

12 Socio-economic, Tourism and Recreation

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12 Socio-Economic, Tourism and Recreation and Land-use

12.1 Introduction

12.1.1 This Chapter of the Environmental Impact Assessment Report (EIA Report) evaluates the effects of the Proposed Development on Socio-Economics, Tourism and Recreation and Land-use.

12.1.2 This Chapter considers the effect of the Proposed Development on:

- socio-economics including employment;
- tourist attractions and recreation facilities within and near to the Proposed Development; and
- land-use in the immediate vicinity of the Proposed Development.

12.1.3 The Chapter is accompanied by the following technical assessments and figures:

- **Appendix 12.1:** The Economic Impact of Energy Isles Wind Farm (BiGGAR Economics, 2019); and
- **Figure 12.1:** Recreational Access Routes.

12.2 Legislation, Policy and Guidelines

Legislation

12.2.1 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations (2017) (Scottish Government, 2017) establish in broad terms what is to be considered when determining the effects of development proposals on socio-economics, tourism and recreation and land-use. There is no specific legislation available prescribing the methods that should be used to assess these types of effects associated with a proposed onshore wind farm development.

Planning Policy

National Policy

12.2.2 Scotland's Economic Strategy (Scottish Government, 2015) sets out how the Scottish Government will provide support for businesses and individuals to grow in an economically sustainable way with the dual objectives of boosting competitiveness and tackling inequalities. As part of this objective, the document aims to direct investment in order to maximise opportunities for employment, business, leisure and tourism, and also to join up planning policy to facilitate this.

12.2.3 The document identifies four strategic priorities which are critical to economic growth:

- investing in our people, infrastructure and assets in a sustainable way;
- fostering a culture of innovation;
- promoting inclusive growth; and
- internationalisation.

12.2.4 The National Performance Framework (Scottish Government, 2019) tracks progress towards national outcomes. It shows how well Scotland is performing overall on the 81 national indicators including topics on economy and environment. In terms of economy, the Scottish Government recognises that a strong, competitive economy is essential to supporting jobs, incomes and our quality of life. The Scottish economy must be environmentally sustainable, inclusive and benefit all our people and communities.

- 12.2.5 On 23rd June 2014, the Scottish Government published the Scottish Planning Policy (SPP) (Scottish Government, 2014a). It is clear from SPP that the Scottish Government is committed to developing further renewable energy projects and paragraph 153 of SPP advises that:
- “..Efficient supply of low carbon and low cost heat and generation of heat and electricity from renewable energy sources are vital to reducing greenhouse gas emissions and can create significant opportunities for communities. Renewable energy also presents a significant opportunity for associated development, investment and growth of the supply chain”* (page 36).
- 12.2.6 Paragraph 80 states that *“Where it is necessary to use good quality land for development, the layout and design should minimise the amount of such land that is required. Development on prime agricultural land, or land of lesser quality that is locally important should not be permitted except where it is essential:*
- *....to meet an established need, for example for essential infrastructure, where no other suitable site is available; or*
 - *for the generation of energy from a renewable source or the extraction of minerals where this accords with other policy objectives and there is secure provision for restoration to return the land to its former status.”*
- 12.2.7 SPP recommends that Planning Authorities should use non-statutory local designations to *“safeguard and promote important local settings for outdoor recreation and tourism”*. As such, demonstrating the important on local recreational and tourism designations.
- 12.2.8 Paragraphs 29 and 169 state that decisions for proposals for energy infrastructure should be guided by giving due weight to net economic benefit (paragraph 29) and that key considerations are likely to include:
- “...net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities (paragraph 169)”*.
- 12.2.9 The National Planning Framework (NPF3) (Scottish Government, 2014b) sets out a long-term strategy for Scotland’s important development and investment opportunities in infrastructure. Combined with the SPP, the NPF3 aims to help deliver a sustainable, economic future for Scotland’s communities. NPF3 states that in order to help make Scotland a low carbon place, the spatial strategy needs: *“...to retain the benefits of renewable energy development in Scotland by supporting investment at key sites across the country.”*
- 12.2.10 NPF3 also indicates that the future of the renewables sector in Scotland will be key to bringing new employment to Scotland’s remote areas. NPF3 further states that rural communities will benefit from well-planned renewable energy development.
- 12.2.11 NPF3 highlights the importance of Scotland’s islands and the *“unprecedented opportunity to secure growth from renewable energy generation as well as other key economic sectors including tourism... In our more remote areas, this will bring new employment, reverse population decline and stimulate demand for development and services. Infrastructure investment, including improved transport and digital links and a planned approach to development, will be required to support this change and realise this potential”*.
- 12.2.12 NPF3 further states that the Scottish islands contain some of the most vibrant and culturally distinctive communities. There are opportunities to develop the existing strengths of these island areas, for example in tourism and outdoor recreation. This highlights the importance placed by the Scottish Government on tourism and outdoor recreation facilities.
- 12.2.13 Regarding Shetland, NPF3 states that *“fishing continues to increase its already significant contribution to the Shetland economy. Tourism and creative sectors are priorities for growth”. The Scottish Government acknowledges the importance of Shetland’s distinct economy and tourism resources.*

Local Policy

- 12.2.14 The local policies which are relevant to socio-economics, tourism and recreation and land-use are set out below.
- 12.2.15 The Shetland Islands Council's (SIC) Economic Development Strategy 2018-2022 (Shetland Islands Council, 2017a) sets out the current position and future aspirations of the Shetland council area, and provides a policy framework for the work of the Council's Economic Development Service.
- 12.2.16 In order for Shetland to be a place where everyone can succeed, SIC has outlined six priority areas:
- encourage growth, development and diversification in the private sector, including adding value to local primary production, such as through fish processing;
 - improve economic participation in local communities, including assisting community groups to develop key assets;
 - link skills, research and development to economic need, including investigating development opportunities for key sectors and filling business's skills gaps;
 - ensure Shetland's interests are represented in national, regional and external policy-making;
 - improve the attractiveness of Shetland as a place to live, work, study, visit and invest; and
 - increase the pace of innovation and the adoption of new technologies, including reducing dependence on fossil fuels and increasing installed renewable energy sources.
- 12.2.17 From concerted effort in these priority areas, SIC has a number of ambitious targets, including creating 250 new private sector jobs by 2022, reducing the rate of underemployment, and reducing carbon emissions faster than the Scottish average.
- 12.2.18 The Shetland Local Development Plan (the LDP) (SIC, 2014) states that the Shetland Islands Council is committed to harnessing the benefits from renewable energy for the good of the community at large. The LDP has a key role in supporting development of the diverse range of renewable energy technologies in order to maximise the associated social and economic opportunities whilst protecting the environment.
- 12.2.19 LDP Policy RE1: Renewable Energy states that renewable energy developments can provide a sustainable opportunity for diversification within the Shetland economy. There is potential for communities and small businesses to invest in ownership of renewable energy projects or develop their own projects for the benefit of local communities. Policy RE1 also states that SIC will support the development of proposals for any renewable energy provided they do not have any unacceptable impacts on tourism and recreation interests and local landscape. Under LDP Policy NH4: Local Designations, the importance of tourism and recreations are emphasised. The creation of Local Landscape Areas can *"increase awareness of distinctive character and special qualities of local landscapes and support outdoor recreation, physical activity and local tourism"*.
- 12.2.20 LDP Policy ED2: Commercial and Business Developments suggest SIC will *"support proposals for retail, commercial and business developments that promote employment opportunities, community benefits, rural diversification and tourism related ventures"*.
- 12.2.21 LDP Policy CF2: Open Space supports *"development that will improve or add to the current levels of open space. Development proposals that adversely impact on established recreation areas, and other important open spaces that contribute to recreational amenity or environmental quality of an area will not be supported"*. Access to good quality open spaces and opportunities for sport, recreation and reflection makes an important contribution to the health and wellbeing of the population. Good quality open spaces are important for the contribution they make to amenity and their role in nature conservation, biodiversity, recreation and physical activity. The LDP also supports the linking of open spaces to core paths.
- 12.2.22 The LDP vision states that land use planning should protect and enhance areas of recreation and support better access across the Islands. Various LDP Policies (NH3: Furthering the Conservation of Biodiversity, NH4: Local Designations, NH6: Geodiversity) aim to protect and/or enhance natural features to protect and facilitate the use of resources for recreation, learning and outdoor activities.

Guidance

- 12.2.23 The proposed methodology utilised in this Chapter has been based on established best practice, including that used by the UK and Scottish Governments, and industry reports in the sector including the following guidance and information sources.
- 12.2.24 The following documents have been considered for the assessment of potential effects of the Proposed Development on socio-economics, tourism and recreation and land-use:
- Institute of Environmental Management and Assessment, The State of Environmental Impact Assessment in the UK (IEMA, 2011);
 - Scottish Natural Heritage, A Handbook on Environmental Impact Assessment (SNH, 2014); and
 - Wind Farms and Tourism Trends in Scotland: BiGGAR Economics (BiGGAR Economics, 2016).

12.3 Consultation

- 12.3.1 Throughout the scoping process, and subsequently during the ongoing EIA process, relevant organisations were contacted with regards to the Proposed Development. Table 12.1 outlines the consultation responses received in relation to socio-economics, tourism and recreation and land-use.

Table 12.1 – Consultation Responses

Consultee	Type and Date	Summary of Response
SIC	Scoping Opinion (16 th April 2018)	<p><i>“Should this proposal proceed the development of an Access Route Plan demonstrating how access will be incorporated and accounted for will be sought and should include:</i></p> <ul style="list-style-type: none"> - <i>A map detailing the existing paths and desire lines on or adjacent to the site;</i> - <i>A map detailing the Core Paths, Access Routes and Public Rights of Way on or adjacent to the site; and</i> - <i>Where applicable, a map detailing the links to schools, leisure and community services (including open space), public transport, and points of interest”.</i>
SIC	Scoping Opinion (16 th April 2018)	<p><i>“A report on the consultation undertaken with local communities and relevant recreational user groups (e.g. walking, cycling, equine, water sport, nature study) with respect to informal and formal access use. The report must include details of the groups consulted, the range of views expressed and how the development may have changed as a result”.</i></p>
SIC	Scoping Opinion (16 th April 2018)	<p><i>“Details of any new routes and proposed changes, including:</i></p> <ul style="list-style-type: none"> - <i>A map detailing the diversions and management of access required during and after construction;</i>

Consultee	Type and Date	Summary of Response
		<ul style="list-style-type: none"> - Path construction specifications; - Structures, fitting and signage specifications; - Project and delivery plan for path works; - Future path maintenance plan, including an outline of who will be responsible for funding path maintenance, who will maintain the paths and over what timescale and the path maintenance schedule (monitoring, vegetation control, furniture replacement)"
SIC	Scoping Opinion (16 th April 2018)	"It is expected that any windfarm access tracks constructed would be incorporated into the access plan to be developed as routes for recreation along with other connecting routes to make a useable recreational network along with other supporting information and infrastructure."
SIC	Scoping Opinion (16 th April 2018)	"The Planning Service looks forward to the EIA Report assessing a targeted socio-economic survey and report that takes account of the Shetland/Yell specific activities that may be impacted (positively and negatively) as a result of the development.."
SIC	Scoping Opinion (16 th April 2018)	"Assuming that this site boundary change is to allow for the creation of road access and a junction from the A968 to access the site the development will now directly affect access to the core path and potentially a length of it. Consideration will need to be given to the nature of these junctions and management of the range of uses and needs both during construction and during the running of the wind farm and be included in a detailed Access Route Plan".
ScotWays	Scoping Opinion (16 th April 2018)	ScotWays "would anticipate that an access plan be prepared in consultation with the access team at the Council so that existing routes are taken into account and any new routes across the site can be linked to the existing network".
Visit Scotland	Scoping Opinion (16 th April 2018)	"VisitScotland would strongly recommend that any potential detrimental impact of the Proposed Development on tourism be identified and considered in full".

12.3.2 The key points raised during consultation include:

- The requirement for details of any new access routes to be included within an Access Route Plan. No new access is proposed as part of the Proposed Development however, access will be maintained as detailed in Section 0.
 - SIC requested this Chapter of the EIA Report include a targeted socio-economic report, focusing on Shetland and Yell. The impact of the Proposed Development on Shetland and Yell is considered throughout this chapter and in **Technical Appendix 12.1**.
 - Consideration of the nature of the junction from the A968 onto the Proposed Development site and how this will affect core paths. This is addressed in 12.6.69.
 - Consideration of impact of the Proposed Development on tourism and recreation is assessed in section 12.6.
- 12.3.3 All consultation responses and requests for further information on socio-economic, tourism, recreation and land-use have been addressed.

12.4 Assessment Methodology and Significance Criteria

- 12.4.1 Effects on the socio-economics, tourism and recreation and land-use resources can be described as direct, indirect or cumulative.
- 12.4.2 The socio-economic assessment aims to predict the likely effects (both positive and adverse) arising from the Proposed Development. Social and economic effects are divided into:
- direct effects: opportunities that can be created as an immediate effect of the Proposed Development;
 - indirect effects: opportunities that will be created by the Proposed Development further down the supply chain or influence wider tourism, recreation or land-use;
 - induced effects: for example, employment opportunities created by the additional spend of wages into the local economy including on tourism, recreation and land-use; and
 - cumulative effects: where the combined effect of two or more developments are greater than those of the Proposed Development itself.
- 12.4.3 The key assessment considerations to determine potential effects as a result of the Proposed Development are:
- temporary direct and indirect effects arising from the construction phase;
 - long-term direct and indirect effects that occur during the operational phase, but are mitigated at decommissioning; and
 - permanent direct and indirect effects that continue after decommissioning.
- 12.4.4 The principal socio-economic assessment criteria relate to the employment impacts within the study area, as defined in Section 0 of this Chapter. These impacts are defined in terms of job years, Capital Expenditure (CAPEX), Operational Expenditure (OPEX) and additional spend associated with the Proposed Development.
- 12.4.5 Recreational behaviour will be affected where the Proposed Development leads to a change in recreational habits or activities. Factors which might lead to change in recreational behaviour include loss, closure, or diversion of routes; obstructing access routes; enhancing access; reduction in amenity or intrusion; enhancement in amenity; and changes in setting and context of the recreational resource. Some of these topics are dealt with in other chapters of the EIA Report (refer to **Chapters 5, 8 and 9**).
- 12.4.6 This Chapter deals primarily with amenity, which is defined as the pleasantness of the recreational asset that contributes to its character, i.e. the essence of why the asset is visited. Amenity is inextricably linked with recreational behaviour and tourism..

12.4.7 Land-use is the management and occupation of the environment by people, and what the land is used for, both at present and in the future. Development can affect the ability of the land to be effectively used for its current purpose, and also affect the potential use in the future. The land in which the Proposed Development is located (the site) is in an area of rough grazing. Recreational land use is assessed under recreation and as such, the land use assessment only covers agriculture.

12.4.8 Where outdoor recreational and tourism facilities are not designated for their visual setting or outlook, the visual impact on these receptors is assessed in Chapter 5 of the EIA Report. This chapter solely focuses on the designated use of the tourism and recreational receptor.

Study Area

12.4.9 The Study Area in this assessment is receptor specific, with further detail as follows:

- Socio-economics: As national statistics apply to the Shetland Islands as a single area, the Shetland Islands will be referred to as a whole for a number of assessments ('the Regional Study Area'). It is also necessary to consider impacts at a more local level. In this Chapter, the local area has been defined as the North Isles (consisting of Yell, Unst and Fetlar) which is an area commonly used in local economies and tourism planning ('the Local Study Area').
- Tourism and Recreation: The Shetland Islands as a whole have been evaluated to identify the baseline for tourism, however effects on specific receptors has been limited to those within 5 kilometre (km) of the site. The Study Area comprises land within and immediately adjacent to the Proposed Development in considering direct effects. The Study Area for considering indirect effects extends to 5 km from the boundary of the site.
- Land-use: The Study Area for land-use is limited to the area occupied by the Site, either temporarily during construction and decommissioning or permanently after operation and decommissioning.
- Cumulative: The cumulative study area for the Proposed Development is 15 km of the site.

Data Sources

12.4.10 The following sources of information have been used to inform the baseline description set out in this Chapter:

- NOMIS Official Labour Market Statistics;
- Scottish Tourist Board;
- Scotways;
- Sustrans;
- VisitScotland; and
- Shetland Website.

12.4.11 Baseline conditions have also been established from a site-specific economic assessment undertaken by BiGGAR Economics (The Economic Impact of Energy Isles Wind Farm, January 2019). BiGGAR Economics assessed the economic impact of the Proposed Development using methodology considered to be industry best practice and from experience based on the economic outcomes at other Scottish onshore wind developments. The tourism and recreation baseline was ascertained by undertaking a detailed review of all tourism and recreational receptors within Shetland and more specifically within a 15 km radius of the boundary of the site. Baseline conditions have also been determined through consultation including responses from the Scoping Opinion (April 2018). Therefore, a profile of the local economy has been created using available statistics, as well as considering the aspirations of the local community.

12.4.12 An overview of the tourism and recreation assets was also undertaken by BiGGAR Economics, which considered the importance of the tourism sector to the local economy and how individual assets contribute to attracting visitors to the area. Tourism attractions, accommodation and paths within the vicinity of the Proposed Development were identified through desk-based research.

After reviewing the literature on the relationship between wind farms and tourism, the potential effect of the Proposed Development on these assets was then assessed.

Desk Study

- 12.4.13 In order to outline the social and economic conditions relevant to the site and surrounding area a desk based review of published data on the following was undertaken:
- the local economy;
 - socio-economic and visitor profiles;
 - land-use and ownership; and
 - public attitudes to wind farms.
- 12.4.14 Interpretation of BiGGAR Economics ‘the Economic Impact of Energy Isles Wind Farm Report’ (April 2019) was also used to aid determining the context of the local and wider area. Analysis of economic impacts was undertaken using a model that has been developed by BiGGAR Economics specifically to estimate the economic impacts of wind farm developments. This model has been used as the analysis of the UK onshore wind sector by the then Department of Energy and Climate Change (DECC) and RenewableUK in 2012, and subsequently updated in 2015 (RenewableUK, 2012). BiGGAR Economics ‘the Economic Impact of Energy Isles Wind Farm Report’ can be found in Technical **Appendix 12.1**.
- 12.4.15 Local tourist attractions have been identified through thorough desk based research and consultation to gather information. This was combined with information sourced from the Visit Scotland website. A list of the advertised attractions and their distance from the Proposed Development is provided within Table 12.6 in section 12.5.29.
- 12.4.16 Baseline land-use information was also identified through desk based research, specifically spatial data analysis, and consultation including scoping responses to the Scoping Report (July 2017) produced by the Applicant and engagement with the locals.

Assessment of Potential Effect Significance

- 12.4.17 The economic impact of construction and operation of the Proposed Development was assessed, using a methodology that has been developed by BiGGAR Economics specifically to estimate the economic effects of wind farm developments. This approach is now considered industry best practice. This is based on research undertaken by BiGGAR Economics on behalf of RenewableUK in 2012, which was subsequently updated in 2015, which was based on case studies of the local, regional and national economic effects of wind farms developed in the UK.
- 12.4.18 The wider socio-economic effects of the Proposed Development were also considered, including the community benefit fund and the contribution made through non-domestic rates. The potential contribution of the Proposed Development to the community was aligned to the aspirations of the community.
- 12.4.19 The assessment methodology adopted for this Chapter relies on consideration of the sensitivity of a receptor and the magnitude of change it would experience as a result of any impact from the Proposed Development. Taking this into account with professional judgement allows for a conclusion as to the level of effect and whether this constitutes a significant effect in accordance with the EIA Regulations.
- 12.4.20 The sensitivity of the receptor/asset to an effect reflects the level of importance assigned to it. This allows the identification of key socio-economic, tourism, recreational or land-use assets. The criteria used for defining sensitivity to impacts on socio-economic, tourism and recreational and land-use assets are as follows:
- **Very High Sensitivity:** Assets/receptors of international importance. The asset has little or no capacity to absorb change without fundamentally altering its present character, is of very high socio-economic, recreational or tourism value, or of national importance. For example, it is a

destination in its own right (for recreation or tourism attractions), with a substantial proportion of visitors on a UK level and/or possesses priority or weight in UK policy;

- High Sensitivity: Assets/receptors of national importance. The asset has low capacity to absorb change without fundamentally altering its present character, is of high socio-economic, recreational or tourism value, or of importance to Scotland;
- Medium Sensitivity: Assets/receptors of regional importance to the Shetland Islands. The asset has moderate capacity to absorb change without substantially altering its present character, has some socio-economic, recreational or tourism value, or is of regional importance. For example, it is a popular destination among current visitors (for attractions), with a significant contribution to the regional economy and/or possesses priority/weight in regional policy;
- Low Sensitivity: Assets/receptors of local importance to the Northern Isles. The asset is tolerant to change without detriment to its character, has low socio-economic, recreational or tourism value, or is of local importance. For example, it is an incidental destination for current visitors (for attractions) and/or possesses priority/weight in local policy; and
- Negligible Sensitivity: Assets/receptors with less than local importance. The asset is resistant to change and is of little socio-economic or tourism value. For example, an incidental destination for low numbers of current visitors (for attractions) and/or possesses no weight in authority policy.

12.4.21 In determining the magnitude of impact, the values of the asset affected are first defined. This provides the baseline against which the magnitude of change can be assessed; the magnitude of impact being proportional to the degree of change in the asset’s baseline value. The criteria for assessing the magnitude of change are as follows:

- High Magnitude: Major (beneficial or adverse) alteration of the socio-economic, tourism and recreational or land-use assets/receptors;
- Medium Magnitude: Alteration (beneficial or adverse) to, one of more key elements of the socio-economic, tourism and recreational or land-use assets/receptors;
- Low Magnitude: Slight alteration (beneficial or adverse) of the socio-economic, tourism and recreational or land-use asset/receptors; and
- Negligible Magnitude: Barely perceptible alteration of the socio-economic, tourism and recreational or land-use asset/receptors.

12.4.22 The evaluation of significance presented in Table 12.2 provides a guide to decision making, but is not a substitute for professional judgement and interpretation, particularly where the sensitivity or effect magnitude levels are not clear or are borderline between categories. Predicted ‘major’ or ‘moderate’ effects are considered to be significant in terms of the EIA Regulations for the purpose of the assessment of effects on socio-economics, tourism, recreation and land-use.

Table 12.2 – Framework for Assessment of the Significance of Effects

Magnitude of Impact	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible

Magnitude of Impact	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

- 12.4.23 Effects can be beneficial or adverse and these are specified where applicable in the assessment within this Chapter.
- 12.4.24 In the context of this chapter, negligible effects equates to no effect.
- 12.4.25 For assessing significance, consideration is given to the national and regional baseline situation. The local baseline is considered for recreation, tourism and land use. The magnitude of the impact is determined in proportion to the area of impact to each receptor.
- 12.4.26 In terms of socio-economic factors, potential effects would be significant if the Proposed Development resulted in any fundamental or material changes in population, structure of community, and economic activity during the operational phase of the Proposed Development.
- 12.4.27 For tourism and recreation factors, potential effects would be significant if the Proposed Development resulted in any fundamental or material changes in key elements/features of the receptor or if effects resulted in major, long-term alterations of the baseline conditions of the attraction, accommodation, recreation route etc.
- 12.4.28 In terms of land-use factors, potential effects would be considered significant if the Proposed Development resulted in long-term modification or net loss of an important land-use receptor.

Requirements for Mitigation

- 12.4.29 Where significant adverse effects are predicted, mitigation measures to reduce or offset the effects are proposed where possible. Mitigation to reduce potential effects has been incorporated into the design of the Proposed Development ('embedded mitigation'). This includes mitigation by design whereby aspects of the Proposed Development have been designed to avoid or reduce socio-economic, tourism and recreation and land-use effects.

Assessment of Residual Effect Significance

- 12.4.30 Following the assessment of potential effects, all attempts will be made to avoid and mitigate significant adverse socio-economic, tourism and recreational and land-use effect, through specific, applied mitigation as described above, whereupon an assessment of the residual effects will be undertaken to determine their significance.

Limitations to Assessment

- 12.4.31 Data has been collated from published sources. The BiGGAR Economics 'the Economic Impact of Energy Isles Wind Farm' report provides site-specific details relevant to the Proposed Development to aid the assessment of socio-economics, tourism, recreation and land-use effects.
- 12.4.32 Whilst efforts have been made to ensure that the key tourism and recreation facilities in the area have been identified, it is possible that some attractions will not have been identified through the data collection process.

12.5 Baseline Conditions

12.5.1 The site covers an area of 1679 hectares (ha) with a development footprint of 485,291 m², centred on National Grid Reference (NGR) 450134, 1201392. The closest settlement is Gloup, located 0.8 km to the north of the site, while Cullivoe is approximately 1.8 km east, as shown on **Figure 1.2a-e**. The site lies wholly within the administrative boundary of SIC, and within the North Isles electoral ward.

Socio-economics

Socio-economic Context

12.5.2 Shetland is an archipelago situated approximately 170 km north east of mainland Scotland, covering an area of approximately 1,468 ha. The 2017 population of Shetland was 23,080 dispersed across 16 inhabited islands. Over 31% of the population live in the town of Lerwick and 50% of the total population live in Lerwick or within a 10 mile radius (SIC, 2017b).

12.5.3 The main links to the Scottish mainland are via ferry, which sails overnight from Lerwick to Aberdeen; and via direct flights to Aberdeen, Glasgow, Edinburgh and Inverness.

12.5.4 Within Shetland, the island communities are served by a combination of inter-island ferries and air services. Frequent ferries run to Bressay, Whalsay, Unst, Yell and Fetlar; services run several times per week to Fair Isle, Foula, Skerries and Papa Stour.

12.5.5 Shetland is divided into seven electoral wards:

- North Isles;
- Shetland North;
- Shetland West;
- Shetland Central;
- Shetland South;
- Lerwick North; and
- Lerwick South.

Population

12.5.6 The baseline socio-economic conditions of the Shetland Islands are largely derived from the National Records of Scotland – Mid-Year Population Estimates (National Records of Scotland, 2017a) as well as taking account of ‘Ward 1 – North Isles’ Profile Statistics. North Isles statistics are used as there are the only comparable statistics available at local level. Where figures are not available for the North Isles area, the assessment has presented figures from the Shetland Isles 2011 census (National Records of Scotland, 2017b).

12.5.7 The population of the Shetland Islands in 2017 was 23,080, which represents 0.4% of the Scottish total. It has a relatively higher proportion of the population aged 0-15 (18.3%) than the Scottish average (16.9%), and the proportion of the population aged 16-64 is 62.2%, compared to the average of 64.4%; see Table 12.3.

12.5.8 The proportion of the population aged 20-29 (11.0%) is lower than the Scottish average (13.6%), suggesting that many young people migrate from Shetland once they reach adulthood. A study on Young People in the Highlands and Islands by the Highlands and Islands Enterprise (HIE, 2015), which includes Shetland, found that 24% are ‘committed leavers’ and 18% are ‘reluctant leavers’, with broadening their life horizons (88%) and access to training and employment opportunities (82%) cited as the most common reasons for leaving.

Table 12.3 – Population Statistics

	Shetland	Scotland
Total Population	23,080	5,424,800
0-15	18.3%	16.9%
16-64	62.2%	64.4%
65 and over	19.5%	18.7%
Source: BiGGAR Economics, January 2019 and SIC (2017b)		

Economic Development Strategy

- 12.5.9 The SIC Economic Development Strategy (SIC, 2017a) highlights that Shetland’s economy has been very successful in recent years. In particular, Shetland’s geographic position and natural resources have led to fisheries and energy, predominantly oil and gas, being the most significant sectors of the economy. The islands are surrounded by *“some of the richest fishing grounds and the island topography creates voes and inlets which are ideal for the development of aquaculture”*. Intrinsic to Shetland’s economic success is the presence of abundant offshore oil and gas reserves. *“Decades of extraction activity have seen these reserves decline but have also led to years of productive economic activity and investment, and new developments continue to provide economic benefits and opportunities”*.
- 12.5.10 In addition, Shetland has high levels of economic activity and a productive business base, with the unique local heritage also supporting ventures in the arts, food and drink, and tourism, and innovation supporting advances in renewable energy by integrating a smart grid system allowing renewable energy capacity to treble in Shetland, and telecommunications, through the introduction of fibre optic cabling.
- 12.5.11 However, the Shetland Islands also face certain economic difficulties. The population is ageing with some remote communities struggling to retain their population which will put pressure on local services and risks depleting the local labour market. Recruitment is also an issue and a fifth of employers report being unable to recruit qualified staff due to a lack of local labour. The UK’s exit from the European Union is also a source of significant substantial uncertainty and may have implications for key areas such as fisheries, energy and public services.
- 12.5.12 The SIC Economic Development Strategy (SIC, 2017a) aims to enable and promote the ideal conditions for growth and to support Shetland’s business, residents and communities to take advantage of opportunities created. This will be achieved through a number of objectives including:
- improve economic participation in local communities;
 - link skills, research and development to economic need;
 - ensure Shetland’s interests are represented in national, regional and external policy-making;
 - improve the attractiveness of Shetland as a place to live, work, study, visit and invest; and
 - increase the pace of innovation and the adoption of new technologies (including reduce dependence on fossil fuels and increase installed renewable energy sources).
- 12.5.13 Economic activity in *“Shetland is very strong, with high employment and a productive business base. School leavers overwhelmingly go into positive destinations such as employment, training and higher/further education, and many employers are fully engaged in developing their workforce*

through training and apprenticeships” (SIC, 2017a). Shetland has a stable and resilient business base, with a 70% survival rate since 2010, compared to 41% nationally.

- 12.5.14 The latest survey of *“employment showed a decline of 4.8% in full-time equivalent employment in Shetland between 2011 and 2017, with public administration, education and construction among those sectors experiencing decline”* (SIC, 2017a). Over the same period, employment in accommodation, catering, wholesale, retail, business services and manufacturing increased by over 19%.
- 12.5.15 At 21.3%, Shetland had the highest rate of underemployment (i.e. those in employment who would like more/longer hours given the opportunity) among Scottish local authorities. Employment surveys further reported considerable difficulties with local recruitment, with 22% stating that employability of candidates for vacancies is a concern, and 20% stating that they are unable to fill vacancies due to a lack of local labour.
- 12.5.16 The most important component of the Shetland economy in 2017 is agriculture, forestry and fishing, which accounts for 17.2% of employment, compared to 3.2% in Scotland (BiGGAR Economics, 2019). This category includes fishing and aquaculture, which account for a significant proportion of jobs in Shetland, as well as agriculture, including crofting (which is the land-use covering the site). Other industrial sectors include:
- construction (8.6% of employment in Shetland, compared to 5.7% in Scotland);
 - transport and storage partly driven by Shetland’s need to import many products (7.8% of employment in Shetland, compared to 4.2% in Scotland);
 - manufacturing often associated with processing fish and other seafood (7% of employment in Shetland, compared to 7.1% in Scotland);
 - professional, scientific and technical services (4.1% of employment in Shetland, compared to 6.9% in Scotland); and
 - mining, quarrying and utilities (1.7% of employment in Shetland, compared to 2.6% in Scotland).

The Role of Renewables in Economic Development

- 12.5.17 The UK renewables industry plays a central role in the economy by producing, transforming and supplying energy in its various forms to all sectors. UK Government statistics released on the 31st January 2018 show turnover from renewable energy activity in Scotland was £5,458 million in 2016, with individual sectors showing employment increases of up to 300% between 2015 and 2016 (Scottish Renewables, 2018). Scottish onshore wind projects, which support 8,000 jobs, delivered almost half (45.8%) of the UK’s turnover from onshore wind in 2016, the latest year for which figures are available (ONS, 2019).
- 12.5.18 Scotland’s turnover from onshore wind activities totalled £1.5 billion in 2016 and achieving ‘world leader’ status for renewables in 2017 (WWF, 2017). However, Scotland saw a *“decrease in estimates of onshore wind turnover between 2016 and 2017 (ONS, 2019). The majority of the decrease was within the manufacturing and construction industries, which includes installation of wind turbines. The cut in government feed-in tariffs for installing wind turbines may be contributing to the reduction in turnover and employment seen within this sector as a whole”*. Estimates of direct and indirect employment in low carbon and renewable energy economies grew from 45,800 Full Time Equivalent (FTE) in 2015 to 46,400 FTE in 2017 (however, 2016 was greater at 50,500). From 2015 – 2017, indirect employment was consistently greater than direct employment (ONS, 2019).
- 12.5.19 Renewable energy development provides a sustainable opportunity for diversification within the Shetland economy.

Tourism and Recreation

Tourism Context

- 12.5.20 Identification of the tourism and recreation baseline has been collated via a review of existing tourism development strategies at the national and regional levels, and an audit of the regional and national visitor economies.
- 12.5.21 Tourism is a key element in the socio-economic, environmental and cultural welfare of Scotland. In 2017, around 11 million overnight trips were taken in Scotland, for which visitor expenditure totalled around £3 billion and providing over 207,000 jobs.
- 12.5.22 In 2017/18, a survey (VisitScotland & SIC, 2017) was undertaken on behalf of SIC, in partnership with VisitScotland, to better understand the visitor profile, visitor journey, visitor experience and volume of visitors to Shetland including the Northern Isles. This included surveying people at major departure points, an online survey and a small number of in-depth interviews.
- 12.5.23 This study estimated that there were about 73,300 visitors to Shetland in 2017, of which over half (52.0%) were leisure visitors, 36.0% were business visitors and 12.0% were visiting friends and relatives (VFR). Business visitors account for a greater proportion of visitors in Shetland than in Scotland as a whole, where those travelling on business account for 16.3% (VisitScotland & SIC, 2017). In 2017, visitors were estimated to spend a total of £23.2 million in Shetland (this excludes the cost of travel to Shetland). Leisure visitors in Scotland accounted for 56.3% of the total, compared to business visitors and VFR visitors, who accounted for 36.4% and 7.3% of spending respectively.
- 12.5.24 The expenditure of visitors in Scotland was £11.3 billion in 2017. Tourism spending in Shetland in 2017 accounted for around 0.2% of the Scottish total, compared Shetland's population share of 0.4%. This is consistent with statistics on employment in accommodation and food services, which represents 5.6% of employment in Shetland and 7.6% of employment in Scotland. The Shetland tourist industry employs less of the population (5.6%) than the Scottish equivalent (7.6%) and therefore, results in less tourist expenditure (0.2% of Scottish total) in Shetland than its population share (0.4%).
- 12.5.25 The main reason cited by leisure visitors for visiting Shetland was the scenery and landscape (57%), which was most popular among overseas visitors and visitors from the rest of the UK. Other reasons for visiting Shetland included 'always wanted to visit' (50%), history and culture (33%) and 'To get away from it all' (24%).
- 12.5.26 Overseas visitors accounted for 33% of visitors and 34% of spending. Visitors from the rest of the UK accounted for 37% of visitors and 41% of spending. The largest spending categories were accommodation, food and drink, and travel costs in Shetland.
- 12.5.27 As can be seen in Table 12.5 below, the majority of visitors to Shetland spend time in Lerwick and South/Central Mainland. Approximately 45% of visitors spend time on Yell as their destination and 46% spend time on Unst as their destination. This suggests some visitors travel through Yell without stopping at tourist destinations.

Table 12.5 – Areas of Shetland Visited by Tourists

Area	% of Visitors who travel to Shetland Islands
Lerwick	98%
South Mainland	79%
Central Mainland	72%
North Mainland	55%

Area	% of Visitors who travel to Shetland Islands
West Mainland	60%
Unst	46%
Yell	45%
Source: BiGGAR Economics, January 2019	

Tourism and Recreation Receptors

- 12.5.28 The most visited attractions in Shetland, as well as the number of visitors and distance from the Proposed Development are presented in Table 12.6. They are all located on the Shetland Mainland and over 30 km from the Proposed Development and therefore, outwith the Study Area.
- 12.5.29 The largest tourist attraction is the Shetland Museum and Archives, in Lerwick with 84,084 visitors in 2016. Visitor numbers are less than for comparable tourism destinations on other remote islands, for example the largest attraction in Orkney attracted 179,487 visitors in 2016 and the largest attraction in the Outer Hebrides recorded 223,684 visitors in 2016.

Table 12.6 – Regional Attractions in Shetland, 2016

Attraction	Number of Visitors	Approximate Distance from Proposed Development (km)
(1) Shetland Museum and Archives, Lerwick	84,084	57
(2) Scalloway Museum, Scalloway	21,659	60
(3) Jarlshof Prehistoric and Norse Settlement, Sumburgh	15,892	89
(4) Shetland Jewellery, Soundside	10,617	48
(5) Tangwick Haa Museum, Eshaness	7,447	31
Source: BiGGAR Economics, January 2019		

- 12.5.30 The most popular attractions in the North Isles, all of which are located on Unst, include:
- Hermaness Nature Reserve and Visitor Centre, approximately 16 km from the site (attracts approximately 54% of the North Isles' visitors);
 - Unst Heritage Centre, approximately 17 km from the site, (attracting 44% of the North Isles' visitors);
 - Viking Unst - approximately 16 km from the site (attracting 36% of the North Isles' visitors); and
 - Muness Castle, approximately 14 km from the site (attracting 22% of the North Isles' visitors).

- 12.5.31 Due to the intervening distance from the site, regional and Northern Isles tourism receptors identified above are unlikely to be affected by the Proposed Development and therefore, scoped out of further assessment.
- 12.5.32 There are also a small number of attractions on Yell, which were identified through a search on VisitScotland's website. These include the Old Haa Museum in Burravoe on the southern tip of Yell, which is open from late April to the end of September, approximately 18 km from the Site. The museum has artefacts relating to Shetland's social and natural history, as well as a tearoom and garden. It also acts as a social hub for local people. Given the intervening distance, the Old Haa Museum is unlikely to be affected by the Proposed Development (no visibility on ZTV) and therefore, scoped out of further assessment.
- 12.5.33 Shetland Gallery, located approximately 2 km south-east of the Proposed Development on Yell, is the northernmost gallery in the UK, exhibiting work by well-known Shetland artists. Given the Shetland Gallery is within the Study Area, the impact of the Proposed Development on this tourism receptor will be considered Section 12.6.76.
- 12.5.34 There are also a number of public rights of way within the Study Area (5 km from the Proposed Development), one which passes less than 1 km from the Proposed Development, and one which is located within the Proposed Development site boundary (SIC, 2008). Core Path CPPY04 Cullivoe to Basta Voe is located within the southeast of the site. The Core Path is moderate to locally challenging consisting of gravel and grass tracks. There are three steep inclines along the route which links two communities together being the original single track road between the two.
- 12.5.35 The National Cycle Route (National Route 1) is located to the southeast of the site. This long distance cycle route is approximately 1,700 miles in length running from Colchester and the Shetland Islands. The aim of the cycle route is to connect major towns and cities along the east coast of the British Isles and therefore, not the National Cycle Route is not a rural or absent of traffic.
- 12.5.36 Stretches of National Route 1 form part of the North Sea Cycle Route, known as the EuroVelo 12 linking the UK to Norway and Holland. The section of the National Route 1 which passes the site, is not part of the EuroVelo 12 which is located only on Shetland Mainland. On Yell, National Route 1 runs from Ulsta Shetland Ferry Terminal along the A968 to Gutcher Shetland Ferry Terminal. The entirety of the National Route 1 on Yell is all on the A968 which is a major road intended to provide large-scale transport links. Large volumes of traffic and traffic travelling long distances should be using higher classes of road (e.g. 'A' roads). As it follows the A968, the section of National Route 1 on Yell and in proximity to the site is not considered a traffic-free. The ability for the A968 to accommodate traffic associated with the Proposed Development is detailed in chapter 11 of the EIA Report. This section will focus on the impacts of the Proposed Development on the use and amenity of the National Route 1.
- 12.5.37 There are regular closures on the National Route 1 (Sustrans, 2019b) due to construction. Diversions are put in place for pedestrians and cyclists and signposted during closures. As stated on Sustrans (2019b), there was a closure between Washinborough and Lincoln in October 2018 which "*due to the nature of the site, the diversion set up for cyclists is a significant detour on local roads*" which was deemed as acceptable.
- 12.5.38 A list of Core Paths and Access Routes within the Proposed Development's site boundary and Study Area are summarised in Table 12.7 below.

Table 12.7 – Core Paths and Access Routes within 5 km

Type of Route	Status of Route	Route Name	Distance from Proposed Development (km)
Shetland Islands Core Path	Local	CPPY01 Brekon Coastal	1.5 km north-east

Type of Route	Status of Route	Route Name	Distance from Proposed Development (km)
Shetland Islands Core Path	Local	CPPY03 Gloup Coastal	0.8 km north
Shetland Islands Core Path	Local	CPPY04 Cullivoe to Basta Voe	Southern section of the route located within the southeast area of the site
Shetland Islands Access Route	Local	ARY01 Gloup Memorial, Gloup	0.7 km north
Shetland Islands Access Route	Local	ARY02 North Sandwick, Yell	3.7 km southeast
National Cycle Route	National	NCN National Route 1	The route runs parallel the southeast area of the site along the A968

Accommodation

- 12.5.39 There are a number of accommodation providers on Yell and Unst, of which the majority are self-catering accommodation or bed and breakfasts.
- 12.5.40 There are five accommodation providers within the 5 km radius Study Area, four on Yell and one on Unst. These include providers at Grimister to the south, Gutcher and Belmont to the east, and one near Breckon Sands to the north-east.
- 12.5.41 Within the wider 15 km Study Area, there are nine accommodation providers on Yell and nine on Unst.

Public Attitudes towards Wind Farm Development

- 12.5.42 The potential for impact on tourism is closely linked to the perception of those visiting the area. This section of the chapter provides a brief overview of studies undertaken which discuss public perception of wind farm development across the UK.
- 12.5.43 In 2011, as part of their policy update, VisitScotland commissioned research to learn more about UK consumer attitudes to wind farms. The survey was largely attitudinal based and according to the results, wind farms do not have any significant impacts on the levels of tourism. For example, Whitelee Wind Farm Visitor Centre attracted over 120,000 visitors in the first 12 months of opening in 2009. This could be interpreted as onshore wind increasing tourism and recreational amenities however, it is acknowledged this is a site-specific case.
- 12.5.44 Based on this research, VisitScotland published in their most recent Position Statement (VisitScotland, 2014) in 2014 which stated:
- “VisitScotland understands and supports the drive for renewable energy and recognises the economic potential of Scotland’s vast resource, including the opportunities for wind farm development... There is a mutually supportive relationship between renewable energy developments and sustainable tourism.”*

- 12.5.45 A Department of Energy and Climate Change (DECC) (DECC, 2014) survey on public attitudes showed that in March 2014, 80% of the British public said they supported using renewable energy for electricity, heat and fuel in the UK.
- 12.5.46 The Public Attitudes Tracker, published by the Department for Business, Energy and Industrial Strategy in 2018 (BEIS, 2018), showed 76% of people support the development of onshore wind compared to a previous 74% from the start of 2017.
- 12.5.47 Almost seven out of ten people support onshore wind farms, according to the Survation poll conducted on behalf of Scottish Renewables (Survation, 2018). The survey also found majority backing for the continued development of renewable energy sources by the next Scottish Government, with almost eight out of ten supporting the move. The survey uncovered similar levels of support for renewable sources from those living outwith the central belt and in more rural parts of Scotland.
- 12.5.48 A survey by RenewablesUK “found clear majority backing for a change in current government policy to allow onshore wind developers to compete in Contracts for Difference (CfD) price support auctions” (Business Green, 2018). 66% of those surveyed said they would back a change in policy to allow new onshore wind farms to be built. The results “indicate strong public support for building onshore wind farms throughout the UK across most demographics and across Labour, Conservative and Liberal Democrat voters; both those which voted leave and remain in the 2016 EU referendum; and among older and younger people” (Business Green, 2018).
- 12.5.49 The most common reasons cited for backing new onshore wind developments include reducing dependency on fossil fuels such as coal and gas, meeting climate change commitments, and reducing dependency on other countries for the UK’s energy supply.
- 12.5.50 These studies highlight the varying opinions of visitors and residents regarding wind energy development, however, they suggest that the majority of those surveyed do not have a negative attitude towards wind farms. Statistics show that most of the public continue to support a range of renewable energy sources. Support was highest in those aged between 35 and 44 (80%).
- 12.5.51 The continued deployment of onshore wind development in Scotland has been accompanied by an interest in understanding how the impacts of wind farm developments affect local house prices. In recent years, there has been considerable research looking at measurable, quantitative effects on whether properties in proximity, or in sight of, wind farm developments experience changes to house prices. Studies have concluded that there is no robust evidence of any impact on house prices as a result of onshore wind development (RenwablesUK, 2014). A study conducted by RenewableUK and the Centre for Economics and Business Research concluded that no impact, and perhaps a slight positive influence on house prices was recorded from studies in proximity to a number of wind farm cases across England and Wales (RenewableUK, 2014).
- 12.5.52 Analysis conducted by Stephen Gibbons for LSE Research Online (Gibbons (2015) identified that larger wind farms can reduce a property value by up to 12% if situated within a 2 km radius of the wind farm and can result in a reduction in property prices up to 14 km away (Gibbons, 2015). Subsequently ClimateXChange undertook a parallel study based on Scottish property and Gibbons’ approach, although greatly increased the resolution and precision of the data (Heblich *et al.*, 2016). Undertaken in 2016, it is concluded that there is no consistent evidence of adverse impacts of wind developments on house price growth and that other research sample sizes tend to be too low to be statistically viable and generate robust results.

Land-use

- 12.5.53 The site predominantly comprises of croft land and smaller areas of rough upland grazing. The site extends to approximately 1679 ha across with an elevation ranging from approximately 0 m AOD to 84 m AOD.
- 12.5.54 The Dalsetter Hill Road (known locally as the Old Cullivoe Road) is a public road located within the site. It was the old road linking the two communities together and was the original single track road between the two. There are no other public roads located within the site.

- 12.5.55 The public road is also designated as a Core Path CPPY04 which runs from Cullivoe to Basta Voe is within the site. As a recreational land use, the impact of the Proposed Development on this asset is assessed under recreation.
- 12.5.56 As the land on which the Proposed Development will be located is under private ownership, it is considered that any effects directly affecting the landowners are subject to a commercial arrangement between the Applicant and the landowners, which is not appropriate to consider under EIA.

12.6 Potential Effects

Effects on Socio-economics

- 12.6.1 The investment in the Proposed Development has potential to generate a range of economic and social effects and opportunities for local businesses, most notably, employment opportunities and local spending.
- 12.6.2 Potential social and economic effects can be divided into:
- Wider effects: these are unquantifiable including effects in the wider economy from renewable energy development, such as research and development, skills development and employee retention.
 - Direct effects: for example, employment opportunities in the construction, operation and maintenance and decommissioning of the Proposed Development. The nature and scale of the economic effects would depend on the total capital expenditure and the sources of the materials and labour. Other direct effects include a community benefit fund; the payment of non-domestic rates; and rental income received by the landowner which are not considered material to the determination of the planning application.
 - Indirect effects: such as employment opportunities created down the supply chain by those companies providing services to the Proposed Development during construction, operation and decommissioning.
 - Induced effects: for instance employment created by the additional spend of wages into the local economy and the purchasing of basic materials, equipment and office space for staff.
- 12.6.3 The direct, indirect and induced effects are assessed below for each phase of the Proposed Development. This follows a broad assessment of wider effects.

Wider Economic Benefits

Community Benefit Fund

- 12.6.4 The Proposed Development would have an installed capacity of up to 200 MW and would provide community funding of £5,000 per MW in line with Scottish Government Good Practice Principles for Community Benefits (Scottish Government, 2014). This suggests the annual contribution of the Proposed Development in community benefit fund to projects would be up to £1.0 million. Over the 30 year operational lifetime of the Proposed Development this would equate to up to £30.0 million of community funding. Further detail on the Community Benefit Fund is provided in section 5 of **Appendix 12.1**.
- 12.6.5 The community benefit fund is a voluntary initiative to support the community and offer an opportunity for communities to work with the Applicant for the long term benefit of Shetland. The community benefit fund will contribute:
- support initiatives aimed at reducing fuel poverty, which affects households in Shetland at a much higher rate than Scotland as a whole;

- increase the Shetland, and the Northern Isles, attractiveness to tourists through the development of visitor attractions and accommodation, a new strategy and better marketing; and
- support existing community councils and voluntary organisations that have been subject to budget cuts whilst enabling new initiatives that could support entrepreneurship and business growth on the Northern Islands.

12.6.6 As the Proposed Development will result in up to £30.0 million of community funding in the local area over the lifetime of the Proposed Development. As detailed in **Appendix 12.1**, it was estimated that 18 full-time equivalent jobs could be supported in the voluntary sector by a community fund of this scale. The positive impact of community funding which will alter the socio-economic baseline at a local level.

12.6.7 However, it is acknowledged this is not considered a material consideration to the planning application.

Non-Domestic Rates

12.6.8 The Proposed Development will be liable to non-domestic rates, the payment of which will contribute directly to public sector finances. Although, the rateable value of the Proposed Development is not known; the load factor, one of its main determinants, is expected to be relatively high.

12.6.9 The number of wind farms with a similar scale and load factor as the Proposed Development is limited, however analysis of wind farms with load factors over 35% suggest that the rateable value may be in the region of £27,000 per MW.

12.6.10 Assuming an installed capacity of up to 200MW and a rateable value per MW of £27,000 (which is likely to be an underestimate) the total rateable value of the Proposed Development would be £5.4 million per annum. For businesses with a rateable value of over £51,000 there is a poundage rate of £0.518 per £1 of rateable value.

12.6.11 It is estimated that the Proposed Development could contribute £2.66 million annually to public finances which equates to £79.8 million over the operational life. However, the actual contribution will depend on variables such as the actual load factor, and the potential for any relief from non-domestic rates.

12.6.12 These non-domestic rates, by providing an additional revenue stream, will support the delivery of government services such as education, social care and waste management.

12.6.13 As the revenue collected from non-domestic rates is pooled nationally and redistributed among Scottish local authorities according to factors including population and need, the beneficial impacts will be distributed throughout Scotland.

Energy Isles Consortium

12.6.14 The Applicant consists of a consortium of over 50 businesses which are mostly based in Shetland. The consortium is committed to *“maximis[ing] the benefits [Shetland] derives from renewables for the greater good of the local economy and community”* (Energy Isles Ltd, 2018). The businesses involved in the consortium come from a range of industries including fishing, aquaculture, crofting, transport, renewables, support services and farming. The involvement of local businesses means that a percentage of the revenue generated by the Proposed Development could benefit the Shetland economy through additional investment in existing businesses and job creation.

12.6.15 To maximise the local impact, the Applicant has established the Energy Isles Wind Farm Community Liaison Group (CLG), a framework through which it engages with the local communities. The CLG includes representation from Yell, Unst and Fetlar Community Councils.

12.6.16 The Applicant is committed to providing the three Community Councils with an opportunity to invest in the Proposed Development. The community is taking advice from Local Energy Scotland’s Community and Renewable Energy Scheme (CARES).

Construction

Employment

- 12.6.17 To construct the Proposed Development, the Applicant will place substantial contracts for services and materials. The Balance of Plant contractor would be required by the Applicant to give local companies due consideration for the provision of goods and services (i.e. invite local companies to competitive tender). A series of ‘Meet the Developer Days’ will be held to brief local businesses on the types of contracts required during the construction period and invite local business to take advantage of the opportunities arising and bid for appropriate contracts.
- 12.6.18 The Applicant will encourage local sourcing of equipment whenever possible however, this procurement is subject to tendering and may be constrained by the specialist nature of equipment required. Local contractors will be encouraged to tender for construction, operation and maintenance work wherever possible, to ensure maximum benefit to local communities.
- 12.6.19 There will be several opportunities for local contractors during construction, including tendering for the following services:
- haulage and transport services;
 - site clearance;
 - access road, turbine platform construction and other civil engineering services;
 - site and ground investigation services;
 - building construction, electrical, plumbing, roofing, flooring, plastering, decorating and joinery services;
 - crane companies to provide lifting services;
 - plant and equipment hire;
 - fencing, road furniture and signage installation;
 - supply of building and electrical materials (e.g. aggregates, concrete, cabling, equipment, culvert tubes etc.);
 - mechanical, electrical, project management and supervisory services;
 - provision and servicing of temporary welfare facilities; and
 - supply of fuel and other consumables.
- 12.6.20 As set out in section 12.5.16, many of the expertise required for the Proposed Development exist within Shetland (for example, professional, scientific and technical services; transport and storage; manufacturing; mining, quarrying and utilities; and construction).
- 12.6.21 The direct employment effects during the development and construction phase are reported in job years as the contracts would be short term. Job years measure the number of years in full-time employment generated by the Proposed Development. The development and construction effects associated with the Proposed Development are estimated to support up to 204 job years in Shetland and up to 676 job years in Scotland.
- 12.6.22 As shown in Table 12.8, the job years created will be split over four main categories of contracts:
- development and planning which includes project development, legal and financial and project management;
 - balance of plant which includes civil and project management; roads; substation; buildings; turbine foundation and hardstanding; landscaping/ fencing; mechanical and electrical installation;
 - turbines which includes tower manufacture, other manufacture, assembly, and transport; and
 - grid connection which includes engineering services; construction; electrical components; and industrial equipment and machinery.

Table 12.8 – Development and Construction Contract by Study Area (up to job years)

	Shetland	Scotland
Development and Planning	17	58
Balance of Plant	105	256
Turbine	52	285
Grid Connection	30	77
Total (job years)	204	676

Source: BiGGAR Economics

- 12.6.23 There would be an indirect impact from the direct employment during the construction of the Proposed Development of people spending their salaries; indirect impacts are considered in section 12.6.30 and 12.6.31. The total economic impact assessed below is the sum of the direct impacts and the impact from expenditure of direct employees.
- 12.6.24 The research undertaken by BiGGAR Economics for RenewableUK in 2012 found that the average salary for employees in the onshore wind sector is £34,600. It was therefore estimated that up to £23.4 million would be paid to staff directly employed in Scotland during the development and construction phase of the Proposed Development. Staff based on Shetland would be paid between up to £7.1 million during the same period.
- 12.6.25 As detailed in **Appendix 12.1**, the total economic impact during the construction and development phase of the Proposed Development (the sum of direct impacts (e.g. employment) and indirect impact from the expenditure of direct employees) is estimated to be £25.5 million and 223 job years in Shetland. Through alteration to the socio-economic baseline (**medium magnitude**) at regional level (**medium sensitivity**), this results in a **moderate beneficial effect** and therefore **significant** in terms of the EIA Regulations.
- 12.6.26 The total economic impact during the construction and development phase of the Proposed Development (the sum of direct impacts (e.g. employment) and indirect impact from the expenditure of direct employees) is estimated to be £87.9 million and 795 job years in Scotland. Through a slight alteration of the socio-economic baseline (**low magnitude**) in Scotland (**high sensitivity**), this results in a **moderate beneficial effect** and therefore **significant** in terms of EIA Regulations.

Indirect Impacts

- 12.6.27 There would also be indirect impacts from the direct employment during the construction of the Proposed Development. Those employed during construction of the Proposed Development will have a positive impact on the wider economy through spending their salaries. A proportion of this spending will be in Shetland, supporting businesses that rely on consumer spending, and so supporting employment in the wider Shetland economy.
- 12.6.28 This could include supply chain benefits for local businesses and sub-contracted work relating to the transportation of labour and materials. Local shops, cafes and accommodation providers often experience an increase in turnover during the construction phase of onshore wind development as they have opportunities to provide additional services to the Applicant and its contractors. There are several accommodation options in the local area, and the Applicant will recommend that local services are used by temporary construction contractors.
- 12.6.29 There may be the opportunity for local people working on the Proposed Development to develop skills gained during construction which will provide an individual benefit and also, benefit to the wider local economy in the longer term. For example, project management and construction skills which would be transferrable to other construction roles, including other wind farm projects.

- 12.6.30 Indirect impacts associated with expenditure (£2.8 million) of direct employees would support 19 job years of employment in Shetland (**medium sensitivity**), and £1.0 million GVA over the development and construction of the Proposed Development (e.g. 24 months). This will result in a slight alternation (**low magnitude**) to the socio-economic baselines and therefore, a **negligible effect** and **not significant** in terms of the EIA Regulations.
- 12.6.31 Indirect impacts of workers living in the rest of Scotland (**high sensitivity**) would spend 74% of their salaries in the rest of Scotland (£17.2 million spent in Scotland) which would support 119 job years. This will result in a barely perceptible alternation (**negligible**) to Scotland's socio-economic baselines. This represents a **minor beneficial effect** and therefore **not significant** in terms of the EIA Regulations.

Capital Expenditure

- 12.6.32 Based on the BiGGAR Economics report commissioned by RenewableUK (RenewableUK, 2015), onshore wind Capital Expenditure (CAPEX) is split into the following elements:
- development and planning;
 - turbine;
 - balance of plant; and
 - grid connection.
- 12.6.33 On the basis that the Proposed Development has a capacity of up to 200 MW, the total CAPEX for the Proposed Development is estimated to be up to £237.9 million.
- 12.6.34 As stated in **Appendix 12.1**, the largest proportion of expenditure for onshore wind is on turbine related contracts (71.4%), followed by balance of plant (19.9%), grid connection (5.0%) and development and planning (3.7%). As turbine size and numbers increases, the share of total expenditure accounted for by balance of plant, grid connection and development and planning is expected to decrease.
- 12.6.35 Shetland could secure contracts up to £24.5 million, which is equivalent to 11% of the total CAPEX of the Proposed Development. The largest opportunity for Shetland would be balance of plant contracts, where it could be expected to secure up to £12.5 million. Shetland is expected to secure the following contracts in relation to turbines (up to £5.9 million), grid connection (up to £4.6 million) and development and planning (up to £1.6 million), as defined in Section 12.6.22.
- 12.6.36 Capital expenditure associated with the Proposed Development of up to £24.5 million will result in an alteration to the socio-economic baseline (**medium magnitude**) in Shetland (**medium sensitivity**) through supporting the advances in renewable energy and the SIC Economic Development Strategy. This could result in a longer-term alteration in the socio-economic baseline. The CAPEX expenditure in Shetland is considered of **moderate, beneficial effect** which is considered **significant** under the EIA Regulations.
- 12.6.37 It was also estimated that Scotland (which includes Shetland) could secure up to 34% of the total CAPEX, worth up to £82.0 million. The largest contracts could be secured in balance of plant contracts (up to £32.0 million).
- 12.6.38 In terms of capital expenditure in Scotland (estimated at £82.0 million) will be barely perceptible on the socio-economic baseline (**negligible magnitude**) at a national level (**high sensitivity**). The effect will be of **minor, beneficial effect** and therefore **not significant** in terms of the EIA Regulations.

Operation

Employment

- 12.6.39 The Proposed Development will have both direct and indirect effects on employment during operation. The operation and maintenance impact of the Proposed Development was estimated annually, as the impact would persist throughout the lifespan of the Proposed Development.

- 12.6.40 The Proposed Development will be regularly maintained by a specialist maintenance team. Employees are likely to include a part-time maintenance engineer (local site operator) and a small number of staff to occasionally service the turbines. It is estimated that turnover generated by the operation and maintenance of the Proposed Development would support 5 jobs per year in Shetland and 10 jobs per year in Scotland. This excludes land agreements, non-domestic rates and community benefit which are dealt with in greater detail in chapter 5 of **Appendix 12.1**.
- 12.6.41 The operation and maintenance of the Proposed Development will have a long-term, beneficial, direct effect to the Shetland and Scotland through the increased employment.
- 12.6.42 In terms of Shetland (**medium sensitivity**), there may be a slight alteration to the socio-economic baseline given increased operational employment (5 jobs per year) (**low magnitude**). This is a **minor beneficial effect** and therefore **not significant** in terms of the EIA Regulations.
- 12.6.43 The Proposed Development will contribute to employment (10 jobs per year) (**negligible magnitude**) in Scotland (**high sensitivity**) during construction and operation. This is a **minor beneficial effect** and therefore **not significant** in terms of the EIA Regulations

Induced Impacts

- 12.6.44 As with the construction expenditure, there will also be indirect effects from the direct employment during the operation of the Proposed Development. The people who will be employed during operation will have an impact on the wider economy by spending their salaries. The induced job years would be 2 jobs per years in Scotland, with no induced job years in Shetland.
- 12.6.45 The operation and maintenance of the Proposed Development will bring long-term, beneficial, indirect effect to the Northern Isles, through the increase spending.
- 12.6.46 By providing high quality local jobs, the Proposed Development may attract more people of working age to Yell, Unst and Fetlar. This could boost populations and knock on effects in terms of workers families enrolling in local schools.
- 12.6.47 In terms of Shetland (**medium sensitivity**), there will be no alternation to the socio-economic baseline in terms of induced job years (**negligible**). This is **negligible** and therefore **not significant** in terms of the EIA Regulations.
- 12.6.48 In terms of Scotland (**high sensitivity**), there will be a barely perceptible alteration to the socio-economic baseline due indirect effects associated with operation and maintenance (e.g. 2 job years) (**negligible**). This **minor beneficial effect** is **not significant** in terms of the EIA Regulations.

Operation Expenditure

- 12.6.49 It is anticipated that operational expenditure will include:
- turbine maintenance;
 - site maintenance;
 - operational management; and
 - habitat management costs..
- 12.6.50 For the Proposed Development, annual Operational Expenditure (OPEX) is estimated to be up to £4.1 million per annum. Over the 30 year operational lifetime of the Proposed Development, this could amount to £121.9 million. It is anticipated that Shetland could secure up to 15% of the contracts, with 33% of the contracts being secured from within Scotland. It is estimated that operation and maintenance could generate up to £18.3 million of additional turnover in Shetland (£0.6 million per annum) and £40.2 million in Scotland (£1.3 million per annum).
- 12.6.51 The OPEX for the Proposed Development is not in magnitude in comparison to the annual GDP of Shetland or the value of the renewable industry in Scotland, with the majority of the expenditure taking place at the local, regional or Scotland level.

- 12.6.52 In terms of Shetland (**medium sensitivity**), there may be a slight alteration to the socio-economic baseline due to OPEX spending (up to £0.6 million per annum) (**low magnitude**). This **minor beneficial effect** is **not significant** in terms of the EIA Regulations.
- 12.6.53 During operation, the Proposed Development will contribute up to £1.3 million per annum) (**negligible magnitude**) in Scotland (**high sensitivity**). This **minor beneficial effect** is **not significant** in terms of the EIA Regulations.

Decommissioning

Employment

- 12.6.54 To date there has been limited decommissioning of onshore wind installations in the UK. Based on a report by Renewables UK (2012) and the DECC, wind energy developers anticipated expenditure of decommissioning wind farms to be £34,555 per MW. It is therefore estimated that cost of decommissioning of the Proposed Development would be £6.9 million.
- 12.6.55 It is assumed Shetland would be able to secure 50% of the decommissioning contract worth £3.5 million. The rest of Scotland would secure 90% of the decommissioning contract worth £6.2 million (this includes Shetland).
- 12.6.56 The 50% of the decommissioning contract which Shetland is anticipated to secure equates to 16 job years of employment.
- 12.6.57 Direct socio-economic impacts in Shetland during the decommissioning phase of the Proposed Development are anticipated to be of **low magnitude** (16 job years and £3.5 million contract value) thereby representing a short-term, positive effect acting at regional level (**medium sensitivity**), resulting in a **minor beneficial effect** which is **not significant** in terms of the EIA Regulations.
- 12.6.58 The rest of Scotland would secure 90% of the decommissioning contract resulting in 29 jobs (these statistics include Shetland).
- 12.6.59 Direct socio-economic impacts in Scotland (**high sensitivity**) include £6.2 million of contracts and 29 job years during decommissioning (**negligible**), resulting in a **minor beneficial effect** which is **not significant** in terms of the EIA Regulations.

Induced Impacts

- 12.6.60 Those employed to decommission the Proposed Development would have an impact on the economy by spending their wages in the same way as employees during construction and operation. Indirect effects of spend during decommissioning are likely to generate 2 job years in Shetland and 5 job years in Scotland.
- 12.6.61 In terms of indirect impacts, 2 job years (**negligible**) at regional level (**medium sensitivity**), is assessed as **negligible** and therefore, **not significant** in terms of the EIA Regulations.
- 12.6.62 At a national level (**high sensitivity**), 5 job years created for decommissioning is considered **negligible** in terms of magnitude, resulting in a **minor beneficial effect** and therefore, **not significant** in terms of the EIA Regulations.

Effects on Tourism and Recreation

- 12.6.63 As set out in **Appendix 12.1**, a Tourism Assessment has been undertaken by BiGGAR Economics for the Proposed Development. This assesses the impact of the Proposed Development on visitor attractions, accommodation providers and recreational routes within a 5 km radius of the site. Potential effects on the tourism and recreational resource are categorised as:
- direct physical effects: for example, construction activities interfering with rights of access; and
 - indirect effects: such as the changes in amenity on tourists and recreational land users.

Construction

- 12.6.64 The site is accessible to the public, as provided for via the "freedom to roam" provisions in the Land Reform Act (Scotland) 2003 (Scottish Government, 2003), however, access to areas where construction is taking place or where there is construction related activities may be restricted. The Construction (Design and Management) Regulations 2015 (Scottish Government, 2015) is a legal obligation for health and safety purposes. Notices will be placed in prominent locations around the site with details of any areas with restricted access. Such measures would be agreed in advance with SIC.
- 12.6.65 The site does not contain any paths or recreational facilities which are of importance at a national level, and access to neighbouring land will be available from other locations surrounding the site.
- 12.6.66 Core Path CPPY04 Cullivoe to Basta Voe is located within the southeast of the site. The Core Path links two communities together and was the original single track road between the two. As such, Core Path CPPY04 is of local importance in terms of recreation. Pedestrian levels on the CPPY04 are not considered to be high and other non-motorised user numbers are considered to be very low, as detailed in Chapter 11 of the EIA Report. Access from the A968 onto the public road/CPPY04 will be the primary access for the construction and operation of the Development. As there are currently minimal numbers of vehicles using the route, it is considered that there will be a substantial increase in traffic volumes and associated disturbance (e.g. noise, potential closures and safety) along the southern part of CPPY04. In terms of safety, there is potential for conflict between heavy goods vehicles and other traffic, non-motorised users and pedestrians. There will be no impact on the northern section of the route near Cullivoe.
- 12.6.67 The construction impacts from a transport perspective are detailed in Chapter 11, Table 11.12. This Chapter deals with the asset solely as a tourism and recreations receptor which is of local sensitivity.
- 12.6.68 It is expected that the CPPY04 core path would not be blocked during construction however, if there is need for a diversion, it would be temporary to ensure a safe walking route. As requested during Consultation Responses detailed in Table 12.1, SIC requested an Access Route Plan demonstrating how access will be incorporated into the Proposed Development and a map detailing the diversions and management of access required during and after construction.
- 12.6.69 For this reason, the direct impacts on Public Road/Core Path CPPY04 (**low sensitivity**) is considered to be a short-term reduction in accessibility due to possible closures and disruptions in terms of substantial increase in construction traffic and associated noise and safety considerations of the local recreational asset (**high magnitude**) and therefore, **moderate adverse effects** is **significant** in terms of the EIA Regulations.
- 12.6.70 The NCN National Route 1 is a cycle route of national importance located within 5 km of the site, as set out in section 12.5.35. As stated in Chapter 11, traffic volumes on the A968 are predicted to change by only 30% threshold and therefore only slightly impact the use of the NCN. Cyclists could experience delay if their movements due to conflict with those of construction traffic although cyclist demand is not observed to be high. Cyclists amenity and safety could be affected where their movements conflict with those of construction traffic.
- 12.6.71 Construction effects on the amenity and enjoyment of the National Route 1 (**high sensitivity**) will be limited to short, intermittent periods along the route of inter-visibility and possible disruption from construction traffic (**medium magnitude**). As the section of the National Route 1 is on the 'A' road throughout the section in Yell, it is known to be utilised by large volumes of traffic and traffic travelling long distances and therefore, no valued for being an off-road, traffic-free section of the cycle route. Therefore, impact of construction on the NCN National Route 1 is considered to be a **moderate adverse effect** which is **significant** in terms of the EIA Regulations.
- 12.6.72 As set out in Table 12.7, there are four other Core Paths /Access Routes within 5 km of the site which are locally important. The construction effects impacts on recreational routes will be limited to access and general amenity. Although core paths are available for public use, including tourists and day visitors, in practice the routes tend to be most popular with local residents and as such, should be considered primarily as local recreational assets rather than tourism assets.

12.6.73 Other off-site resources such as the accommodation, mentioned in Section 12.5.39, may be indirectly affected by the construction of the Proposed Development. For the five accommodation receptors within 5 km of the Proposed Development, it is considered a **medium magnitude** alteration in practice will be experienced (e.g. increased use of accommodation facilities by on-site personnel). Local receptors, accommodation receptors are considered to be of **low sensitivity** to construction impacts. Therefore, **minor beneficial effects** on accommodation are **not significant** in terms of the EIA Regulations.

Operational

12.6.74 The land within the Proposed Development will be accessible to the public at all times of the year as per Section 1 and 2 of Land Reform Act (Scotland) 2003. However, temporary exclusions in terms of access to non-designated land (**negligible**) may be needed, for health and safety reasons, during times where essential maintenance is required. Where these are required, clear signage advising of the restrictions will be provided. If required, any diversions would be covered in the Access Route Plan. This would represent a short-term alteration to access however, access conditions will remain similar to the pre-development situation (**low magnitude**). The effect will be **negligible** and therefore, **not significant** in terms of the EIA Regulations.

12.6.75 There are a number of further Core Paths identified within the Study Area and one located within the site; however, the operation of the Proposed Development is not expected to alter their features or characteristics (**low magnitude**). Given their predominantly local use, it is expected that the Proposed Development will have 'very little' or 'no' indirect impact on the behaviour of visitors/tourists that use these paths (**low sensitivity**). The effects are considered to be **negligible**, and therefore **not significant** in terms of the EIA Regulations.

12.6.76 The only attraction located within the Study Area is the Shetland Gallery, located approximately 2 km south-east of the Proposed Development in Sellafirth (**low sensitivity**) in the Sellafirth Business Park. The Shetland Gallery is to showcase the best of contemporary Shetland art and high-end crafts. In terms of impacts on the recreational amenity of the resource, there will be no impact on accessibility to the Shetland Gallery as a result of the Proposed Development. As the Shetland Gallery is valued for the art and crafts within rather than the setting, visibility of the Proposed Development is considered in Chapter 5 of the EIA Report. The Proposed Development is not expected to alter visitor numbers (**low magnitude**) as per surveys on the impact of wind energy developments on tourism (i.e. no adverse impact on tourism as a result of wind energy development), detailed in Section 12.5.43 and therefore, the effect has been considered **negligible** and **not significant** terms of EIA Regulations.

12.6.77 Surveys of the public's attitudes to wind farms provide no clear evidence that the presence of wind farms in an area has an adverse impact on local tourism (see Section 12.5 of this chapter). Tourists using the local core paths and local tourist attractions (**low sensitivity**) may have a particular sensitivity to visual impacts of the Proposed Development; however, access to tourist facilities will be unaffected and visual impacts will not act as a deterrent for using local core paths (**low magnitude**). The operational phase of the Proposed Development will be **negligible** in terms of tourism and recreational effects and therefore, **not significant** in accordance with the EIA Regulations.

Decommissioning

12.6.78 Impacts on tourism and recreation during the decommissioning phase are anticipated to be of a similar nature and scale as construction effects thereby **negligible** and **not significant** in terms of the EIA Regulations; with the exception to the direct impact on the Public Road/Core Path CPPY04 and the NCN National Cycle Route.

12.6.79 The decommissioning phase would result in fewer trips on the road network than the construction phase as it is likely that elements of infrastructure (e.g. electrical connections and foundations would be left in situ) and components could be broken up on-site to allow transport by reduced numbers of standard heavy goods vehicles. The direct impact on the Core Path CPPY04 (**low sensitivity**) during decommissioning is considered to be a short-term reduction in accessibility due

to possible closures and disruptions in terms of construction traffic, noise and safety of the local recreational asset (**medium magnitude**) and therefore, negligible which is **minor adverse effects** is **not significant** in terms of the EIA Regulations.

- 12.6.80 Decommissioning effects on the amenity and enjoyment of the National Route 1 (**high sensitivity**) will be limited to short, intermittent periods along the route of inter-visibility and possible disruption from traffic associated with decommissioning (**negligible**). Therefore, impact of decommissioning on the National Route 1 is considered to be a **minor adverse effect** which is **not significant** in terms of the EIA Regulations.
- 12.6.81 Other off-site resources such as the accommodation will be indirectly affected by the decommissioning of the Proposed Development. For the five accommodation receptors within 5 km of the Proposed Development, it is considered a **medium magnitude** alteration in practice will be experienced (e.g. increased use of accommodation facilities by on-site personnel). Local accommodation receptors are considered to be of **low sensitivity** to decommissioning impacts. Therefore, **minor beneficial effects** on accommodation are **not significant** in terms of the EIA Regulations.

Land-use

- 12.6.82 The Site covers an area of 1679 ha however, the total infrastructure footprint will be substantially less.
- 12.6.83 The total new land take of the Proposed Development, consisting of the wind turbine foundations, crane hardstandings, potential borrow pit search areas, blade laydown areas, new and upgraded access tracks, substation and battery storage facility and meteorological mast equates to 485,291 m².

Construction

- 12.6.84 The Proposed Development is located within crofting land with areas of upland grazing. As the site is currently used for agriculture, with agricultural activities also ongoing within the wider area, grazing of livestock may be temporarily affected during the construction phase of the Proposed Development. The Applicant will work with the landowner to ensure that they are able, wherever possible, to continue to operate their activities safely during the construction phase.
- 12.6.85 It is anticipated that crofting will continue through the construction period however for health and safety reasons areas of the site would require temporary fencing around livestock. Temporary fencing around livestock will also be required during the operation of the Proposed Development where habitat restoration is taking place.
- 12.6.86 Crofting and recreational land-use is considered to be a **low sensitivity** receptor as it is not used by the public, despite being locally important. As construction impacts will be limited and temporary in nature (given infrastructure footprint during operation will be less than during construction) (**low magnitude**). The effect is assessed as **negligible** and therefore **not significant** in terms of the EIA Regulations.
- 12.6.87 The construction phase is therefore considered to be not significant in terms of the EIA Regulations. As stated throughout this section of the chapter, the effects of the construction phase of the Proposed Development will not have a significant effect on land-use receptors and is therefore considered negligible in accordance with the EIA Regulations.

Operational

- 12.6.88 The operational phase of the Proposed Development will result in a net loss of land which would otherwise have continued to be used for crofting and upland grazing. From the total area within the Proposed Development of 1679 ha, it is anticipated that the overall land take, as a result of the Proposed Development will be 485,291 m².
- 12.6.89 This will represent only a small alteration to the existing land-use, is of **low magnitude**. The land take on a **low sensitivity** receptor is a **negligible** effect on land-use, which is considered to be **not significant** in terms of the EIA Regulations.

12.6.90 As stated throughout this section of the chapter, the impacts of the operational phase of the Proposed Development will not have a significant effect on land-use receptors in accordance with the EIA Regulations.

Decommissioning

12.6.91 The operational lifespan of the Proposed Development and associated infrastructure will be 30 years. Following this, an application may be submitted to retain or replace the Proposed Development, or it could be decommissioned. It is anticipated that there will be no additional land-use impacts associated with the decommissioning of the Proposed Development.

12.6.92 Disruption to land-use during decommissioning will be similar to that during construction, with a temporary cessation of agricultural activities in the vicinity of site infrastructure while activities to remove the turbines are undertaken. It is expected that decommissioning would take up to 12 months to complete. The magnitude of impact would therefore be **low** as only a slight alteration to the land-use, as a locally important asset (**low sensitivity**) will occur. Decommissioning will have an effect of **negligible** significance on land-use, which is considered **not significant** in terms of the EIA Regulations.

12.6.93 It is expected that decommissioning will involve the removal of turbine foundations to an agreed depth then reinstatement of the land which would include associated hardstanding and demolition and removal of control building and compound. The land will be restored as agreed in any subsequent Restoration Plan/Decommissioning Statement. Prior to agreement, a comprehensive Restoration Plan will be drafted which will set out the specific methods of reinstatement. There will be a limited area of permanent land take (**low magnitude**) following decommissioning which will consist primarily of the access tracks should the landowner wish to retain these (**low sensitivity**). This presents a **negligible** effect on land-use, which is considered **not significant** in terms of the EIA Regulations.

12.6.94 As stated throughout this section of the chapter, the impacts of the Proposed Development will not have a significant effect on land-use receptors in accordance with the EIA Regulations.

12.7 Mitigation

- 12.7.1 This assessment has identified a direct adverse impact on Public Road/Core Path CPPY04 associated with the short-term reduction in accessibility due to possible closures and disruptions in terms of construction and decommissioning traffic, noise and safety. In addition, indirect adverse impacts on the National Route 1 cycle route are anticipated during construction and decommissioning due to temporary increase in traffic volumes and amenity of the cycle route. These minor adverse effects are not significant in terms of the EIA Regulations.
- 12.7.2 As set out in Section 12.6.68, the adverse construction and decommissioning impacts on Core Path CPPY04 will be limited to access and general amenity (noise and safety) which is considered primarily as local recreational assets rather than tourism assets. It is expected that the core path would not be blocked to users during construction however, if there is need for a diversion, it would be temporary to ensure a safe use of the route. Although it is anticipated the impact of the Proposed Development on Core Path CPPY04 is expected to be minor, an Access Route Plan demonstrating how access will be incorporated into the Proposed Development and a map detailing the diversions and management of access required during and after construction and decommissioning can be provided, if required. This will be produced following consent via planning condition in order to mitigate any adverse effects of diversions and amenity.
- 12.7.3 If required, the Access Route Plan will also cover the indirect adverse impacts associated with National Route 1 due to increased traffic volumes and amenity during construction and decommissioning of the Proposed Development.
- 12.7.4 No other adverse effects are anticipated on socio-economics, tourism and recreation and land-use receptors during the construction, operation or decommissioning phases of the Proposed Development. As such, no mitigation other than the production of an Access Route Plan is considered necessary.

12.8 Residual Effects

- 12.8.1 Residual impacts refer to those environmental effects predicted to remain after the application of mitigation as proposed in the chapter.

Socio-economic

- 12.8.2 There are no adverse potential socio-economic effects and therefore no requirement for mitigation. The residual socio-economic effects are the same as the potential effects.
- 12.8.3 Significant beneficial socio-economic effects include:
- Moderate beneficial effect in terms of economic impact on Shetland during construction (£25.5 million and 223 job years); and
 - Moderate beneficial effect in terms of economic impact in Scotland during construction (£87.9 million and 759 job years).
- 12.8.4 Although not considered significant in terms of the EIA Regulations, a number of minor beneficial socio-economic effects are anticipated as a result of the Proposed Development, as summarised in section 12.10.3.

Tourism and Recreation

- 12.8.5 As stated in section 0, an Access Route Plan through planning condition will aim to mitigate the adverse effects associated with possible diversions and amenity on the CPPY04 and NCN National Route 1 during construction and decommissioning. The residual effect will be **negligible** as the Proposed Development may result in a localised (**low sensitivity**), short-term decline in accessibility of the CPPY04 and NCN National Route 1 (**low magnitude**) during construction and decommissioning and therefore, is considered **not significant** in terms of the EIA Regulations. Therefore, there will be no residual effect following the application of this mitigation.

- 12.8.6 No adverse effect on the CPPY04 and NCN National Route 1 are anticipated during operation and as such, there will be no residual operational effect on the asset.

Land Use

- 12.8.7 No residual effects on land use are anticipated as a result of the construction, operation and decommissioning phases of the Proposed Development. Following decommissioning and restoration, land-use and recreation will return to the current baseline. No residual effects are anticipated on tourism or socio-economics.

12.9 Cumulative Assessment

- 12.9.1 The appropriate scale for considering cumulative developments depends on the nature of the potential effect. These are considered in turn, for each category of potential effect.

- 12.9.2 There are a number of wind farms within the 60 km of the site, either operational, consented or in the planning process. These include:

- Operational: Garth Wind Farm, Luggies Knowe Wind Farm, Burradale Phases 1 and 2;
- Consented: Viking Wind Farm and Germista Wind Farm; and
- Undetermined Applications: Hill of Tagdale Wind Farm; Hill of Giblestone Wind Farm; Mossy Hill Wind Farm; Beaw Field Wind Farm; Ward of Virdaskule Wind Farm

- 12.9.3 Within the 15 km cumulative Study Area, Garth Wind Farm (operational) is the closest to the Proposed Development at approximately 1.75 km from the site boundary. Hill of Lusetter Wind Farm (at scoping stage) and Beaw Field Wind Farm (at application stage) are located approximately 7.5 km and 13.5 km from the site respectively. These are the only three other wind farm developments in the Northern Isles. These three developments will be considered in the cumulative assessment.

- 12.9.4 The greater the capacity of consented and constructed developments within Northern Isles, the more likely it is that the local area will benefit from supply chain opportunities. Additionally, it is likely that operations and maintenance operations of the Proposed Development will be based locally as there would be sufficient opportunities locally to employ full time local employees and companies with suitable technical knowledge and skills.

Socio-economics

- 12.9.5 The cumulative assessment has focused on identifying socio-economic effects at a local (i.e. Northern Isles) scale.

- 12.9.6 The beneficial socio-economic impacts associated with the Proposed Development (e.g. increased employment, increased CAPEX, increased OPEX and increased expenditure of income by those employed in connection with the Proposed Development) would be augmented and prolonged as a result of the construction and operation of cumulative windfarm developments, benefiting local contractors and the wider supply chain.

- 12.9.7 In relation to the construction and decommissioning of the Proposed Development, the combined economic effect with other wind farm developments (**negligible**) is considered unlikely to lead to a fundamental change in regional economic activity (**medium sensitivity**), resulting in **minor beneficial effect** at regional level which is **not significant** in terms of the EIA Regulations.

- 12.9.8 In relation to the cumulative operational impacts of the Proposed Development, the combined socio-economic impacts with other wind farm developments (**negligible**) as impacts will be limited to OPEX and expenditure of site employees. It is considered unlikely to lead to a fundamental change in regional economic activity (**medium sensitivity**), resulting in **minor beneficial effect** which is **not significant** in terms of the EIA Regulations.

Tourism and Recreation

- 12.9.9 Cumulative impacts on tourism facilities resulting from the Proposed Development in conjunction with other wind farms in the Study Area will not alter (**negligible**) the use of tourism facilities such as the Shetland Gallery (**low sensitivity**) as visitor numbers will not be impacted during construction, operation and decommissioning phases of the Proposed Development. The operational Garth Wind Farm is the only cumulative development within the Study Area. This is **negligible** and **not significant** in terms of the EIA Regulations.
- 12.9.10 No cumulative impacts (**negligible**) on local footpath users (**low sensitivity**) are expected during construction, operation or decommissioning of the Proposed Development. Visual effects on the receptor will be assessed in Chapter 5 of the EIA Report. This is considered **negligible** and **not significant** in terms of the EIA Regulations.
- 12.9.11 Cumulative impact on tourism within the study area (**low sensitivity**) during operation would be limited to indirect impacts associated with changes in the views recreational users would obtain (**low magnitude**). As set out in Section 12.5.43 there is no evidence that tourism is adversely impacted by wind farms and no tourism receptors in the Study Area designated for the views. Cumulative effects on tourism and recreation are **negligible** and therefore **not significant** in terms of the EIA Regulations.

Land-use

- 12.9.12 The Proposed Development will have a small infrastructure footprint once operational with an overall land take of 485,291 m² and no long term alteration to recreational land-use.
- 12.9.13 The cumulative impact of wind farms during construction and operation are considered to be of **low magnitude** (limited land take), for a receptor of **low sensitivity** (Northern Isles) as impacts are mostly located in rough grazing upland areas. Cumulative effects on land-use are **negligible**, and therefore, **not significant** in terms of the EIA Regulations.

12.10 Summary

Socio-economic Impacts

- 12.10.1 The following significant socio-economic effects are anticipated as a result of the Proposed Development:
- Moderate beneficial effect in terms of economic impact on Shetland during construction (£25.5 million and 223 job years) as detailed in section 12.6.25; and
 - Moderate beneficial effect in terms of economic impact in Scotland during construction (£87.9 million and 759 job years) as detailed in section 12.6.26.
- 12.10.2 These moderate beneficial effects are considered significant in terms of the EIA Regulations.
- 12.10.3 Although not considered significant in terms of the EIA Regulations, the following minor beneficial socio-economic effects are anticipated as a result of the Proposed Development:
- Indirect impacts of construction workers' spending salaries in the rest of Scotland (£17.2 million spent in Scotland and 119 job years) as detailed in section 12.6.31;
 - CAPEX during construction in Scotland (estimated at £82.0 million) as detailed in section 12.6.38;
 - Direct operational employment in Scotland (10 job years) as detailed in section 12.6.43;
 - Indirect operational expenditure in Scotland (2 job years) as detailed in section 12.6.48;
 - OPEX in Shetland equates to up to £0.6 million per annum (up to £18 million over the operational life of the Proposed Development) as detailed in section 12.6.52;

- OPEX in Scotland equates to up to £1.3 million per annum (up to £39 million over the operational life of the Proposed Development) as detailed in section 12.6.53;
 - Economic impact in Shetland during decommissioning (£3.5 million in contracts and 16 job years) as detailed in section 12.6.57;
 - Economic impact in Scotland during decommissioning (£6.2 million in contracts and 29 job years) as detailed in section 12.6.59; and
 - Indirect decommissioning expenditure in Scotland (5 job years) as detailed in section 12.6.62.
- 12.10.4 No adverse effects during construction, operation and decommissioning of the Proposed Development are anticipated on socio-economic receptors.
- 12.10.5 Although not material to the determination of the planning application, up to £30.0 million of community benefit funding in the local area over the lifetime of the Proposed Development and payment of up to £79.8 million to public finances through non-domestic rates are considered a beneficial socio-economic impact of the Proposed Development.

Tourism and Recreation Effects

- 12.10.6 The following significant tourism and recreation effects are anticipated as a result of the Proposed Development:
- Moderate adverse effects on the Core Path CPPY04 Cullivoe to Basta Voe during construction, as detailed in section 12.6.69 ; and
 - Moderate adverse effects on the NCN National Route 1 during construction, as detailed in section 12.6.71.
- 12.10.7 Minor adverse effects during decommissioning are anticipated on the Core Path CPPY04 and the NCN National Route 1, as detailed in sections 12.6.79 and 12.6.80.
- 12.10.8 As detailed in section 0, an Access Route Plan demonstrating how access will be incorporated into the Proposed Development and a map detailing the diversions and management of access required during and after construction and decommissioning can be provided, if required. This will be produced following consent via planning condition in order to mitigate any adverse effects of diversions and amenity.
- 12.10.9 Minor beneficial effects are anticipated on accommodation receptors within the Study Area during construction and decommissioning, as detailed in sections 12.6.71 and 12.6.81.

Land-use

- 12.10.10 No significant effects are anticipated on land-use resources as a result of construction, operation and decommissioning of the Proposed Development.

Table 12.8 – Summary of Effects

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Wider Economic Benefits					
Increased construction opportunity in the wider supply chain	Minor	Beneficial	N/A	Minor	Beneficial
Socio-Economics - Construction					
Economic impact on Shetland	Moderate	Beneficial	N/A	Moderate	Beneficial
Economic impact on Scotland	Moderate	Beneficial	N/A	Moderate	Beneficial
Indirect impact associated with expenditure on Shetland	Negligible	N/A	N/A	Negligible	N/A
Indirect impact associated with expenditure in Scotland	Minor	Beneficial	N/A	Minor	Beneficial
CAPEX in Shetland	Moderate	Beneficial	N/A	Moderate	Beneficial
CAPEX in Scotland	Minor	Beneficial	N/A	Minor	Beneficial
Socio-Economics - Operation					
Employment in Shetland	Minor	Beneficial	N/A	Minor	Beneficial
Employment in Scotland	Minor	Beneficial	N/A	Minor	Beneficial
Indirect impact associated with expenditure in Shetland	Negligible	N/A	N/A	Negligible	N/A

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Indirect impact associated with expenditure in Scotland	Minor	Beneficial	N/A	Minor	Beneficial
OPEX in Shetland	Minor	Beneficial	N/A	Minor	Beneficial
OPEX in Scotland	Minor	Beneficial	N/A	Minor	Beneficial
Socio-Economics – Decommissioning					
Economic impact in Shetland	Minor	Beneficial	N/A	Minor	Beneficial
Economic impact in Scotland	Minor	Beneficial	N/A	Minor	Beneficial
Indirect impact associated with expenditure in Shetland	Negligible	N/A	N/A	Negligible	N/A
Indirect impact associated with expenditure in Shetland	Minor	Beneficial	N/A	Minor	Beneficial
Tourism and Recreation - Construction					
Direct impact on Core Paths CPPY04	Moderate	Adverse	Access Route Plan if required by Planning Condition.	Negligible	N/A
Direct impact on National Route 1 (cycle route)	Moderate	Adverse	Access Route Plan if required by Planning Condition.	Negligible	N/A
Indirect impact on other Core Paths identified within the Study Area	Negligible	N/A	N/A	Negligible	N/A
Indirect impact on accommodation receptors	Minor	Beneficial	N/A	Minor	Beneficial
Tourism and Recreation - Operation					
Direct impact on Core Paths CPPY04 and accessibility to the Site	Negligible	N/A	N/A	Negligible	N/A

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
Indirect impact on other Core Paths and other recreation assets identified within the Study Area	Negligible	N/A	N/A	Negligible	N/A
Indirect impact on Shetland Gallery	Negligible	N/A	N/A	Negligible	N/A
Indirect impact on local core paths and other tourism receptors in Study Area	Negligible	N/A	N/A	Negligible	N/A
Tourism and Recreation - Decommissioning					
Direct impact on Core Paths CPPY04	Minor	Adverse	Access Route Plan if required by Planning Condition.	Negligible	N/A
Direct impact on National Route 1 (cycle route)	Minor	Adverse	Access Route Plan if required by Planning Condition.	Negligible	N/A
Indirect impact on other Core Paths identified within the Study Area	Negligible	N/A	N/A	Negligible	N/A
Indirect impact on accommodation receptors	Minor	Beneficial	N/A	Minor	Beneficial
Land-use – Construction					
The impact on the land-use within the site and immediate vicinity	Negligible	N/A	N/A	Negligible	N/A
Land-use - Operation					
The impact on the land-use within the site and immediate vicinity	Negligible	N/A	N/A	Negligible	N/A
Land-use – Decommissioning					

Description of Effect	Significance of Potential Effect		Mitigation Measure	Significance of Residual Effect	
	Significance	Beneficial/ Adverse		Significance	Beneficial/ Adverse
The impact on the land-use within the site and immediate vicinity	Negligible	N/A	N/A	Negligible	N/A
Cumulative					
Socio-economic impact during construction and decommissioning in Shetland	Minor	Beneficial	N/A	Minor	Beneficial
OPEX in Sheltand	Minor	Beneficial	N/A	Minor	Beneficial
Impact on tourism during construction, operation and decommissioning	Negligible	N/A	N/A	Negligible	N/A
Impact on local footpath users during construction, operation and decommissioning	Negligible	N/A	N/A	Negligible	N/A
Impact on land-use during construction, operation and decommissioning	Negligible	N/A	N/A	Negligible	N/A

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