide for the express use of financial guarantees through planning agreements as part of the approval of planning permission).

Option 2 performs more favourably in terms of the Strategic Environmental Assessment objectives; ecology and nature conservation, health, socio economics and landscape as this will ensure stronger likelihood of remediation of sites. However this may deter smaller companies who do not have the financial capability to ensure decommissioning from the onset and hence may act to limit or slow the deployment of renewable proposals.

Policy Theme 6 - Solar Farms and Agricultural Land

OPTION 1: Retain existing policy approach.

OPTION 2: Amend the policy approach to encourage and support, for example, a preference for the use of previously developed land for solar farms.

OPTION 3: Strengthen the policy approach to require, for example, that Greenfield land should not be developed for solar farms where alternatives exist on previously developed lands.

These options perform similarly in the Strategic Environmental Assessment matrix. Option 2 and 3 have beneficial effects for soil and land use as the use of previously developed land usually results in less damage/disruption and would safeguard high quality agricultural soil. It is noted that Option 3 may be too prescriptive as it is not always the case that previously developed land is less biodiverse and useful in terms of ecosystem services than greenfield land. Uncertainties arise across a number of environmental objectives as at this high level it is unclear what beneficial or adverse effects may occur.

Policy Theme 7 - Co-Locating Renewable, Low Carbon And Supporting Infrastructure

OPTION 1: Retain the existing regional strategic planning policy approach.

OPTION 2: Revise regional strategic planning policy: Introduce new policy provisions for the co-location of renewable & low carbon technologies and supporting infrastructure.

Option 2 has a stronger beneficial effect on the climate change objecting than Option 1 as a clear, consistent approach and direction to co-locating within the Strategic Planning Policy Statement would help facilitate the development of renewable energy infrastructure by easing the issue of grid capacity. At present, grid capacity is adversely affecting energy generation potential in the renewables sector.

Most of the Strategic Environmental Assessment objectives remain neutral as co-locating alone is unlikely to have significant environmental effects.

Policy Theme 8 - Re-Powering Existing Wind Farms

OPTION 1: Retain the existing policy approach without any specific provisions in relation to the re-powering of wind farms and/or other categories of renewable development.

OPTION 2: Revise policy to include new provisions to address and support the re-powering of existing wind farm developments only.

OPTION 3: Revise policy to include new provisions to address and support the re-powering of existing wind farm developments and other renewable technologies, as appropriate.

Option 2 and 3 which support re-powering are assessed as having strong beneficial effects on the climate change objective. Re-powering makes the best use of resources and existing infrastructure. Re-powering can increase capacity of existing sites which will play a key role in the transition to a low carbon economy and the achievement energy targets. It is noted that Option 3 extends re-powering to other renewable technologies farms, and this is considered favourable. At this high level, most of the Strategic Environmental Assessment objectives remain neutral as re-powering will require planning permission and renewed assessments as appropriate.

Policy Theme 9 - Emerging Technologies & Other Issues

OPTION 1: Retain the existing regional strategic planning policy approach.

OPTION 2: Strengthen and expand existing regional strategic planning policy for evolving new and emerging technologies.

Both options under PT9 perform alike in the Strategic Environmental Assessment matrix. It is considered that Option 2 may better support, guide and facilitate evolving, new and emerging technologies however there is a danger of being overly prescriptive which may result in a gap in support for some that have not yet emerged.

5.2 Alternative Options Selected by Theme

Policy Theme 1: OPTION 3: Revise the policy approach to reflect the latest wider contemporary context, and strengthen the link between planning and the ambitions of the Energy Strategy and the Climate Change Act

Policy Theme 2: OPTION 2: Revise regional strategic planning policy to introduce a new spatial approach to provide more clarity on where is, and where is not, acceptable for the provision of new and additional development. It is accepted that there are a number of options as to how a spatial approach for Northern Ireland could be introduced.

Policy Theme 3: OPTION 2: Revise the policy approach to support the long term re-use of land for new wind farm development on appropriate sites (subject to the need to satisfy the usual planning requirements when submitting new applications for wind farm development on such sites).

Policy Theme 4a: OPTION 1: Retain the existing policy approach to noise in the SPPS and continue to use ETSU-R-97 as the assessment methodology.

Policy Theme 4b: OPTION 2: Continue to include flexibility in relation to separation distances but to consider the appropriateness of the current standards and their application for wind farms and single turbines.

Policy Theme 4c: OPTION 1: Retain the existing approach to shadow flicker, as per the SPPS and Best Practice Guidance.

Policy Theme 5: OPTION 1: Retain the existing policy provisions on de-commissioning and site restoration as currently worded i.e. 'In relation to developments such as wind farms and solar farms, applicants will be required to provide details on future decommissioning, including proposals for site restoration. In such cases planning conditions (or a legal agreement where appropriate) should be used.'

Policy Theme 6: OPTION 2: Amend the policy approach to encourage and support, for example, a preference for the use of previously developed land for solar farms.

Policy Theme 7: OPTION 2: Revise regional strategic planning policy: Introduce new policy provisions for the co-location of renewable & low carbon technologies and supporting infrastructure.

Policy Theme 8: OPTION 3: Revise policy to include new provisions to address and support the re-powering of existing wind farm developments and other renewable technologies, as appropriate.

Policy Theme 9: OPTION 2: Strengthen and expand existing regional strategic planning policy for evolving new and emerging technologies.

6 WHAT ARE THE LIKELY ENVIRONMENTAL IMPACTS OF THE POLICY?

6.1 Policy Theme 1 - Regional Strategic Planning Policy & Energy Targets

Due to uncertain but likely adverse effects, PT1 was taken forward for detailed assessment.

There is the potential for loss and/or damage to biodiversity in designated and undesignated sites. Disturbance and displacement of protected species or migratory species in some cases may pose transboundary effects. On-farm renewable energy developments may promote further fragmentation, the removal of vegetation and important habitats such as hedgerows, that are commonly found in countryside/agricultural landscapes. There could be effects both alone and in combination with other developments that results in a moderate adverse impact the on ecology and nature conservation Strategic Environmental Assessment objective.

Moderate adverse effects are anticipated on landscape due to the potential for visual impacts. An increase in renewable & low carbon energy developments within a landscape can cause a shift from predominantly agricultural landscapes to a more industrialised landscape, affecting the overall landscape character of an area. This may also have adverse effects on coastal and marine areas where connections to offshore wind developments are made. Policy text does however favour previously developed land and aims to safeguard designated landscapes.

Negligible/minor adverse effects are anticipated on soil and land use and water Strategic Environment Assessment objectives due to potential for loss of soil/geological stability, compaction and adverse effects on the status of water bodies arising from changes in quality, flow, sedimentation. As adverse effects are predicted on water, soil, ecology and landscape this may disrupt an area's ability to effectively offer ecosystem services such as carbon sequestration or flood resilience, therefor minor adverse effects are anticipated on natural capital.

Moderate/minor adverse effects are anticipated on historic environment due to the potential loss or damage to archaeological and heritage assets. Additionally, there are potential adverse effects on site and setting of heritage assets especially in Northern Ireland Areas of Significant Archaeological Interest and Sites of Archaeological Potential and Conservation Areas.

The scale up in renewable & low carbon energy developments will contribute to economic development, support and create green jobs, contribute to energy security and lessen energy poverty. This shift towards renewable & low carbon energy will positively contribute towards energy security, play a key role in decarbonisation and reaching energy targets. PT1 is therefore anticipated to have minor to moderate beneficial effects on socio-economics and climate change.

The effect on the health and quality of life, air quality and material assets Strategic Environmental Assessment Objectives is assessed as neutral.

6.2 Policy Theme 2 - Locational Considerations

Due to uncertain effects, PT2 was taken forward for detailed assessment.

The detailed assessment found that the use of spatial plans and location mapping for renewable & low carbon energy developments within local development plans may speed up the planning process, direct development towards areas where planning applications are most likely to be successful and maximise an area's contribution to achieving the renewable energy targets. The facilitation of such developments will support climate change resilience and adaption capacity in Northern Ireland. Therefore, moderate beneficial effects are anticipated on the socio-economic and climate change Strategic Environmental Assessment Objectives.

The significance of potential adverse effects will largely depend on the factors taken into account when planning authorities bring forward spatial policies. A holistic approach that takes into account ecological sensitivities, geology, water, soil, land use, historic landscapes and archaeological potential and the associated designated sites, species and habitats will assist in reducing the risk of adverse environmental effects from specific proposals.

On the other hand, poorly designed spatial policies could cause adverse effects on the environment. Construction within sensitive water catchments may affect water quality and quantity including availability and quality of drinking water. In already depleted and sensitive areas, such as peatland, construction may have adverse effects to the overall hydrology and structural integrity of the area. Impacts such as sedimentation or pollution may lead to the loss or disruption of migratory fish, whereas poorly sited scheme may disrupt migratory bird species.

Due to the potential for adverse effects outlined above, PT2 is anticipated to have moderate or moderate/minor adverse effects on ecology and nature conservation, historic environment, and landscape. The detailed assessment also found that there are likely minor adverse effects on soil and land use, water, and therefore natural capital.

The remaining Strategic Environmental Assessment objectives, health and quality of life, air quality and material assets are assessed as neutral.

6.3 Policy Theme 3 - Re-Powering Existing Wind and Solar Farms

The siting wind farms in perpetuity will have a positive effect on socio-economics and climate change due to the utilisation of existing infrastructure, including grid connections for long-term benefit. Extending the life of existing wind farms will contribute to the achievement of energy targets.

Neutral effects are assessed on the remaining Strategic Environmental Assessment Objectives as wind farms are currently assessed with planning permission typically granted for a 25-year period. Projects will therefore already be sited and designed in a way which is acceptable for their 25 year lifespan. Going forward, sites will be assessed through planning for their suitability in perpetuity and again designed in a way where significant effects on the environment are minimised and mitigated. It is not expected that in practice this will lead to a significantly different approach to the siting or assessment of projects than currently occurs with an application for temporary but long-term permission.

It was identified that PT3 did not require detailed assessment.

6.4 Policy Theme 4a - Wind Turbines & Amenity Considerations (Theme 4a- Noise Assessment)

Policy text under this PT gives weight to the considerations of noise within planning applications and local development plan spatial policies Regional Strategic Planning Policy & Energy developments. This is a technical point in terms of assessing amenity considerations, guiding on the use of ETSU-R-97 which remains the UK standard methodology for the assessment of noise from wind energy development. This PT was assessed as having no discernible effects on the Strategic Environment Assessment Objectives and therefore neutral effects are found throughout.

It was identified that PT4 did not require detailed assessment.

6.5 Policy Theme 4b - Wind Turbines & Amenity Considerations (Theme 4b - Separation Distances)

This PT gives weight to the considerations of separation distances within planning applications and local development plan spatial policies for Regional Strategic Planning Policy & Energy developments. This is a technical point which guides on the preferred separation distances of turbines that will 'generally' apply in planning. Ultimately this will be decided on a case by case basis at the planning authority level. Overall, this PT was assessed as having no discernible effects on the Strategic Environmental Assessment Objectives and therefore neutral effects are anticipated.

It was identified that PT4b did not require detailed assessment.

6.6 Policy Theme 4c - Wind Turbines & Amenity Considerations (Theme 4c - Shadow Flicker)

This PT gives weight to the considerations of shadow flicker within planning applications and local development plan spatial policies for Regional Strategic Planning Policy & Energy developments. Policy text states that applicants should seek to minimise and mitigate against proposals that will result in shadow flicker. Overall, this PT was assessed as having no discernible effects on the Strategic Environmental Assessment objectives and therefore neutral effects are anticipated.

It was identified that PT4c did not require detailed assessment.

6.7 Policy Theme 5 - Decommissioning and Site Restoration for New Development

Decommissioning is an important step at the end of the life of a renewable & low carbon energy development. Policy text under this PT states that planning authorities must consider and make use of appropriate conditions (or a legal agreement, where appropriate) to ensure the decommissioning and site restoration of developments. Overall, this is likely to have beneficial effects as decommissioning and site restoration will be a consideration when individual scheme is assessed through planning. Although this is positive, it is not predicted that this will have significant beneficial or adverse effects overall.

PT 5 was assessed as having a neutral effect on the Strategic Environmental Assessment objectives, and therefore did not require detailed assessment.

6.8 Policy Theme 6 – Solar Farms and Agricultural Land

Prioritising previously developed land for solar farms will have beneficial effects on soil, land use and landscape Strategic Environmental Assessment Objectives. Using previously developed land will often improve the appearance of disused/derelict land and also cause less ecological disturbance. However, uncertain effects are identified around biodiversity and nature conservation as previously developed land can have open mosaic habitat of high biodiversity importance.

As overall neutral and beneficial effects are identified in the high level matrix, PT6 was not taken forward for further detailed assessment. Nevertheless, amendments to policy text to exclude previously developed land of high ecological value have been recommended in the Environmental Report.

6.9 Policy Theme 7 - Co-Locating Renewable, Low Carbon and Supporting Infrastructure

It is considered that co-location of renewables is generally positive with potential economic and environmental benefits to siting infrastructure together. This will maximise electricity generation, storage potential and utilisation of grid connections. However, at this high level, this PT was assessed as having no discernible effects on the Strategic Environmental Assessment Objectives and therefore neutral effects are found.

PT 7 was assessed as having a neutral effect on the Strategic Environmental Assessment Objectives, and therefore did not require detailed assessment.

6.10 Policy Theme 8 - Re-Powering Existing Wind Farms

PT8 was taken forward for detailed assessment because of the uncertain effects that re-powering may have on multiple Strategic Environmental Assessment Objectives.

It is predicted that there may be moderate/minor adverse effects on ecology and nature conservation due to loss, damage and/or disturbance to both designated and undesignated sites and species (effects similar to those mentioned in PT1 & PT2 and therefore not repeated in full here).

Minor adverse effects are anticipated on soil and land use, water, historic environment, landscape and natural capital. To re-power solar and wind farms may lead to additional hardstanding, soil sealing, changes to soil compaction/erosion, which can affect the quality of the water and soil environments.

Changes to the size and scale of solar and wind developments may lead to adverse effects on historic assets and landscape due to increased visual impact on the landscape and the site and setting of historic assets. These changes when re-powering, may lead to increased cumulative visual impacts of developments or the landscape character and quality. As re-powering may have adverse effects on water, soil, ecology and landscape this may disrupt an area's ability to effectively offer ecosystem services such as carbon sequestration or flood resilience. Therefore, minor adverse effects are also assessed for natural capital.

That being said, in many cases re-powering will not change the footprint of the development and would require only minor construction activities. The forementioned adverse effects associated with re-powering will be comparatively smaller and therefore favourable to the development of new sites. Therefore, re-powering is potentially an efficient way of meeting energy and decarbonisation targets with only relatively minimal additional environmental impact.

The proposals for re-powering that have significant adverse impacts, alone or in combination with other developments, will not be granted.

It is predicted that moderate/minor beneficial effects will be seen for climate change and socio-economics. This is due to the cost savings from upgraded current infrastructure and utilizing existing grid connection rather than developing new sites. Re-powering sites can also increase the generating capacity of sites due to the use of new higher-tech equipment. There is also the potential for fewer turbines with increased capacity to be used in cases where significant effects have been recognised.

Neutral effects are anticipated on material assets, health and quality of life, and air quality.

6.11 Policy Theme 9 - Emerging Technologies & Other Issues

PT9 was taken forward for detailed assessment because of the uncertain effects increased uptake of emerging renewable & low carbon energy technology on multiple Strategic Environmental Assessment Objectives.

PT9 was assessed to have a moderate adverse effect on biodiversity and nature conservation, historic environment and landscape. The individual development of emerging technologies and the encouragement of microgeneration may have local adverse effects such as loss, damage and disturbance to biodiversity, habitats and flora and fauna.

Minor adverse effects are anticipated on natural capital because individual development of emerging technologies biomass alone or in combination with other developments may disrupt an area's capability to effectively offer ecosystem services such as carbon sequestration or flood resilience.

As mentioned above, renewable & low carbon energy developments may have adverse effects such as the loss or damage to archaeological and heritage assets both designated and unknown as well as the potential adverse effects on site and setting of heritage assets. There is potential for adverse effects on visual amenity and wider landscape character and quality, especially where multiple developments are situated in close proximity. Moderate adverse effects are therefore anticipated on landscape and historic environment.

Support for emerging technologies will have beneficial effects on the socio-economics objective as development, construction and running of these developments will create jobs and micro generation will aid farm diversification which will be key to the future of some farming businesses. It will also support the economic viability of primary producers.

6.12 Additional Policy Text

There are six points that fell under the 'Additional Policy text (APT)' category these have been labelled APT (a-f). Of these, most provide high level protection text included to minimise overall adverse effects of renewable & low carbon energy developments, rather

than stipulating the direction lower level policy should take. Therefore, five of the six APT's are assessed as having either beneficial or neutral effects on the Strategic Environmental Assessment objectives.

APT(e) was taken forward for detailed assessment because of the uncertain effects of underground cabling. It is likely that underground cabling would have a beneficial effect on landscape and human health, as it will reduce the visual impacts associated with the developments. Minor adverse effects are anticipated on biodiversity and nature conservation largely due to loss or disturbance during construction.

There are negligible adverse effects on the soil and land use, and water Strategic Environmental Assessment objectives. This is due to the potential for impacts on soil quality, structure and drainage and the wider water environment through sedimentation or pollution. However, these effects are likely to be small scale and mitigated against during the overall construction of renewable & low carbon energy developments.

Minor adverse effects are anticipated on historic environment due to the potential for loss, damage and disturbance to underground archaeology during construction of underground power lines. However, beneficial effects may also occur due to the reduced effect on setting of heritage assets due to cables being underground rather than overhead.

Overall, it is likely that underground cabling would only be use on developments and in locations where the effects will be beneficial to the overall construction of the development. Each development will be subject to appropriate environmental assessments. Best practice construction methods and route selection will lessen the likelihood of adverse effects

6.13 Overall Effects of the Policy

The overall effects of the Policy on the Strategic Environmental Assessment objectives are summarised in Table 6.1 below.

Table 6.1: Overall Effect of the Policy on the Strategic Environmental Assessment Objectives

Strategic Environmental Assessment Objectives		Overall Effect of the Policy on Strategic Environmental Assessment Objectives
1	Ecology and Nature Conservation	Negligible
2	Population and Socio-economics	Beneficial
3	Health and Quality of Life	Neutral
4	Soil and Land Use	Negligible
5	Water	Negligible
6	Air Quality	Neutral
7	Climate Change	Beneficial
8	Material Assets	Neutral
9	Historic Environment	Minor Adverse
10	Landscape	Minor Adverse
11	Natural Capital	Neutral

6.14 Cumulative Effects with Other Plans and Programmes

While significant adverse effects primarily associated with other programmes cannot be discounted, the Policy is considered to support the identified Strategic Environmental Assessment objectives and therefore it is not anticipated to lead to significant adverse effects either singularly or in combination with other plans and programmes.

6.15 Transboundary Effects

The Policy when published in final form, will replace the Subject Policy 'Renewable Energy' contained within the SPPS (pages 90 – 93 refer) , although this is the case the effects of the implementation of the Policy are not strictly limited to Northern Ireland alone. There is a shared land border between Ireland and Northern Ireland and therefore by its nature, the effects of the Policy implementation are transboundary.

There is therefore some potential for transboundary effects through:

- Pollution or physical changes to rivers which flow into Ireland or into the border lakes or sea loughs;
- Impacts on marine areas;
- Impacts on mobile or migratory species; and
- Visual impacts of R&LC E developments near the border.

However, the assessment has identified that there will be no significant adverse transboundary effects as a result of the implementation of the Policy.

7 WHAT ARE THE KEY RECOMMENDATIONS FOR MITIGATION OR ENHANCEMENTS?

7.1 Minimising Adverse Effects

No significant adverse effects are identified and therefore there is no requirement for mitigation. Nevertheless, spatial proposals should be rigorously assessed for their environmental impacts. There are a variety of assessments that are relevant to the planning process, some of which are required under United Kingdom and Northern Ireland's legislation. Spatial plans must take account of onshore and offshore zones and work coherently together.

The undertaking of lower-tier environmental assessments, including compliance with the most up-to-date legislation and the use of Construction and Environmental Management Plans will reduce the likelihood of adverse effects. Environmental sensitivities and opportunities including those relating to ecology, conservation, soil, water, air quality, landscape and cultural heritage – in site location, extent, layout and design should be strongly considered.

Specific projects will be subject to planning and environmental controls that exist in the respective jurisdictions in which they are proposed and hence it is unlikely that projects fundamentally harmful to the environment would be allowed to proceed.

All re-powering should be subject to the requirement for planning permission, and a proportionate level of environmental assessment so that any changes to these developments can be fully assessed and where necessary, adverse effects mitigated.

Spatial plans should identify and avoid ecologically sensitive sites, including designated coastal and marine sites. Additionally, it is important to identify opportunities for biodiversity enhancement alongside renewable energy generation.

7.2 Environmental Enhancements

Minor changes to Policy text are suggested to further safeguard against adverse effects on the environment, these are highlighted below in green:

Paragraph 1.12:

"All renewable and low carbon energy development and associated buildings and supporting infrastructure[1] will be permitted where the proposal will not result in an unacceptable adverse impact ***(alone or in combination with other developments)*** *on the following planning considerations, which cannot otherwise be mitigated:*

- *public safety, human health, or residential amenity (communities and individuals);*

[1] Planning applications should include matters such as the power generation / capacity associated with the proposal, e.g. megawatts (MW/MWh).

- *visual amenity and landscape character, including cumulative impact;*
- *biodiversity, nature conservation, **archaeological or** built heritage interests;*
- *local natural resources, such as air quality, water quality or quantity;*
- *the capacity of and effects on the transportation network; and,*
- *impacts on tourism, recreation, and public access to the countryside."*

Paragraph 1.17:

*"Planning authorities should encourage and support the use of previously developed land **(of low ecological value)** for solar farms in countryside locations."*

Following discussions with the Department and the Strategic Environmental Assessment team the importance of peatland has been acknowledged (paragraph 6.226 of the original Renewable Energy Policy within the Strategic Planning Policy Statement refers). The Department has maintained the policy direction on active peatland and enhanced the provisions to include consideration of the impacts on degraded peatland on a case-by-case basis.

7.3 Residual Effects of the Policy

It has been assessed that there will be no significant adverse effects as a result of the implementation of the Policy.

8 HOW WILL EFFECTS BE MONITORED?

Regulation 16 of the Northern Ireland Strategic Environmental Assessment Regulations requires the Department for Infrastructure, as the Managing Authority, to monitor significant environmental effects of implementing the Policy. Monitoring should commence as soon as the Policy is adopted, with annual reporting carried out over its lifespan.

In accordance with the Northern Ireland Strategic Environmental Assessment Regulations, monitoring should also focus on aspects of the Policy where environmental impacts are predicted to be significant (this can be for both adverse and beneficial effects). However, the Strategic Environmental Assessment did not predict any significant adverse effects of the Policy being implemented.

The draft revised Regional Strategic Planning Policy on Renewable & Low Carbon Energy, when published in final form, will replace the Subject Policy 'Renewable Energy' contained within the Strategic Planning Policy Statement for Northern Ireland. As the Strategic Planning Policy Statement is to be read as a whole, it is therefore desirable to incorporate monitoring of the effects of the Policy revision within the existing monitoring framework for the Strategic Planning Policy Statement. The Department will continue to prepare and publish renewable energy statistics for the planning system, as part of its quarterly and annual statistical publications as well as the planning monitoring framework on an annual basis.

The Department also carries out a plan oversight role, engaging with councils as they prepare their new local policy through their local development plans. The Strategic Planning Policy Statement includes a sub-section on 'Implementation, Monitoring and Review'. This includes a requirement for local authorities to review the implementation of their plans and report annually to the Department on the extent to which the objectives set out within an adopted local development plan have been met.

By reporting to the Department each year on the extent to which the objectives set out within an adopted local development plan has been met, councils will be able to identify any previously unforeseen adverse environmental effects and undertake appropriate remedial action where needed. This will also enable the Department to monitor the implementation of the Strategic Planning Policy Statement.

Upon review, if it is found that significant adverse effects are arising as a result of the Policy, a monitoring programme should be proposed in the form of a Monitoring Framework Document so that the impacts of the policy can be evaluated and adverse effects mitigated.

9 WHAT WILL HAPPEN NEXT?

The Environmental Report, including this Non-technical Summary, is being presented for public and statutory consultation for a period of 12 weeks.

The Environmental Report has been issued to the relevant Consultation Bodies in both Northern Ireland and the Republic of Ireland and made available to other interested parties to facilitate determination of the likely effect of the Policy, as currently drafted, on the environment. All documents can be found at the following web address: The Strategic Planning Policy Statement | Department for Infrastructure (infrastructure-ni.gov.uk)

Once the Policy has been adopted, a Strategic Environmental Assessment Statement will be produced to provide information on how the Environmental Report and consultees' opinions were taken into account in deciding the final form of the Policy.

Consultation Questions

Q1: Do you agree, that overall, the revised policy will help to ensure that the planning system can play its part in supporting wider efforts of government in addressing climate change and decarbonising the energy sector? If not, please explain how the draft policy can be improved.

Q2: Do you agree that the new provisions for a spatial approach through LDPs will assist in providing certainty and clarity to planning authorities, communities and developers alike by providing a presumption in favour of development in areas identified in LDPs? If not, please explain how the draft policy can be improved.

Q3: Do you agree with the draft revised policy approach to provide a presumption in favour of re-powering, extending and expanding solar and wind farm developments, where appropriate? If not, please explain how the draft policy can be improved.

Q4: Do you consider that the draft revised policy provides an appropriate regional strategic planning policy framework for plan-making and decision-taking for all forms of renewable and low carbon energy development? If not, please explain how the draft policy can be improved.

Where possible, your comments should include supporting evidence. Please note that all comments should relate to planning policy matters only.