



# Corkey Windfarm Repowering Planning Statement

June 2019

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# Corkey Windfarm Repowering Planning Statement

## 1 Introduction

### 1.1 The Application

1. JUNO Planning & Environmental Limited ("JUNO") has prepared this Planning Statement ("the Statement") on behalf of ScottishPower Renewables Ltd. ("the Applicant") to accompany the planning application ("the Application") for the proposed decommissioning and repowering of the Operational Corkey Windfarm ("the Development") submitted to Causeway Coast & Glens District Council ("the Council").
2. The Development will consist of up to five wind turbines (up to 137 metres(m) to tip height) and associated infrastructure. Planning permission is sought for the Development.

### 1.2 The Applicant

3. ScottishPower Renewables is part of the Iberdrola Group, a world leader in clean energy with an installed capacity of over 29,000 MW, and the leading wind energy producer worldwide.
4. ScottishPower Renewables, with its Headquarters in Glasgow, is helping to drive the Iberdrola Group's ambition of being the Utility of the Future and is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation. The ambitious growth plans include offshore windfarms in East Anglia, leading the Group's international offshore development.
5. With over 40 operational windfarms, all sites are managed through the innovative and world leading Control Centre at Whitelee Windfarm, located outside of Glasgow in Scotland.
6. The Applicant has an established interest in Northern Ireland and currently owns and operates five onshore windfarms in the Country (Corkey, Rigged Hill, Callagheen, Elliots Hill and Wolf Bog Windfarms) together with Barnesmore Windfarm in the Republic of Ireland. Through their long-term presence in Northern Ireland, the Applicant has contributed over £200,000 of community benefits, contributing to an assortment of groups and organisations including donations made to and managed by the Fermanagh trust and funding local primary schools. This has supported a range of projects, such as improving community centre accessibility, sponsoring local youth group activities and creating a sensory garden for a playgroup.
7. The development of ScottishPower Renewables West of Duddon Sands Offshore Windfarm, in the Irish Sea (operational since 2014), enabled the construction of the c. £50 million bespoke facility at Belfast Harbour which began in early 2012, creating the first purpose built offshore wind installation and pre-assembly harbour in the UK and Ireland, supporting up to 300 jobs in the process.
8. Through the construction of East Anglia ONE Offshore Windfarm in the North Sea, Lamprell (in partnership with Harland and Wolff) in 2017, were also awarded a significant foundation contract. The value of this contract was c. £30 million, with an average labour force of 200 people across the duration of the project.
9. To date, the Applicant has experience of developing, constructing and operating repowered onshore windfarm projects throughout the UK, including Carland Cross Windfarm in Cornwall, Coal Clough Windfarm near Burnley and Llandinam Windfarm in Wales.

### 1.3 Environmental Impact Statement

10. Under the Planning (Environmental Impact Assessment) Regulations 2017 ("the EIA Regulations") an Environmental Impact Assessment ("EIA") must be undertaken for certain types and scale of development. Developments that always require, or may require, an EIA to be undertaken, are described in Schedule 1 and 2 of the EIA Regulations, respectively.
11. The Development does not fall into any of the development descriptions specified in Schedule 1. Specific thresholds and criteria are in place for Schedule 2 windfarm developments (as defined in Schedule 2(3)(j) which states that where the (i) development involves the installation of more than two turbines, or (ii) the hub height of any turbine or height of any structure exceeds 15 metres", an EIA must be undertaken where there is likely to be significant effects on the environment by virtue of factors such as its nature and size of the Development or located within a sensitive area. Given the scale and nature of the development, it is considered that the Development is EIA Development. An EIA has been undertaken and the findings reported in the Environmental Statement ("the ES") which accompanies the Application. The EIA process was informed by a Scoping Opinion issued by the Council on the 28th February 2018.

### 1.4 Purpose and Structure of the Planning Statement

12. The purpose of the Statement is to consider whether the Development accords with the Development Plan and any other material considerations identified as being relevant to the Development, in determining the Application.
13. This approach is in accordance with Section 45 of 'The Planning (Northern Ireland) Act 2011' ("the Planning Act") which states:
- "Subject to this Part and section 91(2), where an application is made for planning permission, the Council or, as the case may be, the Department, in dealing with the application, must have regard to the local development plan, so far as material to the application, and to any other material considerations..."
14. The Statement is set out as follows:
- Section 1: Introduction
  - Section 2: Need for Development
  - Section 3: The Application Site
  - Section 4: Pre-Application Community Consultation
  - Section 5: Local Development Plan Assessment
  - Section 6: Material Considerations
  - Section 7: Conclusion

## 2 Need for the Development

15. This section of the Statement outlines the need for the Development based on an assessment of the need to implement legally binding national climate change targets by encouraging appropriate renewable energy development throughout Northern Ireland.
- ### 2.1 Windfarm Repowering
16. The repowering of a windfarm involves the removal of existing wind turbines from a site and replacing them with new and more efficient turbines. This process normally results in an increased overall site generating capacity and output as well as generally reducing the total number of turbines within the Site.
17. Repowering a windfarm site supports an ongoing use of the land at Corkey (the Site) by a renewables asset, which is vital to Northern Ireland maintaining and building upon its renewable energy and climate change targets, as outlined in the Strategic Framework for Northern Ireland<sup>1</sup>. Repowering also presents an opportunity to sustain and create additional jobs and to encourage continued investment in the renewable energy industry in Northern Ireland. The repowering of a windfarm differs from that of developing a greenfield site as the area has previously been developed, has demonstrated its suitability for use

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<sup>1</sup> Department for the Economy (2010) Strategic Framework for Northern Ireland. Available online at: <https://www.economy-ni.gov.uk/publications/energy-strategic-framework-northern-ireland> [Accessed on 31/10/2017]

as a windfarm site, and will continue to be used for the same activity. As a result, the consenting and EIA process can draw on any information already available for the site to assess effects.

18. As well as the inherent benefits of creating and expanding upon the existing mix of renewables in Northern Ireland's electricity system, repowering offers a number of major opportunities:
- Increased site generation;
  - Reduces dependency on fossil fuels resulting in lower carbon dioxide (CO<sub>2</sub>) emissions and output;
  - Reduced number of turbines, utilising the latest turbine technology, sustaining and growing the level of renewable energy in Northern Ireland;
  - Sustains existing development and construction jobs, and creates opportunities for new supply chain jobs;
  - With a supportive planning framework, it can help create a long-term, stable investment platform for a clear pipeline of repowering projects, easing pressure on consenting authorities; and
  - Utilises over two decades of industry knowledge to inform and improve the siting, design and construction techniques to create more efficient projects.
19. The Operational Corkey Windfarm is consented in perpetuity, and the repowering of the windfarm with more efficient machines will maximise the benefits of re-using an existing site whilst minimising new environmental effects. Operating for a longer period enables the Applicant to continue to drive down the overall cost of energy with benefits to the Northern Irish consumer and provides opportunities to incorporate emerging technologies such as energy storage.
20. The proposed repowering project has the potential to result in an increase in the installed capacity of the Site from 5 MW to around 20 MW, c. 4 times the existing installed capacity, it should be noted that the final wind turbine installed capacity will be determined as part of a turbine tender exercise, held nearer to the time of construction which will allow the Applicant to avail of the latest turbine technology, within any envelope specified within the ES and/or planning consent given. The proposed larger generator size, coupled with greater wind yields from the use of taller turbines with bigger rotors, and the improved efficiency of the latest turbine models will result in a major increase to total power generated at the Site. Please refer to **section. 1.7.6** of this Statement which sets out the need for and benefits of Energy Storage.

## 2.2 International Energy Policy

21. International energy policy is based on the demand to battle climate change and reduce carbon dioxide (CO<sub>2</sub>) emissions and, therefore, is relevant to renewable energy development.
22. The United Nations Framework Convention on Climate Change (UNFCCC)<sup>2</sup>, implemented by the United Nations in May 1992, determined a long term objective to lessen greenhouse gases in the atmosphere, with the purpose of preventing anthropogenic interference with the climatic system. Subsequently, the Kyoto Protocol was implemented in 1997<sup>3</sup>. National governments who signed up to the Kyoto Protocol are committed to reducing their greenhouse gas emissions.
23. The Paris Agreement<sup>4</sup> marks the latest step in the development of the UN regime on climate change. Its central objective is to boost global response to climate change, keep global temperature rise low and strengthen efforts to support this. The European Union signed The United Kingdom of Great Britain and Northern Ireland up to the Agreement on 22nd April 2016 and it came into force on the 18th December 2016.
24. European and national energy policy has been established from the Kyoto Protocol and Paris Agreement requirements and will continue to be framed by emerging guidance and scientific information. For example, the IPCC 2018 report<sup>5</sup>, "Global Warming of 1.5°C", presents a summary for policymakers of the implications of predicted climate change, and potential actions that could limit future climate change, such as "reaching and sustaining net zero global anthropogenic CO<sub>2</sub> emissions".

<sup>2</sup> The United Nations Framework Convention on Climate Change (UNFCCC) (1992). Available online at: <http://unfccc.int/resource/docs/convkp/conveng.pdf> [Accessed 02/10/2017]

<sup>3</sup> The Kyoto Protocol (1997). Available online at: <http://unfccc.int/resource/docs/convkp/kpeng.pdf> [Accessed 02/10/2017]

<sup>4</sup> The Paris Agreement (2015). Available online at: <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf> [Accessed 02/10/2017]

<sup>5</sup> IPCC (2018). Global Warming of 1.5°C. Available at: [https://report.ipcc.ch/sr15/pdf/sr15\\_spm\\_final.pdf](https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf) [accessed on 01/02/2019].

### 2.3 European Energy Policy

25. The European Union's (EU) energy policies are set out and powered by three main objectives:

- To ensure all energy providers operate in a competitive environment that ensures affordable prices for homes, businesses, and industries;
- To secure energy supplies to ensure reliable energy delivery whenever and wherever it is needed; and
- To have sustainable energy consumption, through lowering dependence on fossil fuels and decreasing greenhouse gas emissions and pollution.

26. The EU produced the Renewable Energy Directive 2009/28/EC<sup>6</sup>, revised in 2016, to make the EU a global leader in renewable energy and ensure that the target of the final energy consumption being at least 27% renewables is met by 2030.

27. Subsequently, in 2015, the EU set itself a long-term goal of reducing greenhouse gas emissions by 80-95%, when compared to 1990 levels, by 2050. The Energy Roadmap 2050<sup>7</sup> sets out the transition and cost effective pathways for key economic sectors for achieving an 80-95% reduction in EU emissions by 2050. To achieve this goal, significant investment is needed in new low-carbon technologies and infrastructure, energy efficiency and renewable energy.

28. The 2050 target will not be shifted into national targets via EU legislation, but allows more flexibility for Member Countries to meet their greenhouse gas emission reduction targets in the most cost effective method in regards to their own specific circumstances.

### 2.4 UK Energy Policy

29. The UK Renewable Energy Strategy<sup>8</sup> sets out to identify how the required growth in renewable energy use could be delivered. The objectives of the Strategy include clearing implementation barriers, increasing investment in emerging technologies and pursuing new sources of renewable energy supply and creating opportunities to harness renewable energy. The strategy supports the precedent to ensure the UK can deliver 30% renewable electricity by 2020.

30. The Strategy supports a lead situation to ensure that the UK can deliver 30% renewable electricity by 2020. The Overarching National Policy Statement for Energy (EN-1) and The National Policy Statement for Renewable Energy Infrastructure (EN-3) states that projections suggest that by 2020, 30% or more of the UK's electricity generation could come from renewable sources.

### 2.5 Northern Ireland Energy Policy

31. In 2010, the Department for Enterprise, Trade and Investment (DETI) published the Strategic Energy Framework<sup>9</sup> (SEF) which details Northern Ireland's energy future over the next ten years and set out the renewable electricity targets for 2020 identifying that the equivalent of 40% of national electricity needs must be sourced from renewables. However, it is noted that the 2020 targets were not maximum targets. Consultations with the Department for Infrastructure (DfI) Strategic Planning section indicated that as of March 2019 39.25% of NI electricity is being provided by renewable energy sources.

32. The 2010 SEF recognises that electricity generation from onshore wind is the most established, large scale source of renewable energy in Northern Ireland and is also the lowest cost land-based renewable energy available. Furthermore, the SEF states that onshore wind farms will play a vital role in meeting the 2020 renewable electricity target.

33. Additionally, the Northern Ireland Investment Strategy 2011-2021<sup>10</sup> underlines the importance of renewable sources in electricity generation. It focuses on long-term targets, emphasising that the UK Climate Change Act 2008 legislated for an

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<sup>6</sup> The Renewable Energy Directive 2009/28/EC. Available online at: <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32009L0028> [Accessed 02/10/2017]

<sup>7</sup> The EU 2050 Strategy. Available online at: <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2050-energy-strategy> [Accessed 02/10/2017]

<sup>8</sup> The UK Renewable Energy Strategy (2009). Available online at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/228866/7686.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228866/7686.pdf) [Accessed 02/10/2017]

<sup>9</sup> Department of Enterprise, Trade and Investment (2010). Strategic Energy Framework. Available online at: <https://www.economy-ni.gov.uk/publications/energy-strategic-framework-northern-ireland> [Accessed on 12/10/2017]

<sup>10</sup> Northern Ireland Executive (2015). Investment Strategy for Northern Ireland 2011 – 2021. Available online at: <https://www.infrastructure-ni.gov.uk/publications/investment-strategy-northern-ireland-2011-2021> [Accessed: 12/10/2017]



80% mandatory reduction in the UK's carbon emissions by 2050 (compared to 1990 baseline levels), with an interim target of 35% by 2025.

34. Over the twelve-month period April 2016 to March 2017, of all renewable electricity generated within Northern Ireland, 82.8% was generated from wind. This compares to the 87.6% for the previous twelve months period (April 2015 to March 2016).
35. The Onshore Renewable Energy Action Plan (OREAP) 2013-2020<sup>11</sup> recognises the importance of the contribution of onshore renewable technologies to the 40% renewable energy target for 2020. It considers the impact onshore wind has on the energy network in Northern Ireland, referring to the requirement for grid infrastructure upgrades prior to transmission reinforcement, and noting that this is required in order to achieve the 40% target. OREAP also notes "the need to increase the rate of deployment of renewables to achieve the 40% target at least cost to the consumer". As noted earlier as DfI Planning indicated that as of March 2019 39.25% of NI electricity was being provided by renewable energy sources. However, it is important that the target figure of 40% is not a cap. In the absence of an updated target figure beyond 2020 it is important to highlight that DETI (now the Department for the Economy) produced a report in 2013 titled *Envisioning the Future: Considering Energy in Northern Ireland*<sup>12</sup> to 2050 which details a vision for energy supply in Northern Ireland up to 2050. The Vision builds on the SEF and determines what can be achieved by 2050 and what early decisions need to be made to support the 2050 vision. The scenarios produced in the report envisage that greenhouse gas emissions will be reduced by 55% to 80% by 2050 and that Northern Ireland will become a net exporter of energy. The Development will sustain and increase the current renewables deployment and will aid in the achievement of the 2050 vision, notably NI becoming a net exporter of energy.

## 2.6 Energy Storage

36. The previous Northern Ireland Affairs Committee published its 'Third Report of Session 2016–17, Electricity Sector in Northern Ireland', on 1 May 2017 as House of Commons Paper HC 51, therein it stated that Northern Ireland is anticipated to fall into a deficiency of supply by 2021. The report goes on to state:

"Electricity storage presents a particular opportunity for Northern Ireland, where these technologies could allow the market to take full advantage of the significant investment that has been made in renewable generation in recent years. The ability to store renewable energy—capturing excess electricity at times of high generation so that it can be used when the wind does not blow—has the potential to dramatically increase the contribution of renewables to the system, reduce costs for consumers through lower wholesale prices and constraint payments, and allow for the more efficient management of the electricity grid through better control of supply and demand and reduced congestion on the network"<sup>13</sup>.

37. Balancing the electricity grid to ensure demand is met by supply is a key requirement of Northern Ireland Electricity (NIE).
38. When unforeseen demand is put on the network, such as when a large power station suddenly comes offline, the energy storage element of the Development will provide a flexible and rapid release of electricity to allow NIE to regulate electricity supply and demand without any greenhouse gas emissions. Conversely, it will also have the capacity to absorb electricity quickly which will allow for the oversupply of the grid to be managed.
39. As noted previously, in March 2019 the 2020 target of 40% renewable energy is close to being met. It is important to note that these figures are minimum targets and there is clear policy support to maintain progress in renewable energy provision beyond the 2020 targets. The Operational Corkey Windfarm has an overall installed capacity of 5 MW. The Development will have an overall installed capacity of c. 20 MW which is approximately four times the current capacity. The Development will allow further deployment of renewable energy technology and increased electricity generation while minimising the environmental effects overall as compared to a similar development on a new site, maintaining and building on progress towards meeting renewable energy targets, in full compliance with current and future energy policy.

<sup>11</sup> Department of Enterprise, Trade and Investment (2013). Onshore Renewable Electricity Action Plan. Available online at: <https://www.economy-ni.gov.uk/articles/onshore-renewable-electricity-action-plan> [Accessed: 12/10/2017]

<sup>12</sup> DETI (2013) *Envisioning the Future: Considering Energy in Northern Ireland* Available at [https://www.nienvironmentlink.org/cmsfiles/policy-hub/files/documentation/Energy/2050\\_main\\_report\\_-\\_final\\_version.pdf](https://www.nienvironmentlink.org/cmsfiles/policy-hub/files/documentation/Energy/2050_main_report_-_final_version.pdf) [Accessed 09/05/2019]

<sup>13</sup> Third Report of Session 2016–17, Electricity sector in Northern Ireland, 1 May 2017, House of Commons Paper HC 51, Accessed 15/1/19, <https://publications.parliament.uk/pa/cm201617/cmselect/cmniaf/51/5106.htm>

## 3 The Application Site and Development Description

### 3.1 Introduction

40. This section of the Statement sets out a description of the site on which the Development is proposed ("the Application Site") and its surroundings, including relevant planning history.

### 3.2 The Application Site

41. The Development consists of the repowering of the existing Operational Corkey Windfarm located within the Causeway Coast and Glens Borough Council (the Council) administrative area, approximately 18 kilometres (km) north of Ballymena in County Antrim.

42. The Site is located on the western periphery of the Antrim Hills with the low-lying valley of the River Main to the west and the broader range of the Antrim Hills to the east. The Site is characterised by the steep upper slopes and distinctive ridgeline of Slievenahanaghan and its moorland land cover. The predominant land use, in conjunction with the Operational Corkey Windfarm, is agricultural. Elevations within the Site range from approximately 160 metres (m) above ordnance datum (AOD) in the south-west of the Site to approximately 410 m AOD at the east of the Site.

43. There are a number of small unnamed watercourses and man-made open field drains within the Site, the majority of which drain in a westerly direction although some drain northwards. There are no public roads within the Site, although Corkey Road runs adjacent to sections of the Site Boundary to the west, and Reservoir Road runs adjacent to sections of the Site Boundary to the north-west.

44. The historical land ownership pattern of this area is based on the land being divided into small plots. This has led to a dispersed settlement pattern, whereby individual dwellings occur frequently across the landscape, accessed by the network of rural roads. The closest settlements to the Development include the small village of Corkey located approximately 1.56 km west of turbine 4, the village of Loughgiel located approximately 3.46 km north-west of turbine 3, and the village of Clough Mills located approximately 5.28 km south-west of turbine 4.

45. Domestic scale and single wind turbines are a frequent feature in the valley landscape, often associated with farmsteads or domestic dwellings. Larger commercial windfarms are also a feature, albeit typically seen set on the enclosing ridgelines of the upland areas to the west and east of the Site. Immediately adjacent to the Site lies Gruig Windfarm which consists of ten 2.5 MW turbines with tip heights of 100 m.

### 3.3 Description of the Operational Corkey Windfarm

46. The Operational Corkey Windfarm was developed and constructed by RES and B9 Energy Services in 1994, and then acquired by ScottishPower Renewables (the Applicant) who own and operate the site. The Operational Corkey Windfarm has consent in perpetuity and consists of ten 500 kilowatt (kW) Nordtank turbines with tip heights of 57 m and associated infrastructure including access tracks, substation and a meteorological mast. The ten existing turbines associated with the Operational Corkey Windfarm are located broadly in two rows running roughly in parallel with the ridgeline and are currently accessed from Reservoir Road.

47. The Development is for the decommissioning and repowering of the Operational Corkey Windfarm, which will entail replacing the operational wind turbines and infrastructure including the substation and meteorological mast, while infrastructure will be re-used insofar as possible. The substation, together with a number of redundant tracks and hardstanding areas will be removed with materials being reused within the construction processes wherever possible, a number of these areas will then be re-instated in accordance with reinstatement principals outlined within the **ES**, the **Outline DCEMP** and the **Draft HMP**.

### 3.4 The Development Description

48. The Development will consist of the following phases:

- Decommissioning of the Operational Corkey Windfarm (Initial Phase of the Development);
- Construction of the Development (likely to occur in tandem with the above phase);

- Operation of the Development; and
- Decommissioning of the Development (Final Phase).

49. The decommissioning of the Operational Corkey Windfarm and the construction of the Development is likely to occur partly in tandem and would have a lesser effect than if the two processes were to arise at different times. This represented a worst-case scenario for EIA purposes. Any effects arising as a result of the future decommissioning of the Development were then considered to be no greater than the effects arising when these two phases are combined.

50. The Development will comprise of the following main components:

- Decommissioning of the existing turbines, removal and reinstatement of the existing substation building and other redundant infrastructure;
- The erection of 5 three bladed horizontal axis wind turbines of up to 137 m tip height;
- Turbine foundations;
- Construction of approximately 1.955 km of access tracks;
- Upgrade of approximately 2.095 km of access tracks;
- Construction of temporary and permanent hardstanding areas for each turbine to accommodate turbine component laydown areas, crane hardstanding areas and external transformers and/or switchgears;
- 3 temporary construction compound/laydown areas;
- Turning heads and passing places incorporated within the site access infrastructure;
- New Road junction with Reservoir Road;
- Three upgraded water crossings and five new water crossings;
- Meteorological Mast;
- Buried underground electrical and communication cables;
- Substation, with roof mounted solar panels, and associated compound, including windfarm and grid connection operating equipment; and
- Energy Storage Unit; and
- Associated ancillary works.

51. A micro-siting allowance of 50m deviation (in all directions) from the indicative design footprint has also been requested. Being able to move some elements of infrastructure nearer the time of construction, means that any unfavourable ground conditions or unforeseen environmental constraints can for example be further avoided at the request of an on-site ecologist or archaeologist.

52. Details of each component are provided below in Table 3.1. The additional land-take for the Development is shown below and compared to that of the existing Operational Corkey Windfarm site area. The total land-take required for the Operational Phase will require approximately 1.14 ha of redundant land to be reinstated as part of the Habitat Management Plan and 8.34 ha of additional land.

**Table 3.1: Temporary and Permanent Land-Take and Re-instatement Areas**

Development Element	Existing Site area (ha)	Redundant area to be re-instated (ha)	Additional Land-take for the Development (ha)	Total Site area for the Operational Phase (ha)
Turbine Foundations	-	-	0.117	0.17
Crane Hardstandings, including earthworks and verges	Included in access track figure below	-	1.96	1.96
Blade Laydown Areas, including earthworks and verges	-	-	1.46	1.46
Access Tracks, including junction improvements	2.02	1.04	3.45	4.43

Development Element	Existing Site area (ha)	Redundant area to be re-instated (ha)	Additional Land-take for the Development (ha)	Total Site area for the Operational Phase (ha)
Substation Compound including Energy Storage Units compound	0.05	0.05	0.17	0.17
Windfarm Construction Compound	-	-	0.39	-
<b>Total</b>	<b>2.12</b>	<b>1.14</b>	<b>8.58</b>	<b>8.19</b>

### 3.5 The Development Components

#### 3.5.1 Wind Turbines

53. Planning permission is being sought for the erection of up to five three-bladed horizontal axis wind turbines with a maximum height from base to tip that will not exceed 137 m (with a blade in the vertical position). The blades will be made of fiberglass reinforced epoxy and mounted on a tapered tubular steel or steel and concrete tower. The turbines will be of a typical modern, three blade, horizontal axis design, light grey in colour and the finish of the tower and blades will be semi-gloss and semi-matt respectively.

54. Each of the turbines comprises of the following components:

- Blades;
- A tower;
- A nacelle;
- A hub; and
- An external transformer.

55. The final choice of turbines will be guided by an assessment of the wind conditions, the Environmental Impact Assessment (EIA) together with feedback from consultation, and a pre-construction tendering exercise which will take account of the available technology at the time of construction. Currently it is considered likely that turbines with c. 4 MW capacity may be available within the envelope of the proposed physical parameters as defined within Table 3.2. For the purposes of the assessments a “candidate turbine” is selected, or a worst case turbine envelope specified, based on the precautionary principle of assessing the worst-case scenario.

**Table 3.2 Turbine Physical Parameters**

Turbine Parameter	Assessment Envelope
Turbine tip height	Up to 137 m
Rotor diameter	Up to 120 m
Tower height	Up to 81 m

56. The turbine tip height will not exceed 137 m with the blades in the vertical position, should a larger rotor be used a correspondingly shorter tower would be selected in order to ensure the overall tip height is not exceeded. The assessment of the candidate turbine has been based upon a maximum rotor of 120 m as this is deemed to be worst case scenario.

57. Turbines are typically of a variable speed type, so that turbine rotor speed will vary according to the energy available in the wind. Turbines with parameters similar to those set out in Table 3.2 typically have a rotational speed of between 9 and 19 revolutions per minute (rpm), depending on variations in wind speed, generating power for all wind speeds between c. 4 and c. 25 metres per second (m/s). At wind speeds greater than c. 25 m/s, the turbines will automatically shut down for self-protection.

58. Table 3.3 details the locations of the turbine bases.

**Table 3.3: Location of Turbine Bases**

Turbine ID	Co-ordinates (ITM)	
1	311506	422023
2	311146	422326
3	310713	422440
4	310671	421988
5	311046	421988

### 3.5.2 Turbine Foundations and Crane Hardstanding

59. A full ground investigation will be completed prior to construction, however a typical turbine foundation will consist of an octagonal or circular reinforced concrete base approximately 20.8 m in diameter. The area of excavation will be sized accordingly to allow for a stable, clear and safe working area around the concrete turbine foundation. Where possible the areas of the redundant foundations and turbine hard standings which currently form part of the Operational Corkey Windfarm will be re-used to form part of the new hardstanding and laydown areas.
60. Construction of the turbine foundations will generally require the excavation of subsoil to expose a suitable formation material. The formation will be levelled off prior to the in-situ casting of a steel-reinforced concrete foundation. It is estimated that each foundation will require approximately 430 cubic metres (m<sup>3</sup>) of concrete and up to 90 tonnes (t) of steel reinforcement. Various cable ducts and other ancillaries will be installed within and adjacent to the foundation. The area above the foundations will be backfilled using suitable granular fill materials up to the turbine foundation plinth, and will form part of the permanent crane hardstanding area for each turbine. The final foundation design will be specific to the turbine selected and the site conditions as verified during detailed site investigations undertaken prior to construction commencing.
61. Each turbine requires an area of hardstanding adjacent to the turbine foundation to provide a stable base on which to site the turbine components and crane for the erection of the turbine. The working area at each hardstanding area will be approximately 25 m by 65 m. However, the final arrangement of the hardstanding will depend on the selected turbine manufacturer and model, the method of erection and exact specification of the cranes chosen by the turbine erection contractor. The hardstandings will be sufficiently level and with a suitable load-bearing capacity to ensure the safe storage of turbine components and operation of the cranes. Turning areas are provided to facilitate the transportation of turbine components, assembly cranes, and construction traffic onsite.
62. Surface water and groundwater levels will be managed to ensure that natural drainage patterns are maintained and that water levels within excavations do not rise beyond appropriate and safe limits. Various cable ducts and other ancillaries will be installed within the foundations and under the access track crossing points.
63. The hardstanding pads will be left in place during the operation of the windfarm in case there is a need to repair or replace any blades, the surrounding areas will be reinstated following construction.

### 3.5.3 Transformers, Switchgear and Cabling

64. Depending on the final choice of turbine, transformers will either be located within the nacelle which sits at the top of each turbine tower (with internal switchgear), within the tower itself or externally, close to the base of the tower. An external transformer will normally be placed within steel or glass reinforced plastic (GRP) housing along with an external switchgear on a concrete foundation pad as allowed for as part of the Development. The size of transformer and switchgear will depend on the type of turbine selected but in general it will be approximately 4 m by 7 m in plan and 3 m in height above surrounding ground level (Figure 3.3), located adjacent to the turbine within the hardstanding area.
65. The transformers will be either oil-filled with a bunded footing to remove any risk of spillage or a solid cast resin type which is effectively non-polluting. The transformers will increase the electrical voltage from c. 690 V to 33 kiloVolts (kV).
66. Turbines will typically each be connected by 3 no. 33 kV single phase power cables which will be laid in shallow trenches alongside the access tracks. The excavated trenches will also include SCADA cables or fibre optic cables. This will allow interrogation and control of individual turbines as well as remote monitoring. A copper cable will also be located in the trench and will be connected to the substation and each turbine to provide an earthing system for protection against lightning strikes and electrical faults.

#### 3.5.4 Onsite Substation and associated Compound

67. A new substation will be required as part of the Development. This will be sited within the substation compound and be designed to the standard required by Northern Ireland Electricity (NIE) Networks for the accommodation of substation equipment.
68. The compound is approximately 35 m x 55 m and contains the substation building and ancillary equipment, including the transformers, switch gear, fault protection, metering, energy storage units, component storage, car parking and other ancillary elements necessary for the operation of the Development.
69. The approximately 16.5 m x 11.5 m x 5 m (to peak of roof) sized substation building will contain control elements of the windfarm. The control components housed at the substation will include metering equipment, switchgear, the central computer system and electrical control panels. A spare parts store and workshop will also be located in the substation. It will have a suitably sized footpath around it and an adjacent parking area. The appearance and finish of the substation building will be similar to an agricultural building, while the final appearance would be agreed with the Council via the use of an appropriately worded planning condition, and roof mounted solar panels are also proposed.
70. The wastewater will drain to the septic tank located adjacent to the substation building. If technically feasible, a rainwater harvesting system will be installed as a source of non-potable water for flushing of toilets, etc. Any rainwater not captured by this system will be drained from the substation building compound footprint to a soakaway or a suitable surface water discharge point located in a suitable area nearby. Should oil storage be required, a bunded area will be constructed in a suitable location within the compound. The bund will be designed to have a capacity of 110% of the maximum volume of oil required to be stored within it, and bund design would meet best practice as set out in Guidance for Pollution Prevention 2 (GPP2<sup>14</sup>): Above Ground Oil Storage Tanks.
71. The finishes of the buildings will match the existing agricultural architecture, and by constructing the new substation and control building in a low-lying and visually enclosed position, potential environmental effects would be minimised. By locating the Energy Storage Unit alongside the substation, the footprint of the Development is minimised and the Energy Storage Unit is seen in the context of other Development infrastructure. This will limit its additional landscape and visual effects as buildings will not be introduced to upland parts of the Development, where they are less familiar features. Within the site the electrical cables will run underground adjacent to the access tracks to the new substation

#### 3.5.5 Energy Storage Unit

72. The Energy Storage Unit will be located within the substation compound and are ancillary to the Development. The units will typically consist of containers each approximately 6.1 m x 2.44 m x 2.2 m high. The indicative locations of these units are shown on the submitted planning application drawings.
73. The currently preferred energy storage technology is Li-ion batteries. These batteries are used widely due to their fast response time, which makes them preferable for grid-scale deployment. The Li-ion batteries vary in cell chemistries (e.g., Lithium Iron Phosphate, Lithium Nickel Manganese Cobalt Oxide, Lithium Cobalt Oxide, Lithium-Titanate) and cell arrangement (e.g., cylindrical, pouch, prismatic). Chemistry and arrangement will dictate the batteries' performance characteristics. The final selection of energy storage technology used will be based on the latest technology available at the time of construction, and it is requested that final details of this ancillary element be secured via the use of an appropriately worded planning condition.

#### 3.5.6 Grid Connections

74. Underground cabling, laid where possible alongside the new access tracks, will link the turbine transformers to the onsite substation building. Where existing track is being re-used, the cables will be laid in a cable trench alongside the existing track. Generally, the redundant cable will be removed and recycled or cut off and left in situ as appropriate and in accordance with a Decommissioning & Construction Environmental Management Plan (DCEMP) and Habitat Management Plan (HMP), in order to minimise disturbance to the environment.
75. It is envisaged that a new connection to the electrical grid will be required to accommodate this Development. Based on initial discussions with NIE to date, the Applicant is currently investigating connecting to the Rasharkin 'cluster' substation, which is

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<sup>14</sup> Above ground oil storage tanks: GPP 2, NIEA, SEPA, Natural Resources Wales, Accessed 01/11/2017, <http://www.netregs.org.uk/media/1317/gpp-2-pdf-feb-2017.pdf>

approximately 16 km south-west of the Site. Although the application for connection of the Development to the electrical grid will fall under a separate consenting regime, a high-level desk-based assessment of possible route options has been undertaken, in order to evaluate the feasibility of the of the proposed grid connection. This assessment has been based on a 33 kV overhead wooden pole line, although it is noted that the final routing and form of connection will be determined by NIE. Statutory designations have been plotted and three broad routes, each approximately 1 km in width have been identified (see Figure 3.15 of the ES). The final route selection will be determined by NIE.

### 3.5.7 Meteorological Mast

76. One permanent meteorological mast is proposed as part of the Development, located at IGR 311207, 422045. This will be used to provide on-going measurement of wind speed to provide information for the control and monitoring of the operation of the Development. The location of the met mast has been selected to provide the best representation of wind speeds across the Site.

77. The meteorological mast will be up to 80 m in total height and will be a galvanised steel lattice construction. It will have a concrete foundation with approximate dimensions of 5 x 5 x 0.5 m and erected using an appropriately sized crane. An access track is not required to service the mast, as construction and operation can be undertaken by all-terrain vehicles.

### 3.5.8 Temporary Decommissioning and Construction Compounds and Laydown Areas

78. The temporary decommissioning and construction compounds are detailed as part of the planning application drawings. These locations have been selected to minimise environmental effects. The compounds will have maximum dimensions of 90 m by 90 m. The compound to the north of T5 is formed in part by an area used for previous site workings, the area had be stripped and consists of hardstanding that has partially re-vegetated.

79. The compound will comprise a hardstanding area for parking and for receipt and storage of plant, equipment and delivered materials. In addition, they will form a laydown area for the decommissioned turbine components prior to their removal from the site. A waste management area will also be provided along with temporary office and welfare facilities, including Portakabin-style toilets with provision for sealed waste storage and removal. Facilities will be provided for diesel storage and generators and an area designated for re-fuelling. The compounds will be restored following the completion of construction works.

80. The area will be stripped of topsoil and subsoil to expose a suitable formation. The stripped material will be stored close by for future re-instatement. A geosynthetic material base or similar will then be laid, followed by a layer of suitable rock material, and then a further geosynthetic material laid prior to the top surface of blended finer aggregate.

81. Following completion of the decommissioning and construction phase, the compound will be removed and the areas restored. These areas may be reinstated in support of any future decommissioning activity as required.

### 3.5.9 Access to the Development

82. The Development will be accessed via the access track for the Operational Corkey Windfarm. The access route is considered largely suitable for the new turbines, however, two areas require re-alignment to facilitate the delivery of the larger turbines. The realigned route is detailed in the planning application drawings.

83. A new junction to Reservoir Road is required to the west of the current operational access due to the geometry of larger turbine being unable to follow the initial section of the current access track. The new junction position provides suitable visibility splays for vehicles entering and leaving the Site and relocates the Site entrance away from residential properties to minimise disturbance.

84. An overhead cable runs parallel with Reservoir Road and overhead electricity wires cross Reservoir Road in a perpendicular manner at the entrance to 15 Reservoir Road. Should the overhead infrastructure require alteration, and planned outages are necessary in order to re-locate the cables either by temporarily raising them or permanently burying them underground to facilitate the turbine delivery and ongoing maintenance, best practice measures will be followed. These measures include minimising the length of time any outages occur with residents notified of the planned works in order to minimise any disruption to those residents potentially affected.

85. A transport assessment has been undertaken in support of the application for the Development and this provides details on access route options for construction vehicles and provides an estimate of trip generation during decommissioning and

construction activity. The transport assessment includes a routing study to establish the feasibility of the access route for turbine delivery from either Belfast or Larne to the site entrance. Details of this and assessment of traffic impacts during the initial decommissioning, construction and operation of the Development are provided in **Chapter 12: Access, Traffic and Transport** of the Environmental Statement.

### 3.5.10 Onsite Access Tracks

86. Where possible the existing spine road and access tracks serving the Operational Corkey Windfarm will be retained, utilised and upgraded as necessary to access the proposed turbine positions. Tracks required to access new elements of the Development will be retained throughout the operational life of the Development to enable maintenance of the turbines and replacement of any turbine components. In total, approximately 1.955 km of new access tracks will be required, with approximately 2.095 km of existing track requiring localised widening.
87. The access track layout has been designed taking into account a range of environmental and technical constraints, including breeding birds, active peat, sensitive habitats and steep slopes. All tracks are designed to respond to turbine supplier track requirements and will provide a 5 m wide running surface with localised widening on corners or areas of steeper slopes and will enable access to the turbine locations. The track spurs will have 'dead-ends' with turning heads provided where necessary; these turning heads will reuse areas of existing and redundant infrastructure where possible. Tracks will have passing places where necessary.
88. Access tracks will be constructed with a 'cut track' design. This construction method will be used as there is less than 1.2 m depth of soft ground in all proposed track locations, and there is no potential peat instability as a consequence of surface loading of the peat. Analysis of peat-depth survey data, collected as part of the EIA process (see **Chapter 7: Hydrology, Hydrogeology, Geology and Peat**, and **Appendix A7.1: Peat Slide Risk Assessment** of the Environmental Statement), suggests that the entirety of the proposed new track (1,780 m) is within topsoil or peat of depth less than 1 m (the average depth being less than 0.5 m). In the event that during the construction phase deeper peat is found in isolated pockets, floating road may be considered as an alternative option.
89. Access tracks will be constructed with graded stone aggregate won from cut activities, re-use of existing materials from redundant infrastructure or stone imported from local quarries to provide a level surface and will incorporate geosynthetic layers to strengthen the track as necessary. The running surface will be made of a durable surfacing material resistant to crushing, formed from selected crushed and compacted stone.
90. Construction of a 'cut track' design involves the topsoil and peat being stripped to expose a suitable formation on which to build the track. The track will then be constructed on the formation by laying and compacting crushed rock to a depth dependent on ground conditions and topography, although generally the surface of the track will be flush with, or raised slightly above, the surrounding ground level. Geosynthetic layers will be incorporated at the formation and/or within the crushed rock as required to minimise the amount of material required. The upper soil/peat horizon, together with any vegetation, will be placed to one side for later reinstatement, if appropriate. If during the construction phase deeper peat is found in isolated pockets, floating road may be considered as an alternative option.

### 3.5.11 Site Signage

91. During the decommissioning and construction phase, the Site will have suitable signage to protect the health and safety of workers, contractors and the general public.
92. During the operational phase, there will be a sign giving the operator's name, the name of the Development and an emergency contact telephone number. On the turbines and the substation, there will be further signs giving information about the component, potential hazards, the operator's name, the location grid reference and the emergency telephone number. The final location and design of the signage will be defined prior to the Development becoming operational.
93. No Rights of Way (RoWs) will be directly affected by the Development.

### 3.5.12 Micro-Siting

94. In the event that unsuitable ground conditions are encountered during the construction works, there may be a requirement to micro-site elements of the Development infrastructure in order to further mitigate against any unfavourable ground conditions, or unforeseen environmental constraints. It is proposed that the relocation of turbines and other infrastructure by up to 50 m



in all directions may be carried out subject to approval of the Ecological Clerk of Works (ECoW). Any relocation of Development components to distances of more than 50 m will require written approval from the Council.

95. The potential for micro-siting was considered when the detailed survey and assessment work was undertaken. For example, the habitat and archaeological surveys covered a wider area than just the footprint of the proposed turbine and access track locations (full details of survey areas can be found in the relevant assessment chapters). Any likely significant effects arising from micro-siting have been considered in the preparation of the Environmental Statement, and specific areas to be avoided have been identified in the respective Environmental Statement, including **Chapter 7 Hydrology, Hydrogeology, Geology, Soils and Peat**.

### 3.6 Decommissioning and Construction Programme

96. The first phase of the Development will comprise the decommissioning and removal of the existing turbines, external transformers and wind monitoring masts from the Site. It is anticipated that the turbines and external transformers will be carefully dismantled and transported offsite, possibly for resale in the second hand market. For the purposes of undertaking the EIA, it has been assumed that decommissioning and construction is likely to commence in 2023. The date can only be confirmed following consent for the Development and confirmation of the grid connection timelines by NIE. It will also be influenced by any prevailing market conditions and requirements.
97. The dismantling of the Operational Corkey Windfarm is expected to take approximately two months following an initial period of four weeks during which a temporary decommissioning / construction compound will be constructed and existing tracks and crane hardstandings will be cleared of vegetation and upgraded for use by decommissioning vehicles as required.
98. Following initial track construction and upgrade, cranes will be used to split the turbines into suitable sections, which will then be transported from the Site by heavy goods vehicles (HGVs). Following removal of the blades, power cables will be disconnected and lowered with control cables left in place, before the tower sections are lowered.
99. In those locations where the areas of the turbine and transformer bases will not form part of the new crane hardstanding and laydown areas, they will be cut to 1 -1.5 m, as required, below the surface and backfilled with suitable topsoil, generated from the construction activities elsewhere in the Site. Those areas of hardstanding and access track which are being reused will be retained, whilst unaffected areas of hardstanding and access track that have already naturally regenerated will either be removed and reinstated, with materials reused in the construction activities elsewhere on the site, or left in situ in accordance with the HMP.
100. It is expected that the construction phase of the Development will run in parallel with the decommissioning of the Operational Corkey Windfarm and take approximately 8 months in total, depending on the final layout. This period is somewhat weather dependent and could be affected by onsite conditions. It is envisaged that the construction programme would follow the broad outline as detailed in **Table 3.4**.

**Table 3.4 Indicative Decommissioning / Construction programme**

Activity	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8
Site Establishment								
Decommissioning of existing turbines								
Access road, upgrade, widening, removal and construction								
Substation and Energy Storage Unit construction								
Excavation and construction of turbine foundations and hardstandings								
Cable installation and electrical works								
Turbine delivery and erection								
Turbine commissioning								
Site restoration								

101. Whilst the decommissioning/construction programme will be developed taking into account the bird breeding season, should works be required over the summer months best practice measures will be utilised to avoid disturbance to birds. It is advantageous for works within the peatland areas of the Site to take place at the driest time of year to minimise disturbance to the peatland habitats and minimise any potential peat slide risk and would be undertaken in line with the Construction Mitigation Strategy described in Chapter 9 of the ES.

- Other benefits of working over the summer months include:
- Minimising the risks to Site watercourses through the release of sediments during the site excavations, reducing potential risks to downstream watercourses during track construction of upgrade when working in the vicinity of watercourses;
- Longer daylight hours enable longer days of working and provide significant Health and Safety (H&S) benefits to site workforce as working in low light/night time conditions will be limited;
- Typically the spring/summer months exhibit lower wind speeds for turbine erection works, which have positive H&S and programme implications; and
- Overall quality of works in general is more likely to be negatively impacted outside the spring/summer months, e.g., cold weather concreting in winter, weather downtime during high rainfall/high wind events, restrictions on working at height, etc.

### 3.6.1 Working Hours

102. In general, working hours for decommissioning / construction will be from 07:00 to 19:00 throughout the week, with reduced working hours at weekends. It should be noted that during the turbine erection phase, operations may proceed around the clock to ensure that lifting operations are completed safely. Hours of working will be agreed with the Council prior to the commencement of construction. Any extensions to working hours would be agreed in advance with the Council

### 3.7 Site Restoration

103. A plan for soil management and restoration includes methods used for reinstatement of both disturbance from the decommissioning and construction activities as well as re-instatement of redundant infrastructure. This forms an integral part of the post-construction restoration programme to be carried out in accordance with the HMP. These methods will be agreed with the Council in consultation with relevant statutory bodies prior to the commencement of restoration works.

104. Site restoration will involve the restoration of track and hardstanding verges and the temporary decommissioning and construction compound to provide a natural ground profile with non-geometric surfaces and tie-ins with existing undisturbed ground levels to prevent the collection of surface water where appropriate. Restoration will be undertaken at the earliest opportunity to minimise storage of turf and other materials. The key elements of the restoration plan are, in summary

- Track and hardstanding verges on the downhill side will be covered with a layer of turf and associated soil. They will then be left to allow natural succession to take place; this turf will be obtained from areas where shallow organic deposits or otherwise shallower peat deposits ('acrotelmic' peat) have been excavated. A mixture of habitats is expected to develop on track and hardstanding verges on the downhill and uphill sides, because of local variation in soil depth/type and the variety of drainage conditions that will be present, including wet heath, marshy grassland, dry heath and acid grassland;
- The decommissioning and construction compounds will be restored with peat / other organic deposits as appropriate capped with a layer of associated turf. Due to the flat nature of the area where the compounds will be located, it is expected that a mixture of marshy grassland, wet heath along with dry heath/acid grassland will develop;
- Cable trenches would be similarly reinstated. Where practicable, vegetation over the width of the cable trenches would be lifted as turfs, and replaced after trenching operations, to reduce disturbance;
- The upgraded access tracks serving the new turbines will be left in place after completion of the construction phase, as they will provide access for maintenance, repairs and the eventual decommissioning phase;
- Hardstanding and turning areas constructed at each turbine location will be retained for use in ongoing maintenance operations, including component replacement as necessary, and the decommissioning phase; and
- Redundant infrastructure will be removed, or broken out to depth of 1 – 1.5 m and areas reinstated in accordance with the HMP and DCEMP.

105. Should future works be required to maintain the Development the temporary construction areas may be reused and temporarily reinstated as required for maintenance purposes.

### 3.8 Decommissioning and Construction Environmental Management Plan (DCEMP)

106. The Applicant will appoint an Infrastructure Contractor who will have overall responsibility for environmental management on the decommissioning/construction site (the Contractor). The services of specialist advisors will be retained as appropriate, such as an archaeologist and ecologist, to be called on as required to advise on specific environmental issues. The appointed Contractor will ensure construction activities are carried out in accordance with the mitigation measures outlined in the ES.
107. An Outline DCEMP is provided as **Technical Appendix A3.1** of the ES. This sets out SPR's standard outline requirements for inclusion within a detailed DCEMP including guidance and best practice for adoption during the decommissioning and construction phases of the Development. The outline DCEMP provides an overview of the environmental management and decommissioning and construction best practice designed to reduce the potential for any environmental effects during these phases.
108. To ensure that the mitigation and management measures detailed within the ES are carried out, construction personnel and contractors will be required to adhere to the DCEMP which will form an overarching document for all decommissioning and construction site management requirements.
109. Contractors will also be required to adhere to the following to minimise environmental effects of the construction process:
- Conditions required under the Consent;
  - Requirements of statutory consultees including the Department of Agriculture, Environment and Rural Affairs (DAERA) and the Council;
  - Any other relevant mitigation measures identified in the ES, including how the Contractor will implement this mitigation and monitor its implementation and effectiveness e.g. the control of noise and dust;
  - How the Contractor will respond to queries raised by members of the public; and
  - How the Contractor will abide by all relevant statutory requirements and published guidelines that reflect 'good practice'.
110. The DCEMP will be agreed with the relevant statutory bodies prior to commencement of construction, and performance against the DCEMP will be monitored by the Applicant's Construction Project Manager throughout the construction period.
111. Particular environmental impacts and associated mitigation measures required to be addressed within the DCEMP are discussed in the relevant sections of the submitted ES. These include:
- Noise and vibration;
  - Dust and air pollution;
  - Surface water and groundwater;
  - Ecology and ornithology (including the protection of habitats and species);
  - Cultural heritage;
  - Waste, pollution and incidence response; and
  - Site operations, including working hours and health and safety onsite.
112. The DCEMP will work in conjunction with other documents produced prior to construction, whereby the Construction Project Manager will also be required to manage all aspects of the Development.

### 3.9 Operational Phase

113. No time limit on the operational lifespan of the Development has been assumed for the purposes of this assessment. The Operational Corkey Windfarm currently operates in perpetuity without a time limited planning condition. We respectfully request that there is no time limited planning condition restricting the operational life of the Development. This will maintain the current status quo with the operational parameters of the Operation Corkey Windfarm.

#### 3.9.1 Turbine and Infrastructure Maintenance

114. Turbine maintenance will be carried out in accordance with the manufacturer's specification. The following routine turbine maintenance will be undertaken.
- Initial service;

- Routine maintenance and servicing;
  - Gearbox oil changes;
  - Blade, gearbox and generator inspections; and
  - Replacement of blades and components as required.
115. Operational site inspections will be undertaken by the Applicant's staff, on a weekly basis and the servicing of turbines will be undertaken as per the turbine manufacturers requirements, usually once per year, but with monthly visits by the manufacturer's servicing team.
116. Ongoing track maintenance will be undertaken to ensure safe access is maintained to all parts of the Development all year round.
117. In common with the wind turbines the Energy Storage Unit (ESU) will be designed to operate remotely, and only rare maintenance visits would be required once operational.
118. It is expected that the Development will continue to employ approximately 2 or 3 people on a permanent basis, for regular operational and maintenance activities.

## 4 Pre-Application Community Consultation

### 4.1 Overview of Pre-Application Community Consultation Process

119. A Pre-Application Community Consultation (PACC) Report is submitted alongside this Planning Statement, in line with the statutory requirements of section 28 of the Planning (NI) Act 2011. The PACC process formally commenced in March 2019 with the submission of a Proposal of Application Notice (PAN) by JUNO Planning to Causeway Coast & Glens Borough Council. The PAN outlined how the consultation process consisted of 2 no. stages namely in August 2017 (prior to submission of PAN) and June 2019. Both stages of consultation were focussed around information events at the Glenravel Sports & Community Complex and Loughgiel Millennium Centre. The events were advertised in the local press and invitations to the events were sent to all residential properties within 5km of the development area.

### 4.2 Pre-Application Community Consultation

120. As stated above, three rounds of Public Information Days (PIDs) were undertaken for this Development. The first round of PIDs were held on the 22nd and 23rd August 2017 at the Glenravel Sports and Community Complex and Loughgiel Millennium Centre respectively. The events ran from 2pm until 8pm on both dates. The aims of the first round of information days were to invite comments and obtain feedback in the early design stages to ensure that local considerations helped to inform design decisions. Attendees completed feedback forms.
121. One key issue that was raised at the initial consultation events related to the ornithological impacts and the effect the height of the wind turbines may have on migratory geese on their flight path. The potential ornithological effects of the Development have been assessed in Environmental Statement **Chapter 9: Ornithology**.
122. The other aspects of interest to the local community centred on community funds and benefits to the local economy. These elements are discussed in Environmental Statement **Chapter 13: Socio Economics, Land-Use and Tourism**.
123. The second round of PIDs were held on the 4th and 5th of June 2019 at the Glenravel Sports and Community Complex and Loughgiel Millennium Centre respectively. Similarly, both events ran from 2pm until 8pm. The aim of this second round of information days was to present the final design reached following the rigorous EIA process. The final round of PID was held on 26<sup>th</sup> June 2019 at Loughgiel Millennium Centre, between the 10am – 12.30 pm. The aim of this third round was to offer the public a final opportunity to review the final design of the Development, and place the ES on deposit for public viewing at this location.

124. Further information on all the PIDs, including feedback from attendees and responses as relevant is provided in the Pre-Application Community Consultation (PACC) Report submitted as part of this planning application. The PACC Report has been submitted to the Council as a standalone document as part of the planning application. The PACC Report summarises the consultation that has been undertaken with the local community, detailing how comments received were responded to.

## 5 Development Plan Assessment

### 5.1 Introduction

125. Section 45 of the Planning Act 2011, 'Determination of Planning Applications' states:

*"45.-(1) Subject to this Part and section 91(2), where an application is made for planning permission, the council or, as the case may be, the Department, in dealing with the application, must have regard to the local development plan, so far as material to the application, and to any other material considerations....."*

#### 5.1.1 The Local Development Plan

126. In this legislative context regard must be had to the Northern Area Plan 2016. The Northern Area Plan 2016 (NAP 2016) is the current statutory Local Development Plan (LDP) for the Council area.
127. The NAP 2016 comprises of Volume 1- the Plan Strategy & Framework and Volume 2- Proposals. Volume 1 Plan Strategy & Framework sets out the background to the preparation of the Plan, defines its Aim, Objectives and Plan Strategy, and, with reference to the Regional Policy Context, sets out the Strategic Plan Framework comprising allocations, policies, and designations relating to the Plan area as a whole. Despite the relative recent adoption date of the NAP 2016 (Sept 2015), the NAP 2016 has a protracted history.
128. The draft NAP was published in July 2005. Progress on the Draft NAP was significantly delayed due to a judicial challenge in relation to its Strategic Environmental Assessment considered by NI High Court and the European Court of Justice. The Planning Appeals Commission (PAC) undertook the 'independent examination' of the Draft NAP in September 2010 (strategic objections) and January 2012 (site specific objections). The former Department of Environment (DoE) received the PAC report in June 2014 with the NAP 2016 being adopted in September 2015. The publication of the Draft NAP 2016 and associated adoption of the NAP 2016 policy predates the adoption of the Strategic Planning Policy Statement (SPPS).

### 5.2 Development Plan Assessment

129. The Development Plan policies relevant to the Development are set out in **Chapter 5** of the ES. The policies are not replicated in the Statement; rather the Statement assesses the Development against the policies in order to determine the compliance of the Development with the Development Plan.
130. Planning policy considerations are presented under key environmental topics which correspond to the chapter headings of the ES. Material considerations comprising regional and national planning policy and guidance, including emerging policy, are considered in section 6 of the Statement.

#### 5.2.1 Renewable Energy Policy

131. The NAP 2016 does not have specific renewable energy policy provision or planning policy relating to energy storage development and therefore is of limited assistance in determining this planning application. Renewable energy is referenced in the context of 'Public Services & Utilities.' The 'Public Services & Utilities' section of NAP 2016 references prevailing regional planning policy, namely PPS18 Renewable Energy as relevant to renewable energy infrastructure development. In the absence of relevant local renewable energy policy, both PPS18 and the SPPS will inform planning application as relevant material considerations.

#### 5.2.2 Ecology, Fisheries and Ornithology

132. The NAP 2016 (Environment & Conservation) states that Planning Policy Statement 2: Planning and Nature Conservation (PPS2), sets out the current regional policy for the protection of conservation interests and is silent on specific local planning policy provision for ecology, fisheries and ornithology. The NAP 2016 references the sites protected at a European level (Special Protection Areas (SPA) and Special Areas of Conservation (SAC)) and at a national level (Areas of Special Scientific

Interest (SSI) and Nature Reserves). The Antrim Hills SPA is located 0.8km north-east of the Development, Main Valley Bogs SAC is located 5.2km west of the Development. The Garron Plateau is located 8.2km south-east of the Development while Breen Wood SAC is located 10km north. The Lough Neagh & Lough Beg SPA is located approximately 40km downstream via the River Maine (located approximately 3.6 km south-west of the Development).

133. **Chapter 9** of the ES assesses the impact of the Development upon the Antrim Hills SPA (designated for hen harriers and merlin) and concludes that there are no likely significant effects on the SPA owing to the distance to the SPA and the negligible predicted impacts of disturbance / displacement or collision on merlins and hen harriers. **Chapter 8** of the ES details that there are no potential likely pathways for effects from the Development to the designated sites of European importance in proximity, namely the Main Valley Bogs SAC, the Garron Plateau SAC or the Breen Wood SAC. **Chapter 8** details that there are distant indirect hydrological connections to Lough Neagh and Lough Beg SAC via the Killagan Water and River Main, though the potential effects are mitigated through embedded mitigation measures and hydrological mitigation measures proposed for the decommissioning/ construction phases of the Development, when activity will be most intense, and detailed in **Chapter 8** of the ES. **Technical Appendix A8.2** includes a shadow 'Habitats Regulation Assessment' which supports the conclusions drawn in the ecology and ornithology chapters.

### 5.2.3 Landscape & Visual Assessment

134. The NAP 2016 (Countryside and Coast) states that PPS 2: Natural Heritage sets out the Department's planning policies for the conservation, protection and enhancement of our natural heritage, which is defined as 'the diversity of our habitats, species, landscapes and earth science features'. Some local planning policy relating to the protection of landscape settings is provided, however this specifically relates to the protection of the 'The Giants Causeway & the Causeway Coast World Heritage Site.' **Chapter 6** of the ES outlines that the Causeway Coast & Glens Area of Outstanding Natural Beauty which incorporates 'The Giants Causeway' and 'Causeway World Heritage Site' has been scoped out of the EIA given the distance from the Development (18km) and the intervening landscape and wider context - including urban areas and trees, therefore no significant effects are anticipated..

### 5.2.4 Hydrology, Hydrogeology, Geology, Soils & Peat

135. The NAP 2016 does not include specific planning policy provision for hydrology, hydrogeology, geology or soils and peat. Therefore, the regional planning policy documents outlined at **section 6.1.2.9**, namely the SPPS, PPS2, PPS18 and PPS15 (Revised) Planning & Flood Risk will inform the planning application determination as material considerations.

### 5.2.5 Noise

136. The NAP 2016 does not include specific planning policy on noise and notably there is no noise planning policy relating to renewable energy proposals. Therefore, the regional planning policy documents outlined at **section 6.1.2 and 6.1.3.1** namely the SPPS and PPS18 will inform the planning application determination as a material consideration.

### 5.2.6 Archaeology & Built Heritage

137. The NAP 2016 states that Planning Policy Statement 6: Planning, Archaeology and the Built Heritage (PPS6) and PPS6 Addendum: Areas of Townscape Character set out the current regional policy for the protection of archaeology and built heritage interests. The NAP 2016 does not contain local archaeology and built heritage policy, rather it references regional planning policy. Therefore, the regional planning policy documents outlined at **section 6.1.2 and 6.1.3.4** namely the SPPS and PPS6 will inform the planning application determination as material considerations.

### 5.2.7 Access, Transport & Traffic

138. The NAP 2016 states that transport and traffic planning policy is provided for by the Planning Policy Statement 3 Access, Movement and Parking (PPS 3), and PPS 13 Transportation & Land Use. There is no specified transport and traffic planning policy in the LDP. The SPPS, PPS3 and PPS13 should therefore inform the planning application determination as material considerations.

### 5.2.8 Tourism, Recreation and Socio-Economics

139. The NAP 2016 states that PPS 16 Tourism provides the planning policy for the safeguarding of tourism assets from development likely to impact adversely upon the tourism value of the environmental asset. Furthermore, the NAP 2016 outlines that prevailing regional planning policy provides the framework for identifying appropriate development opportunities and safeguarding tourism assets from harmful development. The NAP is silent in planning policy on tourism. In the absence of specific local tourism planning policy, the planning policy provisions of the SPPS and PPS16, as outlined in **section 6.1.2 and 6.1.3.7**, should inform the planning application determination as material considerations.

140. Policy OSR1 of the NAP 2016 seeks to protect the route, character, function or recreational value of the Ulster Way, the National Cycle Network, public rights of way or permissive paths. The Development will not impact upon the function or recreational value of the Ulster Way or the National Cycle Network, public rights of way or permissive paths. This is detailed in **Chapter 13- 'Tourism, Recreation and Socio Economics'** of the ES which assesses the impact of the Development upon tourism assets which include the Ulster Way, the National Cycle Network, public rights of way or permissive paths.

## 6 Material Considerations

### 6.1 Regional Planning Policy

141. The Planning Act 2011 states that when determining a planning application, the determining authority shall have regard to the relevant provisions of the development plan and to all other material considerations. The weight to be given to each material consideration is a matter for the determining authority.
142. Given the vintage of the local development plan (NAP 2016), the regional planning policy (Strategic Planning Policy Statement (SPPS)) is more up to date than the adopted local development plan policy. Furthermore, the NAP 2016 is silent on numerous local planning policy issues, notably renewable energy policy and references regional planning policy documents (PPSs) as prevailing policy in a local context rather than specifying local planning policy.
143. The following regional planning policy documents are considered material in the determination of the Application:
- The Regional Development Strategy 2035 (RDS 2035)
  - The Strategic Planning Policy Statement (SPPS)
  - Planning Policy Statement 2- Natural Heritage (PPS 2)
  - Planning Policy Statement 3- Access, Movement and Parking (PPS 3)
  - Planning Policy Statement 6- Planning, Archaeology & Built Heritage (PPS 6)
  - Planning Policy Statement 10- Telecommunications (PPS 10)
  - Planning Policy Statement 13- Transportation & Land Use (PPS 13)
  - Planning Policy Statement 16- Tourism (PPS 16)
  - Planning Policy Statement 18- Renewable Energy (PPS 18)
  - Planning Policy Statement 21- Development in the Countryside (PPS21)

#### 6.1.1 The Regional Development Strategy 2035 (RDS 2035)

144. The RDS 2035 strategic guidance actively promotes the shift to a lower carbon economy, the mitigation and adaptation to climate change and the delivery of a secure and sustainable energy supply. The RDS sets out supplementary regional guidance within the document which seeks to increase the contribution of renewable energy to the overall energy mix, to strengthen the grid infrastructure, and to develop 'smart grid' initiatives. Importantly the increase of renewable energy provision is highlighted as a key climate change adaption measure. The climate change adaption measures identified by the RDS include the re-use of land, buildings and materials and the protection and extension of eco-systems and habitats that can reduce or buffer the effects of climate change.
145. The Development supports the strategic objectives of the RDS 2035, through an increase in the provision of renewable energy, and it represents innovation in the renewable energy sector being among the early Repower projects in NI. The provision of approximately 20MW of electricity from the Development aligns with the shift to a lower carbon economy, the mitigation and adaption to climate change and also the delivery of a secure and sustainable energy supply. The Development will utilise existing infrastructure, wherever possible to minimise the impact upon the receiving environment. The ancillary energy storage element of the proposal will strengthen grid infrastructure and the co-located rooftop solar facilities represents an opportunity to deploy the latest technology across renewable energy including turbines.

#### 6.1.2 The Strategic Planning Policy Statement (SPPS)

##### 6.1.2.1 Overview

146. The SPPS is the regional planning policy document for Northern Ireland. It contains a suite of planning policy and is a material planning consideration in the determination of all planning applications in Northern Ireland. As the local development plan is silent on renewable energy policy the policy provision of the SPPS is an important material consideration.

147. The SPPS (section 3.7) is supportive of sustainable development and expounds that:

*"furthering sustainable development also means ensuring "furthering sustainable development also means ensuring the planning system plays its part in supporting the Executive and wider government policy and strategies in efforts to address any existing or potential barriers to sustainable development. This includes strategies, proposals and future investment programmes for key transportation, water and sewerage, telecommunications and energy infrastructure (including the electricity network)."*

148. The SPPS also provides that the planning system should help to mitigate and adapt to climate change through (amongst other measures) the promotion of renewable energy provision. The SPPS acknowledges that NI has significant renewable energy resources and a vibrant renewable energy sector noting that:

*"Renewable energy reduces our dependence on imported fossil fuels and brings diversity and security of supply to our energy infrastructure. It also helps Northern Ireland achieve its targets for reducing carbon emissions and reduces environmental damage such as that caused by acid rain. Renewable energy technologies support the wider Northern Ireland economy and also offer new opportunities for additional investment and employment, as well as benefitting our health and well being, and our quality of life."*

149. Furthermore, the SPPS (section 6.218) states that the:

*"aim of the SPPS in relation to renewables is 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."*

150. The SPPS (section 6.219) details the regional strategic development objectives for renewable energy which are to:

- ensure that the environmental, landscape, visual and amenity impacts associated with or arising from renewable energy development are adequately addressed;
- ensure adequate protection of the region's built, natural, and cultural heritage features; and The PfG contains a target for a reduction in greenhouse gas emissions by at least 35% on 1990 levels by 2025.
- facilitate the integration of renewable energy technology into the design, siting and layout of new development and promote greater application of the principles of Passive Solar Design

151. The Development is sited at the existing operational Corkey windfarm where the local and wider landscape visually accommodates the windfarm. The Development, where possible, utilises existing windfarm infrastructure to minimise environmental and amenity impacts. The Development supports the move to a low carbon economy, helps combat climate change, creates opportunities for investment and employment within the Council area and NI (detailed in **Chapter 13- 'Tourism, Recreation, Land- Use and Socio Economic'** of the Environmental Statement. The development incorporates other innovative renewable technologies including roof-top solar provision and an ancillary energy storage element.

#### 6.1.2.2 Renewable Energy Policy

152. SPPS planning policy outlines that renewable energy development proposals will be permitted where the proposal will not result in an unacceptable adverse impact on (i) public safety, human health, or residential amenity, (ii) visual amenity and landscape character, (iii) biodiversity, nature or built heritage assets, (iv) local natural resources, such as air quality, water quality or quantity, and (v) public access to the countryside.

##### 6.1.2.2.1 Public Safety & Human Health

153. A Human Health Impact Assessment (HHIA) is included as part of the overall EIA process. This is summarised and detailed in **Chapter 14-Other Issues** in the ES. With respect to the Development, this draws together the findings of other assessments undertaken as part of the ES. The assessment is supported by a risk assessment carried out by MMI Thornton Tomasetti who specialise in a number of areas including risk management; safety engineering; and structural amendments. The HHIA had regard to the findings of the following assessments:



- **Traffic & Transportation (ES Chapter 12: Access, Traffic and Transport);**
- **Noise (ES Chapter 10: Noise)**
- **Residential Visual Amenity Assessment (RVAA)**
- **Shadow Flicker (ES Chapter 14: Other Issues)**
- **Health and Safety at Work including Best Practice**

154. Regarding public safety and human health, the submitted **HHIA and risk assessment** indicates that the Development is unlikely to negatively impact people's health and wellbeing in its widest sense. There are no effects that:

- Cause potentially severe or irreversible negative effects;
- Affect a large number of people to an unacceptable level; or
- Specifically, may affect groups of people who already suffer poor health are socially excluded to an unacceptable level.

155. Importantly the MMI Thornton Tomasetti risk assessment concludes the following:

*"We note that in Northern Ireland there is some "best practice" planning guidance in BPG Planning Policy Statement 18 "Renewable Energy". This recommends a separation distance of 10 times rotor diameter to nearby occupied property. We are not aware of the origin for this recommended separation distance. Our assessment has been carried out on the basis of site specific factors, taking account of recorded wind conditions and the wind turbine design proposed for the site. Based on this detailed analysis, our conclusion is that the risks related to blade throw and fragmentation posed by the proposed wind turbines at Corkey Windfarm are well within the "Broadly Acceptable" region and therefore that no further mitigation is required. "Broadly Acceptable" is the lowest category of risk defined by the HSE and to provide this in context, the same order of magnitude can be attached to the likelihood of a fatality from a lightning strike (1 in 18,700,000 fatalities per year in the UK)."*

#### 6.1.2.2.2 Residential Amenity

156. The submitted ES reviews the impact upon residential amenity across a number of ES chapters including:

- **Noise (Chapter 10- Noise)**
- **Shadow Flicker (ES Chapter 14-Other Issues)**

157. In addition to the ES documents, a **Residential Visual Amenity Assessment** is submitted as a stand-alone document as part of the planning application.

158. The Noise assessment concluded that all noise effects likely to arise from the Development were not considered as significant upon the existing and permitted residential units in the vicinity. Decommissioning/construction noise will be limited in duration and confined to working hours, as agreed with the Council, and therefore can be adequately controlled through the application of good practice measures and secured by planning condition. This will ensure that any noise from the Development site during construction will be adequately controlled. Operational noise has been assessed in accordance with ETSU-R-97 and in line with current best practice. It has been shown that the Development would comply with the requirements of ETSU-R-97 at all receptor (including residential unit) locations. The cumulative effects of the Development in conjunction with nearby wind energy developments either operational, consented or the subject of a current planning application were taken into consideration in the above assessment, in accordance with ETSU-R-97 and regional planning policy.

159. The **Residential Visual Amenity Assessment (RVAA)** details an assessment for each property or property cluster within specified distances from the proposed turbines. The RVAA identifies no residential properties within 0.5 km, two within 0.5 to 1 km, 32 within 1 to 1.5 km and a further 62 within 1.5 to 2 km. The significance of the effect on residential visual amenity experienced at each property is dependent on a range of factors considered in the sensitivity and the magnitude of change resulting from the Development. These judgements on sensitivity and magnitude are combined to arrive at an overall assessment as to whether the Development would have an effect that is significant or not significant on residential visual amenity.

160. The RVAA details that the difference between significant visual effects and what might be considered to be an unacceptable or overbearing effect on residential visual amenity has evolved through Public Local Inquiry (PLI) decisions over the past decade. The factors considered in such an assessment are widely recognised by professional Landscape Architects and decision makers and are often referred to as ‘the Lavender test’ after the Inspector who first developed the concept. The factors considered in the so called ‘Lavender test’ requires a level of visual effect to arise which is greater than a significant visual effect in EIA terms, for the impact to be unacceptable in planning terms. This is referred to as the Residential Visual Amenity Threshold. The magnitude of effect must be to such a degree that a property would become widely regarded as an unattractive place in which to live. This public interest test therefore has a higher threshold than ‘significant’ in EIA terms. This approach is commonly applied to the assessment of visual effects on residential amenity. The approach has been refined through decisions for Inquiries and Appeals into wind farm applications across the United Kingdom and recognises that, given no person is entitled to a view in law, it is not sufficient for a property to simply sustain a significant visual effect for its residential amenity to be unacceptably harmed. For residential visual amenity to be harmed a higher threshold requires to be triggered, whereby the turbine(s) are at such proximity to a house, or in such number, that they lead to an overwhelming or overbearing effect on the property to the extent that it becomes an unattractive place in which to live. Where this occurs, the matter affects the public interest, as such an outcome would be considered to harm the provision of good housing stock.

161. Of the 96 residential properties considered within the RVAA, 11 are considered to have no effect either due to no theoretical visibility of the Development or because visibility is obscured by intervening landscape elements. Of the 85 properties that have views of the Development, 39 are found to have significant effects. On the basis of the RVAA assessment for the Development, it is not considered that the visual effect on any of the assessed nearby residential properties would lead to Residential Visual Amenity Threshold being required. None of the properties within the 2 km radius were assessed as having a high magnitude of change and therefore none would require a Step 4 assessment to determine Residential Visual Amenity Threshold. Therefore, the RVAA concludes that residential visual amenity of existing and committed residential receptors will not be adversely affected to such a degree that the impact results in a property becoming an unattractive place to live.

162. The 'Shadow Flicker Assessment' is contained within Chapter 14 of the ES. The ES details the effects of shadow flicker upon sensitive receptors, including residential units, during the operational phase of development. In line with prevailing guidance (PPS18 Best Practice Guidance) and additional UK guidance (Planning Practice for Renewable and Low Carbon Energy) a 'Study Area' of ten times rotor diameter distance (1,200 m) and 130 degrees either side north around each proposed turbine location was mapped, and the potential impact upon residential units within the study area assessed. A conservative assessment approach was taken, whereby shadow flicker screening effects provided by trees or buildings have not been taken into account. This reduces or indeed eliminates shadow flicker from occurring in practice.

163. Three residential properties are located within the shadow flicker study area and the details are provided in Table 6.1 below:

**Table 6.1: Potential Shadow Flicker Assessment Locations**

Property Name	Easting	Northing	Nearest Turbine	Distance to Nearest Turbine (m)
21 Reservoir Road	309979	422676	3	770
42 Reservoir Road	309761	422704	3	988
15 Reservoir Road	309652	422220	4	1,052

164. Shadow flicker effects are calculated as being possible for up to a theoretical maximum of 42 hours at 21 Reservoir Road, 28 hours for 42 Reservoir Road and 33 hours at the property at 15 Reservoir Road. Accounting for typical weather conditions across a year, the actual likely shadow flicker effect is much lower and is estimated as 6 hours per annum at 21 Reservoir Road, 3.5 hours at 42 Reservoir Road and 4 hours per annum for 15 Reservoir Road.

165. Further investigation of all three properties has been undertaken based on aerial imagery and photographs available from site visits. All 3 properties appear to have large windows which will reduce the likely shadow flicker effect. The property located at 15 Reservoir Road is orientated northwest/southeast with very large windows on all sides of the extension, which is on the north eastern side of the house. Smaller windows are located on the main house building, these face southeast rather than towards the Site. 21 Reservoir Road is orientated southwest/northeast looking along the valley with a steep scarp slope on the south eastern side. There are no apparent windows on the gable ends. The property located at 42 Reservoir is

orientated southwest/northeast and is surrounded by farm buildings and hedges. As a result, effects are likely to be much lower than the worst-case scenario assessed, and in practice may not be experienced at all.

166. The Shadow Flicker Assessment also assesses the potential impact of shadow flicker arising from the Development when considered cumulatively with existing and proposed windfarms and wind turbines. The only property theoretically affected is No.15 Reservoir Road. The cumulative shadow flicker effect at No.15 Reservoir Road arises from the Development and a single Vestas V27 turbine (referenced as Reservoir 1/ Application Ref No. D/2011/0043/F) which is located within ten times rotor diameter of No.15 Reservoir Road. No.15 Reservoir Road will not theoretically experience shadow for more than the 30 hours per year identified within NI guidance. It is possible that, on a clear day, shadow flicker could occur for up to 40 minutes per day at No.15 Reservoir Road. Further modelling indicates that this could only theoretically occur on 33 days a year. Information available from aerial imagery and photographs taken from site visits, shows that the property at 15 Reservoir Road has very large windows on all sides of the extension, which is on the north eastern side of the house. Smaller windows are located on the main house building, these appear to face south-east rather than towards the Site. As a result, cumulative shadow flicker effects are likely to be much lower, and in practice may not be experienced at all. In any event measures to prevent any shadow flicker effects from occurring are also set out within **Chapter 14**.

167. Therefore, the Development will not have an unacceptable adverse impact upon public safety, human health or residential amenity.

#### 6.1.2.2.3 Visual Amenity & Landscape Character

168. **Chapter 6 Landscape & Visual Assessment** of the ES provides a comprehensive assessment of the impact of the Development upon the visual amenity and landscape character upon an agreed (with statutory consultees and CC&GBC during the EIA scoping process) within a defined radius of 30 km Study Area of the Site.

169. In respect of effects on landscape elements, the assessment found no significant effects would arise in relation to the loss of the rough grass moorland as a result of the decommissioning of Operational Corkey Windfarm and construction of the Development. The losses would comprise only a small proportion of a much wider landscape element and would occur in an area where operational windfarms are currently sited. Effects have been minimised by deploying a design strategy to utilise existing infrastructure associated with Operational Corkey Windfarm wherever possible. Rough grass moorland would be reinstated in those areas where infrastructure would be removed during the decommissioning of Operational Corkey Windfarm and, if decommissioning of the Development did occur at the end of its lifetime, rough grass moorland would be reinstated in those areas also, making the effect reversible.

170. In respect of effects on landscape character, the assessment found there would be significant effects within a localised 5 km radius of the Development where views are obtained. The effects on landscape character would be moderated by the existing presence of Operational Corkey Windfarm which would be replaced by the Development. Not all areas within this 5 km radius would incur significant effects owing largely to the screening effect of landform and forestry. Landscape Character Areas beyond this 5km radius would not incur significant effects.

171. Parts of the following three LCAs would be significantly affected. The Moyle Moorlands and Forests LCA would be significantly affected where it falls within the Immediate Landscape Setting of the Development (0 to 2 km) and in parts of the Local Landscape Setting (2 to 5 km); including across the Bush Valley to the north, across Slievenanee and Slieverush to the south-east and along the Slieveanorra ridgeline to the north-east, during the decommissioning of Operational Corkey Windfarm, the construction phase of the Development and the operational phase of the Development in areas where views can be obtained. The Cullybackey and Clough Mills Drumlins LCA would be significantly affected where this LCA falls within the Local Landscape Setting during the decommissioning of Operational Corkey Windfarm and the construction phase of the Development. The same area would be significantly affected during the operational phase of the Development, with the exception of the north-eastern part of the LCA. The Central Ballymena Glens would be significantly affected during the decommissioning of Operational Corkey Windfarm and the construction phase of the Development, out to approximately 3 km of where this LCA falls within the Local Landscape Setting but not beyond, with no significant effects occurring during the operational phase.

172. In respect of landscape designations, the assessment found that there would be significant effects in those parts of the Antrim Hills and Glens AONB, coinciding with the extent of the significant effects identified in respect of the Moyle Moorlands and Forests LCA and the Central Ballymena Glens LCA above. However, visibility of the Development would largely occur in those areas where visibility of operational windfarms already occurs, with the vast majority of the AONB remaining unaffected

by the Development. Additionally, despite the Development being located close to the AONB boundary, visibility of the turbines across the wider AONB area is restricted by the ridge of hills on which the Operational Corkey Windfarm is located and a higher ridge of hills to the immediate east.

173. All other designated areas in the Study Area would remain unaffected during the decommissioning of Operational Corkey Windfarm and the construction and operational phases of the Development. This assessment includes Lissanoure Historic Garden, which despite its relatively close range, is well enclosed by mature tree cover and would, therefore, not incur a significant effect.
174. In respect of effects on visual amenity, of the 18 viewpoints assessed as part of **Chapter 6 of the ES**, the assessment found that ten of the 18 viewpoints assessed, and one of the five principal visual receptors assessed, would be subject to significant effects during the decommissioning of Operational Corkey Windfarm, the construction phase of the Development and the operational stage of the Development. These viewpoints and principal visual receptor are listed below:
- Viewpoint 1: Corkey;
  - Viewpoint 2: Lislaban;
  - Viewpoint 3: Reservoir Road;
  - Viewpoint 4: Loughgiel;
  - Viewpoint 5: Altnahinch Road south;
  - Viewpoint 6: Altnahinch Reservoir;
  - Viewpoint 7: Slieveanorra;
  - Viewpoint 11: Ballyweeny, Ballyveely Road;
  - Viewpoint 12: Altnahinch Road north;
  - Viewpoint 14: Kilmandil; and
  - Moyle Way long distance footpath (part of the Ulster Way over a 1.3 km section to the south of Slieveanorra summit and the 1.5 km section to the west of Trostan summit and no effect where there would be no visibility across the majority of the route.
175. The viewpoints would mostly be affected owing to their close proximity to the Development, with all viewpoints lying within 5.5 km of the Development undergoing significant effects. In the assessment of visual effects associated with windfarm developments, it is not uncommon for significant effects to extend across this extent of the Study Area. All viewpoints beyond this range would not undergo significant effects as a result of the Development.
176. The most relevant windfarms to the cumulative considerations are operational windfarms and form part of the baseline situation. The assessment of the Development in addition to the cumulative situation is, therefore, largely covered by the main assessment as this takes into account all the operational windfarms. There are a number of consented wind turbines located in the Cullybackey and Clough Mills Drumlins LCA to the west and the Central Ballymena Glens LCA to the south, which are mostly single or paired turbines. The cumulative effect of the Development in conjunction with these turbines is considered not significant.
177. In summary, the Development would give rise to significant effects on landscape character during the decommissioning of Operational Corkey Windfarm, and the construction and operation of the Development, albeit contained within the localised extent of approximately 5 km. The Development would give rise to significant effects on visual amenity out to approximately 5.5 km during the decommissioning of Operational Corkey Windfarm, and the construction and operation of the Development, in instances where views of the Development are obtained. While landscape and visual receptors beyond the 5 km and 5.5 km radii may be affected by the influence of the Development, these effects would not be significant. Furthermore, not all landscape and visual receptors within the 5 km and 5.5 km radii would incur significant effects, for example Slieveanorra Forest where no visual influence occurs. While there would be potential for cumulative effects to arise in respect of the addition of the Development to a cumulative baseline comprising the single and paired turbines, and windfarms in the surrounding agricultural landscapes, the assessment has found that no significant cumulative effects would arise. All effects during the decommissioning of Operational Corkey Windfarm and the construction of the Development would be short term and reversible and all effects during the operation of the Development would be permanent and reversible.
178. The Development will not have an unacceptable adverse impact upon Visual Amenity and Landscape character. The Development shares a very similar zone of visibility with the Operational Corkey Windfarm, with the significant visual effects

contained within close proximity (a 5-5km range) of the Development. In this context, Para 6.230 of the SPPS states “*wind farm developments are by their nature highly visible yet this in itself should not preclude them as acceptable features in the landscape*”.

#### 6.1.2.2.4 Biodiversity & Natural Heritage

179. **Chapter 8- 'Ecology & Fisheries'** and **Chapter 9- 'Ornithology'** of the **ES** evaluates the effects of the Development on ecosystems and their components, including designated sites, habitats, flora and fauna. This chapter of ES is supported by the following Technical Appendix documents provided in **Volume 3 Technical Appendices**:

**A8.1 Habitat and Peat Assessments;**  
**A8.2 Habitats Regulations Assessment;**  
**A8.3 Bat Report; and**  
**A8.4 Fisheries Report.**

180. The ecology and fisheries assessment was informed by key legislation relating to nature conservation in Northern Ireland as follows:

- Wildlife and Natural Environment Act (Northern Ireland) 2011;
- Environment Order (Northern Ireland) 2002;
- Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995;
- Nature Conservation and Amenity Lands Order 1985;
- Wildlife (Northern Ireland) Order 1985; and
- Fisheries (Northern Ireland) Act 1966

181. Subject to the successful implementation of the proposed mitigation measures, the Development will have neutral or slight-positive effects on all Important Ecological Features. Therefore, the Development will not cause any significant negative effects on designated sites, habitats, legally protected species, or any other features of ecological importance.

182. Proposed mitigation measures include a 'Habitat Management Plan' which encompasses a range of proposed habitat reinstatement and compensation measures. An Ecological Clerk of Works (ECoW) will be employed for the duration of the construction works. The role of the ECoW is to assist the contractor with the interpretation and implementation of the ecological mitigation measures, including the Habitat Management Plan (**Appendix A3.2 of the ES**) and other relevant documents.

183. Further details on the potential impact of the Development on active peatland habitat is provided in **section 6.1.2.3** below. The Development will not have an unacceptable adverse impact on Biodiversity or Natural Heritage.

184. **Chapter 9- Ornithology of the ES** details that the Development has incorporated ornithological constraints, where possible, including avoidance of extant priority species and habitats within the Development. **Chapter 9** concludes that there are not considered to be significant effects from the Development on ornithology, subject to implementation of mitigation and monitoring recommendations which can be prescribed via planning conditions.

#### 6.1.2.2.5 Built Heritage Assets

185. **Chapter 11 'Archaeology and Built Heritage of the ES** evaluates the effects of the Development on the archaeology and cultural heritage resource within an agreed study area (agreed with Statutory Consultees and CC&GBC during EIA scoping). Statutory protection for archaeology is principally outlined in:

- Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995<sup>15</sup>; and
- The Planning (Listed Buildings) Regulations (Northern Ireland) 2015<sup>16</sup>, as amended.

186. **Chapter 11** concludes that there would be no direct effects likely upon known archaeological features within the Core Study Area as none are recorded within the Development footprint. Due to the deliberate re-use of infrastructure associated with the

<sup>15</sup> Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995. Available at <http://www.legislation.gov.uk/nisi/1995/1625/contents/made> [Accessed 22/11/2017]

<sup>16</sup> The Planning (Listed Buildings) Regulations (Northern Ireland) 2015. Available at <http://www.legislation.gov.uk/nisr/2015/108/contents/made> [Accessed 22/11/2017]

Operational Corkey Windfarm, combined with the exposed upland topography which limits land use to pastoral and transhumance activities, the potential for damage to or destruction of unknown buried archaeological remains is very low. However, should unknown archaeology survive within undisturbed portions of the Development footprint, that haven't already been impacted by ongoing agricultural activity, these would likely be damaged or destroyed resulting in a minor to moderate effect and a programme of archaeological works to secure preservation by record is recommended within these areas only.

187. There would be no significant indirect effects, associated with changes to settings, upon heritage assets in the surrounding historic environment from the Development, either in isolation or cumulatively with other windfarm development.

188. The Development will therefore not have an unacceptable adverse impact on Built Heritage Assets.

#### 6.1.2.2.6 Local Natural Resources- Air Quality & Water Quality or Quantity

189. **Chapter 7 of the ES** evaluates the effects of the Development on the hydrology, hydrogeology, geology and peat resource. The chapter is supported by the following ES Technical Appendices documents provided in **Volume 3 of this ES**:

**A3.1: Outline Decommissioning/Construction Environmental Management Plan (DCEMP);**

**A3.2: Draft Habitat Management Plan;**

**A7.1: Peat Slide Risk Assessment (PSRA);**

**A7.2: Outline Water Construction and Environmental Management Plan (WCEMP) which will form part of the final DCEMP;**

**A7.3: Dipwell Monitoring Results; and**

**A7.4: Peat Management Plan.**

190. The hydrology and hydrogeology Study Area is based on the Site Boundary at the time of EIA Scoping (the Study Area), and a second wider study area includes a 10 km radius from the Study Area (the Wider Study Area) in order to assess the potential effects of the Development on the wider hydrological environment. The study area for potential effects on public and private water supplies is defined as a 2 km radius of the Site Boundary as agreed at the time of EIA Scoping. Further detail on the potential impact of the Development on peat is provided in **section 6.1.2.3**.

191. Embedded mitigation measures are set out within the **outline Decommissioning & Construction Environmental Management Plan** (provided as **Technical Appendix A3.1**). This document is supplemented by the **Water Construction and Environmental Plan (WCEMP)**, provided as **ES Technical Appendix A7.2**, which sets out specific mitigation relating to this Development. **The WCEMP** contains additional good practice methods that are established, and effective measures focused on the hydrological environment. There is confidence in the effectiveness of the measures set out in both documents for them to be treated as part of the Development and therefore are considered embedded mitigation. The requirement of a **DCEMP** which would also contain the provisions outlined within the proposed **WCEMP**, secured as part of a planning condition, is considered standard practice for Developments of this nature

192. **Chapter 7** assessed the likely significance of effects of the Development on hydrology and hydrogeology. With the embedded mitigation measures proposed, the Development has been assessed as having the potential to result in effects of negligible or low significance, the same conclusions are drawn in respect the cumulative assessment undertaken. Given that only effects of moderate significance or greater are considered significant in terms of the EIA Regulations, the potential effect on hydrology and hydrogeology is considered as not significant. **Chapter 12 of the ES** assesses the impact of the increase of traffic associated with the Development upon air quality. The assessment considers that as the increase in traffic on haul routes is temporary and reversible that the effect on air quality is negligible and not significant in terms of the EIA Regulations.

193. The Development will not have an unacceptable adverse impact upon the local resources which includes air quality, water quality or quantity.

#### 6.1.2.3 Active Peatland

194. The SPSS highlights that active peatland is of particular importance to Northern Ireland for biodiversity, water and carbon storage qualities. Renewable energy development on active peatland will not be permitted unless there are imperative reasons of overriding public interest as defined under The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 as amended.

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195. **Chapter 7- of the ES 'Ecology & Fisheries'** assesses the impact of the Development upon active peat. The assessment was also informed by the following ES documents:
- **A8.1- Habitats and Peat Assessment**
  - **A7.1- Peat Slide Risk Assessment**
  - **A3.2- Draft Habitat Management Plan (DHMP)**
196. In recognition of the high importance afforded to active peatland in the SPPS, additional assessments were undertaken for any habitats that could qualify as 'active peat'. Classification of active peat habitats can be complex, particularly in disturbed habitats and around the margins of peatland bodies, so a bespoke classification system was developed for this Development, in order to provide a systematic and transparent approach. The first step involved classifying habitats into three categories, as follows:
- Active peat: these areas supported the NVC M19 community, had a peat depth of >1 m, and intact hydrology;
  - Possible active peat: these areas supported modified blanket bog (including drained / oxidised areas on deep peat), wet heath or heath - mire transition habitat, and peat depths of >0.5 m; or
  - Not active peat: these areas did not support heath or bog vegetation, had a peat depth of <0.5 m, and/or a highly-modified hydrological regime.
197. Further assessments and fine-scale mapping were undertaken within the 'active peat' and 'possible active peat' zones, based on the presence of indicator plant species, the depth of the underlying peat layer, and the hydrological condition of the peatland unit (based on the NIEA-NED Guidance note on Active Peat).
198. Initial habitat and peat assessments were carried out at the locations of all proposed turbines and hardstands in order to characterise the habitat. Following a meeting with the NIEA (Natural Environment Division) in February 2019, potential areas of active peat at the proposed locations of Turbines 2 and 3 were discussed, and intensive sampling was carried out at each location. This involved carrying out a series of random located quadrats (of 1 m x 1 m dimensions) across the extent of the hardstand and access tracks, with 35 no. quadrats in the area of Turbine 2 and 32 no. quadrats in the area of Turbine 3. The following data was collected in each quadrat:
- Peat depth, accurate to 0.1 m;
  - The coverage of vascular plants and bryophytes, measured using the DOMIN scale;
  - The cover of each Sphagnum and Eriophorum species, and their combined total;
  - Cover of atypical plants (e.g. grasses, rushes) and bare peat;
  - Hydrological condition, including anthropogenic modifications (e.g., vertical peat banks caused by turf cutting or erosion), and micro-topographical features (hummocks and hollows); and
  - A decision on whether or not the habitat could be classified as active peat, and a rationale for the decision.
199. Active peat assessments for all aspects of the proposed Development were undertaken. The proposed locations of Turbines 2 and 3 will be on wet modified bog and wet heath habitats that have localised pockets of active peat, but in both cases the majority of the affected area is not active peat. The proposed location of Turbine 1 will be on an area of wet modified bog, which has some localised pockets of active peat, but the extent of effect is reduced by the re-use of an existing hardstand platform. Some tight corners in the existing track will need to be widened into blanket bog (which is active peat at these locations) in order to accommodate modern turbine delivery vehicles, but the extent of impact is small. In all of these cases, the impacts on active peat are considered to be negligible. The proposed locations of Turbines 4 and 5 are not on active peat, nor are any other aspects of the Development.
200. Proposed habitat management (measures will involve the restoration of approximately 9.41 ha of degraded blanket bog, with the aim of restoring most of these areas to intact blanket bog. These measures will reduce the rate of water loss from the bog, and thus will create wetter conditions at the peat surface, providing favourable conditions for the re-establishment of active peat in areas that are currently inactive. In the short to medium term the development will have a slight positive effect on local status of active peat, and this will be permanent.
201. Therefore, as the loss of active peat during construction works will be negligible at all locations, and the habitat management measures are expected to an overall increase in the extent of active peat in the Study Area, the Development will have a slight positive effect on active peat in the short to medium term.
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202. All turbines will have a micro-siting flexibility of up to 50m to account for local ground conditions. Turbines 2, 3, 4 and 5 are located in areas of relatively homogenous habitat, so micro-siting of these turbines would not change the significance of any ecological effects. However, Turbine 1 is surrounded on all sides by intact blanket bog (which is active peat), and it is possible that micro-siting could increase the effect on this habitat. Therefore, the Ecological Clerk of Works will review any proposed micro-siting for this Turbine in order to ensure that it has no additional effect on intact blanket bog. Similarly, any micro-siting of turbines within the 50m / 20m exclusion zones around streams / drains will be reviewed by the ECoW.
203. With the implementation of the proposed mitigation measures, including the HMP measures, the Development will have a slight-positive effect on active peat, with the active peatland condition at the site improved overall. Therefore, the Development will not cause any significant negative effects on active peat and is compliant with this aspect of planning policy. This approach is consistent with the PAC decision on Planning Appeal Ref No.2012/A0070 (5 no. turbines at Altnagolan, Co.Tyrone) whereby the Commissioner highlighted that in respect of potential impact upon active-peat, non-active blanket bog and upland heathland NIEA-NED were “*satisfied that appropriate habitat management measures will be implemented on the site that would compensate for the loss of and damage to Northern Ireland priority habitats.*” Having regard to PAC decision on Planning Appeal Ref No.2012/A0186 (11 no.turbines at Meenablagh, Co.Tyrone) the applicants have ensured that adequate mitigation and compensatory measures are detailed in the submitted ES documents (Chapter 7, **A8.1- Habitats and Peat Assessment, A7.1- Peat Slide Risk Assessment, A3.2- Draft Habitat Management Plan (DHMP)**) to provide surety to the consenting authorities that the proposed mitigation and compensation measures are technically achievable.

#### 6.1.2.4 Impact Upon Designated Landscapes & Wider Environmental, Economic and Social Benefits of Renewable Energy

204. The SPSS espouses a cautious approach for renewable energy proposals within designated landscapes such as AONBs and World Heritage Sites. SPSS policy states that the wider environmental, economic and social benefits of renewable energy proposals are material considerations that will be given appropriate weight in the planning application determination process. Policy also provides that renewable energy proposal will not be permitted unless there are imperative reasons of over-riding public interest as defined under ‘The Conservation Regulations (NI) 1995’, as amended.

##### 6.1.2.4.1 Impact Upon Designated Landscapes

**Chapter 6 of the ES - 'Landscape & Visual Assessment'** assesses the impact of the Development upon designated landscapes including the Antrim Hills and Glens Area of Outstanding Natural Beauty. As noted previously the Site is located on the western periphery of the Antrim Hills, which coincides with the western boundary of the Antrim Coast and Glens AONB, it is not located within the AONB. In any event the iterative design process refined the original layout to help mitigate the potential effects of the Development on the landscape and visual receptors. The key consideration has been the potential effects on the Antrim Coast and Glens AONB and the views from the nearby minor roads and rural settlements. It should be noted that the Development does not lie within the AONB and therefore will only affect the character through its visibility from within the AONBs. This chapter also assessed the impact of the Development upon other designated landscapes/ sites which included Lissanoure Historic Garden.

205. Despite the Development being located close to the AONB boundary, visibility of the turbines across the wider AONB area is restricted by the ridge of hills on which the Operational Corkey Windfarm is located and a higher ridge of hills to the immediate east. In views from the AONB operational windfarms are already visible to the immediate and more distant west, while there are no windfarm developments to the east.
206. In respect of landscape designations, the assessment found that there would be significant effects in those parts of the Antrim Hills and Glens AONB, coinciding with the extent of the significant effects identified in respect of the Moyle Moorlands and Forests LCA and the Central Ballymena Glens LCA above. All other designated areas in the Study Area would remain unaffected during the decommissioning of Operational Corkey Windfarm and the construction and operational phases of the Development. This assessment includes Lissanoure Historic Garden, which despite its relatively close range, is well enclosed by mature tree cover and would, therefore, not incur a significant effect.
207. The Development would give rise to significant effects on landscape character and visual amenity during the decommissioning of Operational Corkey Windfarm, and the construction and operation of the Development, albeit contained within the localised extent of approximately 5 km, inclusive of that area contained within the AONB. All effects during the decommissioning of Operational Corkey Windfarm and the construction of the Development would be short term and reversible and all effects during the operation of the Development would be permanent and reversible.



208. The Client has undertaken a cautious approach throughout the interactive design process to minimise, the site does not lie within the AONB, and therefore this policy is not in effect engaged, in any event effects upon the special qualities of the Antrim Hills and Glens AONB and therefore the Development is consistent with SPPS policy.

#### 6.1.2.4.2 Wider Environmental, Economic and Social Benefits of Renewable Energy

209. The SPPS states that the wider environmental, economic and social benefits of all proposals for renewable energy projects are material considerations that will be given appropriate weight in determining whether planning permission should be granted. **Chapter 13 'Tourism, Recreation, Land-use & Socio-Economic'**, prepared by Biggar Economics and Arcus Consulting assesses the impact of the Development on the social and economic resource of Causeway Coast and Glens (local) and on Northern Ireland as the wider region.

210. Biggar Economics were engaged to assess the economic impact of the Development and review the social and environmental benefits. Regarding economic benefits arising from the Development. **Chapter 13** outlines that during the development/decommissioning/ construction phases the following positive direct benefits will be accrued:

#### Positive Direct Economic Benefits- Development/Decommissioning/ Construction

- SPR will hold a series of meet-the-buyer events as early as possible, allowing local contractors to learn about opportunities to bid for contracts, and time to upskill in advance of any tender exercise. SPR has significant experience in organising these types of events and has a good understanding of the local area's capacity given that it currently operates Corkey Windfarm.
- Training and support for local businesses can be organised to increase their capacity to bid for construction contracts. SPR can encourage suppliers to work with partners such as the Department for the Economy and the Northern Regional College, which has branches in Ballymoney, Coleraine and Ballymena.
- SPR can also implement a Local Contractor Policy where additional weight in the tendering process can be given the primary contractors that show a commitment to increasing local content in their supply chains. An auditing process could also be undertaken so that the amount of local content sources during the construction phase is recorded.
- Employment opportunities that may be available for local contractors include:
  - Development and planning;
  - Balance of plant;
  - Turbines; and
  - Grid connection.
- The economic impact of the development/decommissioning/ construction phases was estimated for Causeway Coast and Glens Local Government District and Northern Ireland. In order to do this, it was necessary to estimate the proportion of each type of contract that might be secured within each of the Study Areas. To estimate the expenditure for each contract in each of the study areas these percentages were applied to the estimated size of each component contract. The assumptions were based on the average from the NIRIG research, analysis of the industries and professions in each of the Study Areas, BiGGAR Economics previous experience and information provided by the developer.
- It was estimated that Causeway Coast and Glens Borough Council could secure contracts worth £1.5 million which is equivalent to 7% of capital expenditure. It is considered that this represents a temporary effect of minor positive significance to the local economy.
- It was estimated that Northern Ireland as a whole could secure contracts worth £6.4 million which is equivalent to 29% of capital expenditure. It is considered that this represents a temporary effect of minor positive significance to the regional economy.
- The employment effects during the development/ decommissioning/construction phases are reported in job years rather than Full-time equivalents (FTE's) because the contracts would be short term. It is anticipated that the decommissioning construction phase would support 11 job years in Causeway Coast and Glens and 45 job years for Northern Ireland. Given the levels of unemployment at the Borough level and in Northern Ireland, this represents a temporary, beneficial effect of minor significance to the local and regional economy.

211. **Chapter 13** outlines the positive indirect economic benefits arising from the Development during decommissioning/ construction including:

#### Positive Indirect Economic Benefits- Development/Decommissioning/ Construction

- It is likely that those who benefit from direct employment during the decommissioning/construction phase will have an indirect benefit on the wider economy when they spend their salaries. Research undertaken by RenewableUK in 2012<sup>17</sup> found that the average salary for employees in the onshore wind sector is £34,600. It was therefore estimated that £0.4 million would be paid to staff directly employed during the construction and development phases of the Proposed Development in Causeway Coast and Glens, and £1.6 million would be paid in salaries throughout Northern Ireland. Assumptions were made regarding the location of employee expenditure. It was assumed that employees that live in Causeway Coast and Glens would spend 40% of their salaries in the LGD, and workers living in the rest of Northern Ireland would spend 74% of their salaries in Northern Ireland.
- The economic impact of this increase in expenditure was estimated using the average GVA/turnover and turnover/employee for the whole economy as reported in the Annual Business Survey<sup>18</sup>. In this way it was possible to estimate the induced impact direct employees would create in the development, decommissioning and construction phases. It was estimated that direct employees would spend £0.4 million in Causeway Coast and Glens, supporting around £0.1 million GVA and 1 job. In Northern Ireland, direct employees could spend £1.6 million, supporting £0.4 million GVA and 7 jobs. It is considered that this represents a temporary, beneficial effect of minor significance to the local and regional economy.

The total impact during the development/decommissioning/construction phases, is the sum of direct impacts and indirect impacts from expenditure of direct employee. The total combined impact is estimated to be £1.5 million and 12 job-years in Causeway Coast and Glens and £6.7 million and 52 job years in Northern Ireland. It is considered that this represents a temporary effect of minor positive significance to the local and regional economy.

#### Positive Direct Economic Benefits- Operational Phase

<sup>212.</sup> **Chapter 13** identifies the positive direct economic benefits arising from the Development during operational phase including:

- Once operational, the Development will require routine maintenance and servicing. Expenditure on operations and maintenance was estimated based on analysis undertaken in the NIRIG report. It was estimated that the annual operations and maintenance expenditure associated with the Proposed Development could be up to £0.6 million. As an illustration of the effect over time, after 30 years this could amount to £19.1 million.
- It is estimated that the Causeway Coast and Glens area could secure 38% of operation and maintenance contracts worth £0.3 million annually and £7.3 million over 30 years. In Northern Ireland as a whole, it was estimated that it could secure 53% of contracts, worth £0.4 million annually and £10.1 million over 30 years. It is considered that this represents a temporary effect of minor positive significance to the local and regional economy.
- The Development will result in lease payments to the landowner for the land. This local financial input may be spent locally or otherwise.
- In addition to land-owner rents, the Development would be liable for non-domestic rates, the payment of which would contribute to public sector finances. It is estimated that the Development could contribute £0.3 million annually to public finances. Over a 30-year period this would be expected to contribute £9.4 million, although the actual contribution would depend on variables such as the actual load factor of the Development.
- It is estimated that turnover generated by the operation and maintenance could support 2 jobs in Causeway Coast and Glens and 2 jobs in Northern Ireland. It is considered that this represents a temporary effect of minor positive significance to the local and regional economy.

<sup>213.</sup> **Chapter 13** identifies the positive indirect economic benefits arising from the Development during the operational phase including:

#### Positive Indirect Economic Benefits- Operational Phase

- It was estimated that impacts on the wider economy during the operation and maintenance phase would be £0.3 million and 2 jobs in Causeway Coast and Glens, and £0.4 million and 3 jobs in Northern Ireland. It is considered that this represents a temporary effect of minor positive significance to the local and regional economy.
- SPR intends to provide a package of benefits to the community which will be in line with industry best practice. For the purpose of the Biggar Economics assessment, it has been assumed that the value of the community benefit package will

<sup>17</sup> Department of Energy and Climate Change, RenewableUK (2012), Onshore Wind: Direct and Wider Economic Impacts

<sup>18</sup> Office for National Statistics (2018), Annual Business Survey 2017 Provisional

equate to £1,000 per MW of installed capacity per year. As the Development is expected to have an installed capacity of c. 20 MW, the illustrative annual contribution to the fund will be up to £20,000 which equates to £0.6 million over an illustrative period of 30 years. The actual value of the community package, its shape, and means of administration of the community fund will be discussed and agreed with the local community, dialogue is ongoing. Subject to an administrative community function being in place, this will be formalised, nearer to the time of decommissioning/ construction commencing.

214. The Development will have positive direct and indirect economic benefits in the Council area and wider NI region during decommissioning/ construction which are detailed in **Chapter 13 of the ES** and summarised in this Statement. There will be continued direct and indirect economic benefits accruing from the Development during the operation of the Windfarm. However, despite the positive economic impact of the Community Fund it is noted that section 5.71 of the SPPS states that such voluntary funds cannot be considered material considerations in decision-taking.
215. In 2010, the Department for Enterprise, Trade and Investment (DETI) published the Strategic Energy Framework<sup>19</sup> (SEF) which details Northern Ireland's energy future over the next ten years and sets out the renewable electricity targets for 2020, identifying that the equivalent of 40% of national electricity needs must be sourced from renewables. Consultations with the Department for Infrastructure (DfI) Strategic Planning section indicated that as of March 2019, 39.25% of NI electricity is being provided by renewable energy sources. However, it is noted that the 2020 targets were not maximum targets and the provision by the Development of c. 20MW of electricity from wind energy represents an uplift of approximately 400% of the current energy output from the Operational Corkey windfarm, building upon the current contribution made from Operational Corkey Windfarm.
216. The Development represents innovation in the renewable energy sector being one of the first windfarm Repowering planning applications in Northern Ireland. The utilisation of existing infrastructure minimises the impact upon the receiving environment whilst seeking to maximise the energy output from the Development, arising from the use of more effective, new wind turbine technology. The energy storage element of the Development will reinforce grid infrastructure and support the stabilisation of energy provision at the Development.
217. The Development will have positive economic, environmental and social benefits which will be a material consideration to be afforded appropriate weight during the determination of the planning application.

#### 6.1.2.5 Residential Separation Distances

218. The SPPS states that a separation distance of 10 times rotor diameter with a minimum distance of not less than 500m will generally apply between windfarms and occupied properties. The SPPS does not provide further context on this policy guidance however Para 6.229 of the SPPS states "*proposals will also be assessed in accordance with normal planning criteria, including such considerations as: access arrangements, road safety, good design, noise and shadow flicker; separation distance; cumulative impact; communications interference; and, the inter-relationship between these considerations.*" In the context of separation distances further consideration is given to noise, shadow flicker and visual impacts and public safety and human health.
219. There are 3 no. residential properties located within the 10 times rotor separation distance of 1,200 m- refer to **Table 6.2** below.

**Table 6.2: Location of Residential Units within 10 times Rotor Diameter Separation Distance (1,200 m)**

Property Name	Easting	Northing	Nearest Turbine	Distance to Nearest Turbine (m)
21 Reservoir Road	309979	422676	3	770
42 Reservoir Road	309761	422704	3	988
15 Reservoir Road	309652	422220	4	1,052

<sup>19</sup> Department of Enterprise, Trade and Investment (2010). Strategic Energy Framework. Available online at: <https://www.economy-ni.gov.uk/publications/energy-strategic-framework-northern-ireland> [Accessed on 12/10/2017]

220. No.15, No.21 and No.42 Reservoir Road are located out with the minimum 500m separation distance recommended. The owners/ occupiers of No.15 Reservoir Road also have a financial interest in the existing Operational Corkey Windfarm and the Development.
221. **Section 6.1.2.2.2 of this Statement** outlines the assessments undertaken to ascertain whether the Development would have an unacceptable adverse impact upon public safety, human health or residential amenity. This section was informed by the following assessments:
- **Traffic & Transportation (ES Chapter 12: Access, Traffic and Transport);**
  - **Noise (ES Chapter 10: Noise)**
  - **Residential Visual Amenity Assessment (RVAA)**
  - **Shadow Flicker (ES Chapter 14: Other Issues)**
  - **Health and Safety at Work including Best Practice**
222. The ES Noise chapter, the RVAA and shadow flicker assessment considered the potential noise, visual and shadow flicker impacts arising from the Development on the 3 no. residential properties. The respective assessments concluded that there were no significant impacts upon the residential amenity of the 3 no. properties, however based on a worst case theoretical modelling, albeit unlikely in practice, mitigation measures could be used to address any shadow flicker effects at No.21 Reservoir Road, further detail is provided in **Chapter 14** of the ES. The minimum separation distance of 500m is achieved at all properties, the 10 times rotor diameter separation distance is achieved at all but 3 properties, one of which has a financial interest in the Development. The residential amenity of the remaining two properties will not be adversely affected by the Development.
223. On the issue of public safety and human health, the submitted **HHIA and risk assessment** concludes that the Development is unlikely to negatively impact people' s health and wellbeing in its widest sense. There are no effects that would:
- Cause potentially severe or irreversible negative effects;
  - Affect a large number of people to an unacceptable level; or
  - Specifically, may affect groups of people who already suffer poor health are socially excluded to an unacceptable level.
224. Importantly the submitted **MMI Thornton Tomasetti risk assessment** concludes the following:
- "We note that in Northern Ireland there is some "best practice" planning guidance in BPG Planning Policy Statement 18 "Renewable Energy". This recommends a separation distance of 10 times rotor diameter to nearby occupied property. We are not aware of the origin for this recommended separation distance. Our assessment has been carried out on the basis of site specific factors, taking account of recorded wind conditions and the wind turbine design proposed for the site. Based on this detailed analysis, our conclusion is that the risks related to blade throw and fragmentation posed by the proposed wind turbines at Corkey Windfarm are well within the "Broadly Acceptable" region and therefore that no further mitigation is required. "Broadly Acceptable" is the lowest category of risk defined by the HSE and to provide this in context, the same order of magnitude can be attached to the likelihood of a fatality from a lightning strike (1 in 18,700,000 fatalities per year in the UK)."*
225. The separation distances outlined in Table 6.2 adequately address the potential impact upon public safety and human health, having regard to the site specific factors assessed by MMI Thornton Tomasetti which identified the Development as having the lowest category of risk defined by the HSE.
- 6.1.2.6 Energy Storage**
226. The SPPS does not contain any planning policy relating to energy storage.
- 6.1.2.7 SPPS- Renewable Energy Policy- Conclusion**
227. The Development complies with the renewable energy provision of the SPPS. As the NAP 2016 is silent on renewable energy, the renewable energy policy provisions of the SPPS will be an important material consideration in the determination of the planning application. This should be afforded material weight in the determination of the planning application.

#### 6.1.2.8 SPSS- Ecology, Fisheries & Ornithology Policy

228. SPSS planning policy (Natural Heritage) outlines that planning permission will only be granted for a development proposal that, either individually or in combination with existing and/or proposed plans or projects, is not likely to have a significant effect on a European site (Special Protection Area, proposed Special Protection Area, Special Areas of Conservation and Sites of Community Importance) or a listed or proposed Ramsar site. A development which could adversely affect the integrity of a European or Ramsar site may only be permitted in exceptional circumstances as laid down in relevant statutory provisions. **Chapter 8 (Ecology & Fisheries) & Chapter 9 (Ornithology) of the ES** provides a comprehensive assessment of potential impacts upon European sites which in this instance includes the Antrim Hills SPA. These Chapters combined with the submitted **Appendix A8.2: Habitats Regulations Assessment** conclude that the Development is not likely to have a significant effect on the Antrim Hills SPA. **Chapter 8** details that subject to hydrology mitigation measures the Development is not likely to have a significant effect on Lough Neagh and Lough Beg SPA.
229. The SPSS (Natural Heritage) also details that planning permission will only be granted for a development proposal that is not likely to have an adverse effect on the integrity of 'Areas of Special Scientific Interest', 'Nature Reserves or National Nature Reserves' and "Marine Conservation Zones.' The SPSS specifies that development proposals within AONBs must be sensitive to the distinctive special character of the area and quality of their landscape. **Chapter 8' Ecology & Fisheries', Chapter 7: 'Hydrology, Hydrogeology, Geology, Soils and Peat' and Appendix A8.2:'Habitats Regulations Assessment'** assessed the potential impact of the Development upon the Slieveanorra and Croaghan ASSI and concluded that the Development was not likely to have an adverse impact upon the integrity of the ASSI. The Development is not located within the Antrim Hills and Coast AONB, yet is sensitive to its distinctive character, and this formed a key consideration in the design iterations of the Development. Visibility of the Development would largely occur in those areas where visibility of operational windfarms already occurs with the vast majority of the AONB remaining unaffected by the Development. Additionally, despite the Development being located close to the AONB boundary, visibility of the turbines across the wider AONB area is restricted by the ridge of hills on which the Operational Corkey Windfarm is located and a higher ridge of hills to the immediate east.
230. The SPSS (Natural Heritage) states that planning permission will only be granted for a development proposal that is not likely to harm European protected species except in exceptional circumstances. Exceptional circumstances are defined as 'there are no alternative solutions' and 'it is required for imperative reasons of over-riding public interest' and 'there is no detriment to the maintenance of the population of the species at favourable conservation status'; and 'compensatory measures are agreed and fully secured.' SPSS policy states that planning permission will only be granted for a development proposal that is not likely to harm other statutorily protected species. **Chapter 8 of the ES** assess the impact of the Development on European protected species or other statutorily protected species.
231. Subject to the successful implementation of the proposed mitigation measures, the Development will have neutral or slight-positive effects on all Important Ecological Features. Therefore, the Development will not cause any significant negative effects on designated sites, habitats, legally protected species, or any other features of ecological importance.
232. The SPSS (Natural Heritage) details that planning permission should only be granted for development proposals which are not likely to give rise to unacceptable adverse impact on; (i) priority habitat, (ii) priority species, (iii) active peatland, (iv) ancient and long established woodland, (v) features of earth science conservation importance, (vi) features of the landscape which are of importance for wild flora and fauna, (vii) rare or threatened native species, (viii) wetlands (including river corridors) or, (ix) other natural heritage features worthy of protection, including trees and woodland. The SPSS states that a development proposal which is likely to result in an unacceptable adverse impact on, or damage to, habitats, species or features listed above, may only be permitted where the benefits of the proposed development outweigh the value of the habitat, species or feature. In such cases, appropriate mitigation and/or compensatory measures will be required. **Chapter 8** of the ES details the impact of the Development upon the existing habitats. Subject to the successful implementation of the proposed mitigation measures, the Development will have neutral or slight-positive effects on all Important Ecological Features. Therefore, the Development will not cause any significant negative effects on designated sites, habitats, legally protected species, or any other features of ecological importance. Therefore, the Development meets these tests and will not result in an unacceptable adverse impact on priority habitats and species, and the other policy tests identified by this SPSS policy.

#### 6.1.2.9 SPSS- Hydrology & Hydrogeology

233. The SPSS section entitled 'Development at Surface Water (Pluvial) Flood Risk Outside Floodplains' requires that all development proposals that exceed 1 hectare will require the submission of a 'Drainage Assessment' (DA) as part of the

planning application. Development requiring a DA will be permitted where it is demonstrated through the DA that adequate measures will be put in place so as to effectively mitigate the flood risk to the proposed development and from development elsewhere.

234. Regarding the 'Artificial Modification of Watercourses', the SPPS prescribes that Planning Authorities should only permit the artificial modification of a watercourse in the exceptional circumstance where the culverting of a short length of watercourse is necessary to provide access to a development site (or part thereof), or where such operations are necessary for engineering reasons unconnected with the development proposal.

235. **Chapter 7 Hydrology, Hydrogeology, Geology, Soils & Peat** of the ES evaluates the effects of the Development on the hydrology, hydrogeology, geology and peat resource. **Chapter 7 of the ES** is supported by the following Technical Appendices documents provided in **Volume 3 of the ES**:

**A3.1: Outline Decommissioning/Construction Environmental Management Plan (DCEMP);**

**A3.2: Draft Habitat Management Plan;**

**A7.1: Peat Slide Risk Assessment (PSRA);**

**A7.2: Outline Water Construction and Environmental Management Plan (WCEMP)**, which is intended to form part of the final DCEMP:

**A7.3: Dipwell Monitoring Results; and**

**A7.4: Peat Management Plan.**

236. Flood Maps (NI) show that the Study Area is located outside floodplains for river and coastal flooding. A minor unnamed tributary of Flisk burn, in the north-eastern section of the Study Area, is identified as floodplain within the immediate area surrounding the watercourse. As a buffer has been applied to watercourses during the design phase, no infrastructure is located within this area. The design of the Development layout has incorporated a buffer zone between watercourses and turbine bases of 50 m to watercourses where possible, meaning any overtopping of minor watercourses is unlikely to reach infrastructure during extreme flooding events. As such, the Development is not considered to be at risk of flooding and is unlikely to contribute to the displacement of pluvial flood water.

237. **Chapter 7** details that whilst alterations to natural flow watercourses will not be introduced during the operational phase, any changes during construction will continue through operation, as the majority of infrastructure will remain in place. Alterations to natural flow pathways/ watercourses will be reduced through adoption of good practice design and construction methods, as set out in the Outline DCEMP, such as cross drainage, use of shallow drainage ditches and prevention of blockages. The hardstanding at T5 encroaches on a small unnamed watercourse. The preferred option would be to culvert the watercourse in order to construct the hardstanding. T5 is located approximately 45 m south-east of the watercourse. Should a culvert not be technically feasible the watercourse will be diverted, following detailed design of the hardstanding area. The detailed design would aim to minimise direct works to the watercourse. Any works in the vicinity of the watercourse relating to the installation of the culvert, diversion or necessary over-pumping would take place during a dry period to minimise effects on the water environment. Works will be carried out in accordance with GPP5: works or maintenance in or near water.

238. With the embedded mitigation measures proposed, the Development has been assessed as having the potential to result in effects of negligible or minor significance.

#### 6.1.2.10 SPPS- Noise

239. The SPPS does not reference any specific noise planning policy over and above the references made to noise in the renewable energy policy. As detail in **section 6.1.2.2.2** of this statement the submitted noise assessment concluded that all noise effects likely to arise from the Development were not significant, and met with recognised noise limits, upon the existing and permitted residential properties in the vicinity. Decommissioning/construction noise will be limited in duration and confined to working hours, as agreed with the Council, and therefore can be adequately controlled through the application of good practice measures and secured by planning condition,

#### 6.1.2.11 SPPS- Archaeology & Built Heritage

240. The SPPS has an additional archaeology and built heritage policy, to the SPPS renewable energy which includes protection of built heritage policy. The SPPS outlines that Developments which would adversely affect the integrity of scheduled monuments or the integrity of their setting will only be permitted in exceptional circumstances. The SPPS details that development proposals which would adversely affect archaeological remains of local importance or their settings should only

be permitted where the planning authority considers that the need for the proposed development or other material considerations outweigh the value of the archaeological assets or their setting. The SPPS identifies appropriate mitigation options, which include for the preservation of remains in situ, licensed excavation or recording examination and archiving of the archaeology by way of planning condition.

241. The SPPS outlines that planning permission for developments that would lead to the loss of, or cause harm to, the overall character, principal components or setting of 'Historic Parks, Gardens & Demesnes' will not be permitted. In assessing applications for development in or adjacent to 'Historic Parks, Gardens & Demesnes', particular account should be taken of the impact of the proposal on the archaeological, historical or botanical interest of the site.
242. As outlined in **section 6.1.2.25 of this Statement, Chapter 11** of the submitted ES concludes that there would be no direct effects likely upon known archaeological features within the Core Study Area as none are recorded within the Development footprint. Due to the deliberate re-use of infrastructure associated with the Operational Corkey Windfarm, combined with the exposed upland topography which limits land use to pastoral and transhumance activities, the potential for damage to or destruction of unknown buried archaeological remains is very low. However, should unknown archaeology survive within undisturbed portions of the Development footprint, that haven't already been impacted by ongoing agricultural activity, these may be damaged or destroyed, resulting in a minor to moderate effect. A programme of archaeological works to secure preservation by record is therefore recommended within these areas only. This approach is consistent with the SPPS policy provision.
243. There would be no significant indirect effects, associated with changes to settings, upon heritage assets in the surrounding historic environment from the Development, either in isolation or cumulatively with other windfarm development, and consequently adheres to the SPPS policy provision. Additionally, **Chapter 6 Landscape & Visual Assessment** details that the Development will not lead to the loss of, or cause harm to, the overall character or principal components or setting of any 'Historic Parks or Gardens & Demesnes.'

#### 6.1.2.12 SPPS- Transportation

244. The SPPS states that in assessing development proposals, planning authorities must apply the Department's published guidance and recommends that planning authorities should require the submission of a Transport Assessment (TA) for proposals that are likely to generate a significant volume of traffic. **Chapter 12- 'Access, Traffic & Transport'** of the ES assesses the impact of the Development upon the existing traffic and transport environment. **Chapter 12** is supported by **'Appendix A12.1 Abnormal Load Route Assessment.'**
245. **Chapter 12** concludes that subject to identified mitigation measures, which will form part of an agreed 'Transport Management Plan' that the Development will not result in an adverse impact upon the existing traffic and transport environment. The mitigation measures include:
- Preparation of a Transport Management Plan, that will be agreed with DfI Roads;
  - Appropriate warning signage to be installed on the approach to the site entrance along Reservoir Rd;
  - Measures to address potential impacts upon pedestrian safety at St. Annes Primary School during the Decommissioning/ Construction phase of the Development.

#### 6.1.2.13 SPPS- Tourism

246. The SPPS highlights the importance of built and natural heritage of Northern Ireland regarded as tourism assets, citing examples such as historical and archaeological sites, certain beaches and AONBs. SPPS planning policy states that planning permission should not be granted for development that would, in itself or in combination with existing and approved development in the locality, have an adverse impact on a tourism asset, such as to significantly compromise its tourism value.
247. **Chapter 13 Tourism, Recreation, Land-use & Socio-Economic** of the ES assesses the impact of the Development upon tourism assets. **Chapter 6 Landscape & Visual Assessment** of the ES assesses the impact of the Development upon the Antrim Coast & Glens AONB and the natural heritage assets, as discussed in **Section 6.1.2.4.2. Chapter 11- 'Archaeology and Built Heritage of the ES'** evaluates the impact of the Development upon built heritage assets and is discussed in **section 6.1.2.2.5.**

248. **Chapter 13 of the ES** details that there are no recognised tourism or recreation resources are located within the Site Boundary and identifies a tourism and recreation study area and then goes on to consider the tourism assets located therein. Tourism assets such as;

- Moyle Way (closest footpath to the development) is located approximately 3 km east of the Site in Slieveanorra Forest, and is a 43 km long route which connects Ballycastle and Waterfoot forming part of the Ulster Way.
- Lissanoure Castle and estate which is a privately-owned castle which hosts weddings and events Lissanoure Castle, which is designated as a Historic Park, Garden and Demesne, is located 3.6 km to the north-west of the Site Boundary. The Castle is important at the scale of Causeway Coast and Glens.

249. **Chapter 13** concludes that the effects of the Development on tourism and recreation during the decommissioning/construction and operational phases, including cumulative effects, are assessed as negligible. **Chapter 13** also reviews the 'public perception' of visitors, tourists and tourism organisations towards windfarms. The evidence and studies reviewed highlighted the varying opinions of visitors regarding wind energy development; however, they suggest that the majority of those surveyed do not have negative attitudes towards windfarms.

250. All effects on the tourism and recreational receptors were assessed as negligible, because of the very low levels of change which would result from the Development, and the addition of any other application stage windfarm sites to the baseline is not expected to alter this position. Therefore, no tourism asset will be significantly compromised, as a result of the Development.

### 6.1.3 Planning Policy Statements

251. The suite of existing planning policy statements are material planning considerations in the determination of planning applications. There is currently a transitional period in planning policy terms that will operate until such time as the Local Development Plan 'Plan Strategy' for the Council has been adopted. During the transitional period planning authorities will apply existing retained policy (including PPSs) together with the SPPS. Relevant supplementary and best practice guidance will also continue to apply. Where a Council adopts its Plan Strategy, existing policy retained under the transitional arrangements shall cease to have effect in the district of that council and shall not be material from that date, whether the planning application has been received before or after that date.

252. Any conflict between the SPPS and any retained policy (PPS) must be resolved in favour of the provisions of the SPPS. For example, where the SPPS introduces a change of policy direction and/or provides a policy clarification that would conflict with the retained policy the SPPS should be accorded greater weight in the assessment of individual planning applications. However, where the SPPS is silent or less prescriptive on a particular planning policy matter than retained policies this should not be judged to lessen the weight afforded to the retained policy. PPS 18 and its associated best practice guidance (BPG) and supplementary planning guidance (SPG) are retained as regional planning policy.

253. For the purposes of this Planning Statement it will be clarified whether the respective PPS policy is consistent with the corresponding SPPS policy. If the SPPS introduces a change of policy direction this will be highlighted in the context of the retained PPS policy. If the PPS are more prescriptive in particular policy areas the Development will be assessed in respect of the more prescriptive PPS policy. This approach will facilitate a more coherent planning policy review and avoid duplication in terms of policy assessment.

#### 6.1.3.1 Planning Policy Statement 18 (PPS 18)

254. PP18 planning policy (Policy RE1) aligns with the SPPS renewable energy policy insofar as it propagates that renewable development proposals will be permitted, provided the proposal will not result in an unacceptable adverse impact upon; (a) public safety, human health or residential amenity, (b) visual amenity and landscape character, (c) biodiversity, nature conservation or built heritage interests, (d) local natural resources such as air quality or water quality, and (e) public access to the countryside. Notably PPS 18 policy states that the wider environmental, economic and social benefits of renewable energy proposals will be given significant weight in the determination of planning applications. The SPPS states that the wider environmental, economic and social benefits of renewable energy proposal are material considerations, will be given appropriate weight in the planning application process. This represents a slight change in policy direction, where lesser weight will be afforded to the wider environmental, economic and social benefits of the Development. The conclusions outlined at **section 6.1.2.2** of this Statement, that the Development complies with the renewable energy provision of the SPPS is also applicable to the overarching policy provision of PPS 18 Policy RE1.



255. Policy RE1 specifies additional provision noting that wind energy proposals will be required to demonstrate that; (i) the development will not have an unacceptable impact on visual amenity and landscape character, (ii) that the development has taken into consideration the cumulative impact of existing and approved turbines, (iii) that it will not create a significant risk of landslide or bog-burst, (iv) that no part of the development will give rise to unacceptable electromagnetic interference to communication installations, (v) that the development will not have an unacceptable impact on rails, roads or aviation safety, (vi) that the development will not cause significant harm to the safety or amenity of sensitive receptors and that (vii) above-ground redundant plant and associated infrastructure shall be removed and the site restored.
256. In respect of the additional policy provision further commentary is provided to demonstrate that the Development adheres to PPS 18 policy in addition to the provisions of the SPPS. **Section 6.1.2.2.3 of this Statement** outlines that the Development will not have an unacceptable impact upon the visual amenity and landscape character. All ES chapters assessed the cumulative impact of the Development with existing and approved turbines and windfarms within a study area agreed with the Council and statutory consultees during the EIA Scoping process.
257. The submitted '**Peat Slide Risk Assessment (PSRA) (Appendix A7.1) and Chapter 7-'Hydrology, Hydrogeology, Geology, Soils & Peat' of the ES**, reviews the potential peat slide risk associated with the Development. The '**Peat Slide Risk Assessment**' was carried out in accordance with the 'Peat Landslide Hazard & Risk Assessment- Best Practice Guide for Proposed Electricity Generation Development.' **The PSRA** concluded that the Development footprint lies in an area of 'low risk' of potential peat slide risk. Out with the Development footprint, localised medium and negligible risk zones hazard ranks for peat slide risk were concluded. On this basis, the Development is considered to result in negligible risk of landslide or bog-burst.
258. **Chapter 14- 'Other Issues'** of the ES assessed whether the Development will give rise to electromagnetic interference to communications installations and concludes that the Development will not give rise to unacceptable electromagnetic interference to communication installations. **Chapter 12- 'Access, Traffic & Transport' of the ES** details that subject to mitigation measures the Development will not have an unacceptable impact upon roads or road users. **Chapter 13- 'Other Issues'** of the ES outlines that potential effects on aviation as a result of the Development, allowing for infra-red aviation lighting, will be negligible and therefore will not result in an unacceptable impact upon aviation safety. The requirement for infra-red aviation lighting, and details and positions of the proposed turbines can be secured via the use of an appropriately worded planning condition.
259. **Section 6.1.2.2.2 of this Statement** details that the Development will not cause significant harm upon the safety or amenity of sensitive residential receptors. No further sensitive receptors were identified during the EIA process beyond those considered and addressed within the ES. A future decommissioning plan for the Development can be secured through the application of an appropriately worded planning condition.
- 6.1.3.2 Planning Policy Statement 2-Natural Heritage (PPS 2)**
260. The policy provisions of PPS 2 align with the Natural Heritage planning policies of the SPPS. **Section 6.1.2.8** of this Statement details the policy assessment in respect of the Development in terms of the SPPS. This assessment is also applicable to PPS2 planning policy and the conclusions are consistent. The Development complies with PPS2 planning policy.
- 6.1.3.3 Planning Policy Statement 3-Access Movement and Parking (PPS 3)**
261. In terms of PPS3, there is considered to be no conflict with the equivalent provisions in the SPPS, therefore until the Council adopts its Plan Strategy, PPS3 will apply, together with the SPPS, with no less weight attached to PPS3 policy. Policy AMP 2- Access to Public Roads outlines that planning permission will only be granted for a development proposal involving direct access, or the intensification of the use of an existing access, onto a public road where: such access will not prejudice road safety or significantly inconvenience the flow of traffic and the proposal does not conflict with Policy AMP 3 'Access to Protected Routes'. Policy AMP7 'Car Parking and Servicing Arrangements' details that development proposals will be required to provide adequate provision for car parking and appropriate servicing arrangements.
262. **Chapter 12** concludes that subject to the identified mitigation measures, which will form part of an agreed 'Transport Management Plan' that the Development will not result in an adverse impact upon the existing traffic and transport environment. The use of the new site access during the decommissioning/ construction phases will not prejudice road safety or significantly inconvenience the flow of traffic. The Development does not conflict with Policy AMP 3 of PPS3. The measures associated with the decommissioning/construction phases of the Development have been thoroughly assessed

and will not prejudice road safety, road users or inconvenience the traffic flow to an unacceptable level. Additionally, the operational phase of the Development has been assessed and it is concluded that that Development (including new site access) will not prejudice road safety, road users, or significantly inconvenience the flow of traffic.

#### 6.1.3.4 Planning Policy 6- Planning, Archaeology & Built Heritage (PPS 6)

263. The planning policy provisions of PPS 6 and the SPPS are consistent. **Section 6.1.2.11** of this Statement details the policy assessment in respect of the Development in terms of the SPPS. The assessment is also applicable to PPS6 and the conclusions are consistent. The Development complies with PPS 6 planning policy.

#### 6.1.3.5 Planning Policy Statement 10- Telecommunications (PPS 10)

264. Policy TEL2- Development and Interference with Television Broadcasting Services of PPS10 was cancelled by the provisions of the SPPS and is no longer a material planning consideration.

#### 6.1.3.6 Planning Policy Statement 13- Transportation & Land Use (PPS 13)

265. The policy provisions of PPS13 are consistent with the policy provision of the transportation policies in the SPPS. **Section 6.1.2.12** of this Statement details the policy assessment in respect of the Development in terms of the SPPS. This assessment is also applicable to PPS13 and the conclusions are consistent. The Development is consistent with the policy provisions of PPS13.

#### 6.1.3.7 Planning Policy Statement 16- Tourism (PPS16)

266. The tourism policy provision of PPS16 and the SPPS is largely consistent. PPS 16 provides clarification on the definition of 'tourism assets' while the SPPS does not provide the same clarification. 'Tourism assets' are defined by PPS 16 as "any feature associated with the built or natural environment which is of intrinsic interest to tourists." **Section 6.1.2.13** of this Statement details the policy assessment in respect of the Development in terms of the SPPS. This assessment is also applicable to PPS16 and the conclusions are consistent. The Development is consistent with the policy provisions of PPS16.

#### 6.1.3.8 Planning Policy Statement 21- Development in the Countryside (PPS 21)

267. Policy CTY1- 'Development in the Countryside' details the types of development considered suitable in the countryside. In relation to 'renewable energy' projects in the countryside Policy CTY1 states that renewable energy proposals will be permitted provided that they are in accordance with PPS 18. **Section 6.1.3.1 of this Statement** details that the Development adheres to the policy provision of PPS18 and is also compliant with the provisions of PPS21.

#### 6.1.3.9 Planning Policy Statements- Conclusions

268. The Development complies with the retained PPS policy provision. This is of particular importance in the areas where the NAP 2016 is silent and in particular on renewable energy policy in PPS18, whereby in the absence of local development policy greater material weight should be afforded to regional planning policy.

### 6.2 Regional Planning Policy & Guidance: Strategic Planning Policy Statement Strategic Planning Policy Review for Onshore Renewable Energy Development

269. At the time of submitting this planning application a review of SPPS renewable energy planning policies is ongoing. The review commenced in September 2016. The strategic review is being undertaken by Element Consultants on behalf of the Department for Infrastructure (DfI). The completion of the strategic review and associated DfI recommendations have been delayed by the absence of the NI Executive and a DfI Minister. In late May 2019, DfI Planning Policy unit advised they are not in a position to provide a timeframe for the completion of the strategic review process and the publication of new renewable policy. Therefore, limited material weight is afforded to the direction of the ongoing review process as there is extremely limited detail currently available.

### 6.3 Preparation of New Local Development Plan for Causeway Coast & Glens Borough Council

270. At the time of submitting this planning application, the Council are in the process of preparing their Local Development Plan for the Council Area – Causeway Coast & Glens Local Development Plan 2030 (LDP)- refer to Table 6.2 below for the Local Development Plan timetable (indicative). The Council published their Preferred Options Paper in Summer 2018. It is anticipated that the draft Plan Strategy will be published in Autumn / Winter 2019 with the independent examination due to take place in Spring/ Summer 2020. The target date for adoption of the Plan Strategy is Summer/ Autumn 2021.

**Table 6.2: Causeway Coast & Glens Local Development Plan Indicative LDP Timetable**

Causeway Coast & Glens Local Development Plan Indicative LDP Timetable	
Robust Evidence Gathering	Spring- Winter 2016
Publish Plan Timetable & Statement of Community Involvement	Winter 2016
Publish Preferred Options Paper Publish Preferred Options Paper (12 week consultation period)	Spring/Summer 2018
Publish Draft Plan Strategy (8 week consultation period)	Autumn/Winter 2019
Independent Examination of Draft Plan Strategy	Spring/Summer 2020
Adopt Plan Strategy	Summer/Autumn 2021
Publish Draft Local Policies Plan (8 week consultation period)	Autumn 2022
Independent Examination of Draft Local Policies Plan	Spring 2023
Adopt Local Policies Plan	Winter 2023
Monitoring & Review of Plan	Ongoing

271. Given the early stage of the new LDP preparation, i.e., the draft plan strategy has not yet been published or consulted upon, limited material weight is afforded to the provisions of the 'LDP-Preferred Options Paper' in the context of the Development.

## 7 Other Material Considerations

### 7.1 The Operational Corkey Windfarm

272. Repowering a windfarm site supports an ongoing use of the land at Corkey (the Site) by a renewable energy asset. Repowering also presents an opportunity to sustain and create additional jobs and to encourage continued investment in the renewable energy industry in Northern Ireland. The repowering of a windfarm differs from that of developing a greenfield site as the area has previously been developed, has demonstrated its suitability for use as a windfarm site, and will continue to be used for the same activity. Importantly the Operational Corkey windfarm can operate in perpetuity and the Development will increase the efficiency of the existing renewable energy asset. The established renewable energy use at the Operational Corkey windfarm, the adaptability of the local environment and population to wind energy provision, the increased energy output efficiency of the Development should be material considerations in the determination of the planning application.

### 7.2 Relevant Planning Appeal Cases

#### 7.2.1 Planning Appeal Reference No.2017/A0023- Proposed Extension to Dunmore Windfarm

273. In June 2018, the Planning Appeals Commission (PAC) allowed the planning appeal for the 8 no. turbine (tip height of 126m) extension of the Dunmore windfarm at Dunmore, Limavady, Co.Derry/ Londonderry following refusal by Causeway Coast & Glens Borough Council. Of note in the PAC report are the following comments by the PAC Commissioner:

*The Northern Area Plan 2016 (NAP) operates as the local development plan for the area. In the NAP the site lies within the rural area, as well as being identified for information purposes as lying within the Binevenagh AONB. The NAP is silent on the subject of windfarm developments and is therefore of limited assistance in determining this appeal.*

274. And;

*The provisions of the Strategic Planning Policy Statement for Northern Ireland – Planning for Sustainable Development (SPPS) is material to all decisions on individual planning applications and appeals. The SPPS sets out transitional arrangements that will operate until the new Councils have adopted new LDP's for their areas. In the interim period, the SPPS will apply, together with policy contained in existing regional Planning Policy Statements, as listed in paragraph 1.13 of the SPPS.*

275. The PAC Commissioner sets out the relevant planning policy context and clarifies that the NAP 2016 is of limited assistance in the determination of windfarm planning applications. The approach to the planning policy review undertaken by the PAC in respect of a wind energy planning in the Council is a material consideration in the determination of the planning application.

### 7.2.2 Planning Appeal Reference No.2018/A0199 - 6 no. Turbines at Armoy, Co.Antrim

276. At the time of submission of this planning application there is an ongoing planning appeal being determined by the PAC in respect of the Council's decision to refuse a windfarm planning application (LA01/2017/1654/F). The appeal was heard by the PAC on 5th June 2019. The final decision of the PAC is outstanding. The appellant (ABO Wind Ltd) appealed all four reasons of refusal which related to (i) public safety and proximity of turbines to residential properties (ii) Policy BH1 of PPS6 and paragraph 6.8 of the SPPS which protect the setting of scheduled monuments (iii) Policy BH5 of PPS6 and paragraph 6.12 of the SPPS which protect the setting of a listed building and (iv) the proposal did not demonstrate that it would not have an unacceptable adverse impact on visual amenity and landscape setting. The final parameters and conclusions of this PAC decision may inform the future determination of the planning application as a material consideration.

## 8 Conclusion

277. In accordance with the Section 45 of the Planning Act (Northern Ireland) 2011, the Statement has assessed the Application against the provisions of the Local Development Plan (Northern Area Plan 2016) and relevant material considerations.

278. Considerable support can be drawn from regional and national energy policy which continues to be supportive of renewable energy development, recognising its contribution towards sustainable development and tackling climate change, to safeguarding the UK and Northern Ireland's energy supply.

279. The Development will sustain and build upon a contribution (c. 20MW) towards NI's and the UK's legally binding targets for reductions in carbon emissions and energy from renewable resources. The Statement acknowledges that the 2020 energy target of 40% of energy supply provided by renewable energy is close to being met (currently at 39.25%) but highlights that these figures are minimum targets and there is clear policy support to maintain progress in renewable energy provision beyond the 2020 targets. Importantly the Development will be one of the first planning applications made to repower an existing operational windfarm in Northern Ireland and will maintain and increase the renewable energy output at an already established renewable energy asset.

280. Based on the findings of the accompany ES and the assessment of the Developments compliance with the relevant policies of the Local Development Plan, the Developments compliance with the relevant regional planning policies and associated Supplementary Guidance it is concluded that the Development fully accords with the Development Plan and regional planning policy guidance (which is an important material consideration where the Local Development Plan is silent on policy issues) when read as a whole.

281. The development process adopted by the Applicant has represented a good practice approach to the responsible development of a renewable energy scheme, minimising the potential impact of the Development by utilising existing infrastructure where possible and through multiple design iterations and modifications to minimise the impact on the receiving environment and ensure compliance with the suite of planning policy. The layout of the Development presented in the Planning Figures and ES represents the optimum fit with the technical and environmental parameters of this project having specific regard to the existing infrastructure of the Operational Corkey Windfarm.

282. The primary aim of the Development is to generate energy from a renewable resource and to provide ancillary energy storage solutions to support the renewable energy resource. With this there are tangible environmental, economic and social benefits (identified in **Chapter 1** and **Chapter 13** of the ES) which include:

- C. 20MW of installed renewable energy electricity generating capacity with ancillary energy storage, and roof top solar, that will contribute to regional and national renewable energy targets;
- The Development will increase the renewable energy output from the existing Operational Corkey Windfarm c. Fourfold increasing the efficiency of an established renewable energy asset;
- The Development will utilise existing infrastructure associated with the Operational Corkey windfarm including access tracks and hardstands to minimise the environmental impact;

- 
- The Development will (development/decommissioning/construction phases) support 11 job years in Causeway Coast and Glens and 45 job years for Northern Ireland. The employment effects during the development/decommissioning/construction phases are reported in job years rather than Full-time equivalents (FTE's) because the contracts would be short term.
  - It is estimated that turnover generated by the operation and maintenance could support 2 jobs in Causeway Coast and Glens and 2 jobs in Northern Ireland. It is considered that this represents a temporary effect of minor positive significance to the local and regional economy.
  - In addition to land-owner rents, the Development would be liable for non-domestic rates, the payment of which would contribute to public sector finances. It is estimated that the Development could contribute £0.3 million annually to public finances. Over a 30-year period this would be expected to contribute £9.4 million, although the actual contribution would depend on variables such as the actual load factor of the Development.
  - The electricity generated from the Development, and the ancillary energy storage facility supporting the renewable energy provision, will contribute towards increased site electricity generation, reduce dependency on fossil fuels lowering carbon dioxide emissions and output, sustain existing development and construction jobs and create opportunities for new supply chain jobs.
  - Within a supportive planning framework, the Development will help create a long-term, stable investment platform for a clear pipeline of repowering projects, easing pressure on consenting authorities.
  - The Development utilises over two decades of industry knowledge and expertise to improve the siting, design and construction techniques for wind energy developments to create more efficient renewable energy projects.

283. Having regard to the NI energy targets, local and regional planning policy and guidance presented and assessed within this Statement, it is important that renewable energy developments which are acceptable in planning policy terms, such as the Development, are given consent. The Applicant therefore respectfully requests that consent is granted subject to appropriate planning conditions.

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