



Chapter 14

Socio-Economics, Recreation and Tourism

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Figure 14.1: Socio-Economic Receptors



Chapter 14

Socio-Economics, Recreation and Tourism

14.1 Introduction

1. This Chapter of the Environmental Impact Assessment (EIA) Report evaluates the effect of the proposed Hollandmey Renewable Energy Development (hereafter 'the proposed Development') on socio-economics, recreation and tourism and was prepared by RSK Environment Ltd.
2. The assessment has been undertaken on the basis of the proposed Development comprising 10 wind turbines up to 149.9 m in height, with an installed capacity of around 50 MW, and around 15 MW of ground mounted solar arrays producing a combined output of around 65 MW. The application also includes approximately 15 MW of battery storage (BESS)

14.2 Legislation, Policy and Guidance

14.2.1 Background

3. There are no specific statutory guidelines or requirements in terms of a method for the assessment of socio-economic impacts set out by the relevant Environmental Impact Assessment (EIA) Regulations, or in any other statutory or advisory guidance on preparation of EIA's. However, there are a number of key relevant legislation, policy and guidance drivers relating to socio-economics (national, regional and local) which provide a framework within which potential socio-economic effects can be assessed.

14.2.2 Legislation

14.2.2.1 Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

4. Although not directly applicable to the assessment of potential socio-economic, recreation and tourism impacts, this act emphasises the importance of a just transition. According to section 35C, the transition to Net-Zero should create employment opportunities in a way that does not negatively affect the current workforce and economy.

14.2.3 National Policy

14.2.3.1 Scottish Planning Policy (2014) (SPP)

5. In regard to land use, Paragraph 80 of the SPP states:

"Development on prime agricultural land, or land of lesser quality that is locally important should not be permitted except where it is essential:

...for the generation for energy from a renewable source where this accords with other policy objectives and there is secure provision for restoration to return the land to its former status."

6. In regard to socio-economics, SPP Paragraph 29 requires that policies and decisions should, amongst other matters, give 'due weight to net economic benefit'.
7. SPP Paragraph 169 requires that the planning system supports the transformational change to a low carbon economy, consistent with national objectives and targets. Considerations in respect of proposals for onshore wind that are relevant to this assessment include:

- net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities;
- public access, including impact on long distance walking and cycling routes and scenic routes identified in the national policy framework (NPF); and
- impacts on tourism and recreation.

8. Paragraph 79 also requires that the planning system promotes economic activity and diversification including, where appropriate, sustainable development linked to renewable energy developments.

14.2.3.2 National Planning Framework 3 (2014) (NPF3)

9. NPF3 is the spatial expression of the Government's Economic Strategy and sets out a long-term vision for where development and investment are needed across Scotland to support sustainable and inclusive growth. NPF3 aims *"to share the benefits of growth by encouraging economic activity and investment across all of Scotland's communities, whilst protecting our natural and cultural assets"*.
10. A sustainable, economically active rural area, which attracts investment and supports vibrant, growing communities, is said to be essential to the Government's vision. NPF3 indicates that the future of the renewables sector in Scotland will be key to bringing new employment to Scotland's remote areas and that rural communities will benefit from well-planned renewable energy development.
11. NPF3 also sets out that development of a national long-distance walking and cycling network will link key outdoor tourism locations across the country and will be an important tourism asset in its own right; as such, it is identified as a National Development.

14.2.3.3 National Planning Framework 4 (2020) (NPF4)

12. The NPF4 Position Statement was published by the Scottish Government on 26 November 2020, the Position Statement aims to inform further discussions and is not itself a document setting out policy. The Position Statement highlights onshore renewables as a development priority that presents economic opportunities:

"Planning can enable sustainable, inclusive growth by attracting investment, sustaining future employment, restoring natural capital and seizing the new economic opportunities created by our transition to a net-zero, circular economy... Our approach will aim to strengthen the economy of our diverse cities and towns, and enable development that supports a vibrant rural economy."

14.2.3.4 Tourism Scotland 2020

13. Tourism Scotland 2020 (The Scottish Tourism Alliance, 2019) advises that tourism is one of Scotland's key economic contributors. It identifies four groups of assets that contribute to the tourist appeal of Scotland. These are:

- nature, heritage and activities;
- destination towns and cities;
- events and festivals; and
- business tourism.

14. The document sets an aspiration to increase annual visitor spend in Scotland by £1 billion by 2020 from the baseline in 2011 (at 2011 prices). It identifies the need to develop market opportunities associated with the assets listed above. Key performance indicators associated with this goal to measure progress include:

- grow visitor-spend by £1 billion from £4.5 billion to £5.5 billion by 2020;
- increase the advocacy score for Scotland from 25%;
- increase the average visitor-spend from £358.56;
- increase the total tourism employment figures from 185,100; and
- increase total tourism turnover from £6.2 billion.

15. The strategy was reviewed in 2016 (Scottish Tourism Alliance, 2016) at the mid-term point of the policy with further priorities being identified to achieve the targets for 2020 set in 2012, including:

- strengthen digital capabilities;
 - strengthen industry leadership;
 - enhance the quality of the visitor experience; and
 - influence investment, specifically flight access & transport connectivity, built infrastructure, digital connectivity and business growth finance.
- 14.2.3.5 Scotland's Economic Strategy**
16. Scotland's Economic Strategy (Scottish Government, 2017) 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 inequality. As part of these objectives, 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. 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.
- 14.2.3.6 Scotland's Economic Action Plan 2018-20**
17. The Scottish Government's Economic Action Plan (Scottish Government, 2018) sets out how it plans to make Scotland a leader in technological and social innovations. It aims to deliver higher productivity and greater competitiveness, while transitioning to a carbon neutral economy through measures that support business, and encouraging investment, innovation and upskilling.
18. At the heart of this strategy is inclusive growth, combining increased prosperity with greater equity, which requires getting the fundamentals right. These include:
- investment: boosting private and public investment and delivering world-class infrastructure;
 - enterprise: ensuring a competitive business environment;
 - international: growing exports and attracting international investment;
 - innovation: supporting world-leading innovation;
 - skills: providing a highly skilled workforce;
 - place: supporting thriving places;
 - people: ensuring a sustainable working population where everyone can participate in and benefit from increased prosperity; and
 - sustainability: seizing the economic opportunities in the low carbon transition.
- 14.2.3.7 Scottish Energy Strategy**
19. In December 2017, the Scottish Government published the Scottish Energy Strategy (Scottish Government, 2017), which sets out the Government's vision for Scotland's energy future.
20. The Scottish Government highlighted that renewables present an economic opportunity as an expanding market which will continue to support Scottish economic growth. The Scottish Government will continue to support businesses in this sector.
21. Additionally, the Scottish Government has emphasised the importance of communities benefitting from renewable energy generation, including through community benefit funds.
- 14.2.3.8 Onshore Wind Policy Statement Refresh 2021: Consultative Draft**
22. On 28 October 2021, the Scottish Government published the Onshore Wind Policy Statement Refresh 2021: Consultative Draft to seek views on the ambition to secure an additional 8-12 GW of installed onshore wind capacity by 2030, how to tackle the barriers to deployment, and how to secure maximum economic benefit from these developments.

23. Chapter 5 outlines the benefits that an increase in onshore wind deployment could have in terms of construction jobs and long-term and skilled jobs. It states that:
- "Scotland has a well-established energy supply chain, with thousands of skilled workers in manufacturing, operations and maintenance (O&M), environmental assessment and planning, and project management... The Scottish Government is determined to see significant increases in local content attributable to Scottish energy developments... The rapid expansion of Scotland's onshore wind capacity, and associated manufacturing opportunities, will play a key role in this new future."*
24. Furthermore, in regard to the interrelationship between tourism and renewable energy, the draft states:
- "Public support for onshore wind has grown significantly across the UK, reaching a new record of 79% in 2019, with opposition decreasing from 12% in 2015, to 5% in 2020... we consider the effect that onshore windfarms can have on local and national tourism as a significant opportunity to cultivate a 'people and place' mentality"*
- 14.2.3.9 Green Economic Recovery**
25. As outlined in **Chapter 4: Renewable Energy and Planning Policy**, one of the key priorities of the Scottish Government is to ensure a green economic recovery. The following documents highlight the importance of the energy sector in achieving a green recovery for the Scottish economy:
- Scottish Energy Strategy Position Statement (SESPS) (2021);
 - A fairer, greener Scotland -The Government's Programme for Scotland 2021-22;
 - Climate Change Committee advice to the Scottish Government on the Recovery from the COVID-19 pandemic; and
 - Chief Planner and Minister for Local Government, Housing and Planning Letter May 2020.
26. Additionally, in June 2020, Scottish Renewables submitted evidence to the House of Commons Scottish Affairs Committee inquiry into COVID-19 and Scotland. The submission makes the case for placing Scotland's renewable energy industry at the heart of a green economic recovery, sets out the opportunities that the renewable energy industry in Scotland offers to quickly stimulate the economy and how the UK Government can unlock long term opportunities for renewable energy in Scotland.
27. The submission advises that economic analysis has established that for every gigawatt (GW) of renewable energy installed in Scotland it creates 1,500 jobs and adds £133 million of gross value added¹ to the Scottish economy.
- 14.2.3.10 The Onshore Wind Energy Prospectus (2021)**
28. RenewableUK published The Onshore Wind Energy Prospectus in October 2021 setting out a pathway- for industry and government to work together to reach net zero emissions ensuring maximum socio-economic benefits.
29. Onshore wind already provides 8,800 jobs and £2.2bn gross value added (GVA) each year in Scotland. However, industry has set an ambition for 30 GW of onshore wind by 2030. This doubling the UK's onshore wind capacity by 2030 would have multiple socio-economic benefits, including:
- as the lowest-cost form of new electricity generation, onshore wind would reduce consumer bills by around £16.3bn, or £25 a year for every UK household;
 - boost a green recovery by adding £45bn and 27,000 green jobs to the UK economy, of which £27.8bn GVA and 17,000 green jobs (10.9% estimated to be in the Highlands) would be in Scotland;
 - support levelling-up every given that the vast majority of onshore wind development will take place in rural communities and the propensity for developers to contract local companies (the Scottish supply chain will provide 43% of the content of new onshore wind farms across the UK) the industry will be a critical driver of the high-wage high-value jobs;
 - deliver high levels of local content through significant investments in local communities through several other channels, including substantial community benefit schemes, rent to local landowners and business rates
30. The research found that support for onshore wind remains consistently high in Scotland, in line with research carried out by both Scottish Renewables and the UK Government. 70% of the Scottish public supported the following statement:

¹ Gross value added (GVA) measures the contribution to an economy of an individual producer, industry, sector or region.

“The local planning system should broadly encourage the building of renewable energy developments like onshore wind 70% of Scottish Public”

14.2.4 Local Policy

14.2.4.1 Highland-wide Local Development Plan (HwLDP)

31. Supplementary Guidance for Onshore Wind Energy alongside the adopted the HwLDP states that in considering proposals for onshore wind developments The Highland Council (THC) will have regard to considerations including, but not limited to:

- the scale and nature of any potential economic spin-offs for local business employment opportunities;
- effects on industries for which Highland’s landscape is important e.g., tourism, recreation; and
- effects on industries such as forestry brought about through changes to land use and management.

32. As well as setting out planning policy for the whole region, the HwLDP established a vision for Caithness and Sutherland which it aims to achieve by 2030. Within this it envisages that the area will be a centre of excellence for energy and engineering, with growth in jobs in these sectors, including use of transferred skills from other sectors. It also envisages that the area will have a more diverse economy and have a high-quality tourist industry centred around key tourist destinations such as John o’Groats and Wick.

14.2.4.2 Caithness and North Sutherland Regeneration Partnership (CNSRP)

33. The CNSRP was established in 2007 to address and mitigate against the socio-economic effects of the decommissioning of the Dounreay nuclear site. The Partnership’s current role is to ensure a coordinated approach by the key public sector agencies to diversifying the economy and supporting the activities necessary to create sustainable employment opportunities.

34. The CNSRP includes THC as well as other agencies such as Highlands and Islands Enterprise, the Nuclear Decommissioning Authority, Skills Development Scotland, Cavendish Dounreay Partnership, and the Scottish Government. Caithness Chamber of Commerce is recognised as the lead private sector voice for the area and works closely with CNSRP.

35. The strategic focus is, *“To maintain and if possible to increase the GDP of the Dounreay travel to work area by actively working to promote existing employment, encourage new employment and promote the area as an attractive location in which to live and work”* to support the transition of the area’s economy away from its dependence on Dounreay decommissioning work.

14.2.4.3 Caithness Chamber of Commerce

36. Caithness Chamber of Commerce is also heavily involved in promoting and supporting economic recovery in the area. As well as being a membership and networking organisation for local businesses, they also run a range of bespoke projects focused on supporting business development and encouraging inward investment, such as the Baillie Windfarm Community Benefit Fund Administrator.

Highlands and Islands Enterprise: 2019-2022 Strategy

37. The 2019-2022 Strategy is a framework for on how the region can sustain and develop an economy that is based on:

- successful, productive and resilient businesses;
- strong, capable and resourceful communities; and
- a region which is well connected and well placed to maximise opportunities – creating the conditions for growth.

38. The strategy identifies energy as a regional opportunity:

“The low carbon economy and renewables sector already contribute significantly to the region and represent a major economic, social and industrial opportunity”

39. One such opportunity is to: *“secure supply chain opportunities from energy developments including onshore wind”*.

40. Tourism is also identified as a cornerstone of the local economy:

“The continued appeal of the region as a world class visitor destination presents a major opportunity for our region’s businesses and communities to grow and flourish”

14.2.5 Guidance

41. The following documents have been considered for the assessment of potential effects of the proposed Development on socio-economics, recreation and land-use:

- Scottish Government (2019) Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments;
- Institute of Environmental Management and Assessment (IEMA) (2011) The State of Environmental Impact Assessment in the UK;
- Scottish Natural Heritage (SNH) (2014) A Handbook on Environmental Impact Assessment;
- Wind Farms and Tourism Trends in Scotland: BiGGAR Economics (2017);
- SNH (2019) Good Practice During Windfarm Construction; and
- Methods of Environmental Impact Assessment (Morris and Therivel, 2009).

14.3 Consultation

14.3.1 Scoping Consultation

42. Consultation with stakeholders was initially conducted by way of the request for a Scoping Opinion, as described in **Chapter 6: Scoping and Consultation**. This, together with additional communication on socio-economic issues, is summarised in **Table 14.1**.

43. **Table 14.1** below sets out the responses received during scoping and shows where they have been addressed in this Chapter. The responses have helped to determine the scope of the assessment and the baseline conditions.

Table 14.1: Scoping Responses

Consultee	Comments	Action
THC 17 September 2020	The EIA Report should recognise the existing land uses affected by the development having particular regard for THC’s Development Plan inclusive of all statutorily adopted Supplementary Guidance.	Existing land uses are detailed in Section 14.5.2.4 and effects on land use assessed in Section 14.6.3.2 .
	The EIAR should estimate who may be affected by the development, in all or in part. The application should include relevant economic information connected with the project, including the potential number of jobs, and economic activity associated with the procurement, construction, operation and decommissioning of the development. Windfarm development experience in this location should be used to help set the basis of likely impact. This should set out the impact on the regional and local economy. Any mitigation proposed should also address impacts on the regional and local economy.	Effects on socio-economic, recreation and tourism receptors are assessed in Section 14.6 . Effects on employment and the economy are assessed during construction (Section 14.6.1.1) and operation (Section 14.6.1.2).

Consultee	Comments	Action
	<p>The potential impact on and mitigation for public access should be assessed incorporating core paths, public rights of way, long distance routes, other paths and wider access rights across the Site. There are core paths and public rights of way in this area which are likely to be affected during construction and operation phases. In line with the policies and provisions of the Highland-wide Local Development Plan (HwLDP) a plan detailing the following should be submitted as part of the EIAR:</p> <ul style="list-style-type: none"> existing public non-motorised public access footpaths, bridleways and cycleways on the Site and any proposed access route from the public road infrastructure proposed public access provision both during construction and after completion of the development, including links to existing path networks (where appropriate) and to the surrounding area, and access points to water; and impacts of the proposed Development on the core paths and proposed mitigation if any. 	<p>Effects on recreation, including walking, is assessed in Section 14.6.2. Figure 14.1 displays all existing recreational routes and public access within the relevant study areas</p> <p>No additional public access provision is proposed, although the access tracks (Figure 3.1) would be accessible to the public under the Land Reform Scotland Act.</p>
	<p>An Access Management Plan (AMP) is required to be submitted with the application. Specifically, the EIAR should assess the development's potential impact on the Affric-Kintail Way long-distance route and other improvements to public access on or near the Site must be considered.</p>	<p>The Affric-Kintail Way long-distance route is c.158 km from the Site. There are no long-distance routes within Caithness so potential impacts have been scoped out of assessment.</p> <p>ScottishPower Renewables Ltd (hereafter, the Applicant) would submit an AMP post consent as part of the construction environmental management plan.</p>
	<p>Any existing routes should be accommodated before, during and after construction without diversions.</p>	<p>There are no existing core paths, promoted routes or bridleways that traverse the Site.</p>
ScotWays 8 September 2020	<p>The National Catalogue of Rights of Way (CROW) does not show any public rights of way within the application boundary or within 5 km of the Site. However, as there is no definitive record of public rights of way in Scotland, there may be routes that meet the criteria but have not been recorded.</p> <p>There may now be general access rights over any property under the terms of the Land Reform (Scotland) Act 2003.</p>	<p>Landowners consulted regarding paths on the Site that might meet criteria for public rights of way and to establish level of recreational activity on the Site in connection to general access rights.</p> <p>Effects on recreation have been assessed in Section 14.6.2.</p>

Consultee	Comments	Action
	<p>There is little guidance regarding the siting of turbines in relation to established paths and rights of way, but the applicant should consider the Welsh Assembly Government's Technical Advice Note on Renewable Energy (TAN 8)</p> <p><i>Proximity to Highways and Railways</i> 2.25 It is advisable to set back all wind turbines a minimum distance, equivalent to the height of the blade tip, from the edge of any public highway (road or other public right of way) or railway line.</p>	<p>There are no existing core paths, promoted routes or bridleways that traverse the Site.</p>
British Horse Society 17 September 2020	<p>BHS' standard guidance is that there should be a separation distance of at least four times the overall height of turbines (i.e., to tip of blade) for core paths, nationally promoted routes such as Scotland's Great Trails and other promoted riding routes, as these are most likely to be used by equestrians unfamiliar with turbines. BHS recommends a target of three times overall height between turbines and all other routes which pre-date wind farm development or turbine erection, including roads. BHS encourages developers to pay regard to horses when considering surfacing of tracks and access controls (e.g., gates).</p>	<p>There are no existing core paths, promoted routes or bridleways that traverse the Site.</p> <p>Details of surfacing of proposed Development access tracks would be agreed following consent. Access controls would be progressed as part of the AMP. Recreational groups would be consulted as required.</p>
John Muir Trust 10 August 2020	<p>Noted the presence of carbon rich soils onsite. In the interests of climate would expect disturbance to these soils to be minimised through careful design and sensitive siting of the turbines, tracks and associated infrastructure</p>	<p>Effects on land use have been assessed in Section 14.6.2.2.</p> <p>The site selection and project design process is outlined in Chapter 2: Site Description and Design Evolution.</p>

44. In addition to the Consultees named in **Table 14.1** above, the following Consultees were also consulted at the scoping stage, but did not provide a response:

- VisitScotland;
- Mountaineering Scotland;
- Community Councils (Bower, Castletown, Dunnet and Canisbay, and Sinclair's Bay);
- Venture North, Disability Equality Scotland;
- North Highland Initiative;
- Caithness Chamber of Commerce;
- Caithness Voluntary Group; and
- Caithness Action Group.

14.3.2 Public Consultation

45. In addition to scoping, the Applicant held two virtual Public Information Events (PIEs) and invited members of the community to contact the project mailbox at any point during the project. **Table 14.2** below contains all responses relating to socio-economics, recreation and tourism. The Applicant has addressed all feedback received. The Pre-Application Report, which will be submitted as part of the Section 36 planning application, contains more information regarding public consultation.

Table 14.2: Public consultation responses

Topic	Feedback	Applicant Response
Community Benefit	<ul style="list-style-type: none"> • The majority of community benefit should go to Mey, East Mey and West Mey. 	<p>The Applicant is working with local communities throughout Scotland and is committed to offering a package of community measures to local communities that would include the opportunity for community</p>

Topic	Feedback	Applicant Response
	<ul style="list-style-type: none"> The local broadband service needs upgraded. A request was made to outline how community benefit would be distributed. A suggestion was made that solar panels could be offered to local residents to ensure that those most affected benefited directly. 	<p>benefit payments to be made. The Applicant favours a flexible approach to community benefit that allows the local community to decide how the fund is invested.</p> <p>More information regarding community benefit is provided in Section 14.6.1.2 below.</p>
Tourism	<ul style="list-style-type: none"> The impact on visual amenity could adversely affect the rentability of accommodation and the attractiveness of the wider area for tourism. 	<p>Chapter 7: Landscape and Visual Impact Assessment has assessed the potential visual impact of the proposed Development on tourism receptors and local properties.</p> <p>An assessment of potential effects of the proposed Development on the tourism economy during construction (Section 14.6.1.1) and operation (Section 14.6.1.2) and on tourism attractions (Section 14.6.2.1) was conducted and the results are presented below.</p>
Property Prices	<ul style="list-style-type: none"> The impact on visual amenity will adversely affect property prices. Cited research by the London School of Economics that inferred wind turbines could cause a reduction in property prices. 	<p>Section 14.5.2.5 below outlines the latest research on the effects of windfarms on property prices.</p>
Recreation	<ul style="list-style-type: none"> A request was made regarding the provision of infrastructure to support cycling and horse riding, such as circular routes and car parking. 	<p>A circular track was considered during the iterative design process. Through ongoing consultation and discussions with Scottish Environment Protection Agency (SEPA), it became clear that the extra required area of track (floating or otherwise) to complete the circle would cause unnecessary disturbance to the deep peatland on site which the Applicant has sought to minimise with our design. The access tracks (Figure 3.1) would be accessible to the public under the Land Reform Scotland Act.</p>
Cumulative Impact	<ul style="list-style-type: none"> There was concern about the cumulative impact of increasing windfarm development in Caithness. 	<p>Each technical discipline has assessed potential cumulative effects in line with Schedule 4 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.</p>
Socio-economics	<ul style="list-style-type: none"> Support was raised for the opportunity the construction work would bring to local businesses. 	<p>The Applicant is committed to maximising local procurement and would adopt established good practice measures. Further details are provided in Section 14.6.1 below.</p>
Phone Reception	<ul style="list-style-type: none"> Concern was expressed about potential interference to 4G 	<p>The Applicant commissioned a telecommunication impact assessment as part of the EIA. The results of this assessment showed that the proposed Development would not impact telecommunications.</p>

Topic	Feedback	Applicant Response
	<p>phone reception as this was important to livelihood.</p>	<p>More information is provided in Chapter 15: Other Issues.</p>

14.4 Approach to Assessment and Methods

14.4.1 Study Areas

46. The study areas adopted are specific to the type of impact and are based on the likely impact zone.

14.4.1.1 Socio-Economic Study Areas

47. The socio-economic study area has been disaggregated as the economic effects will differ across different markets. The socio-economic effects will be considered on three different scales: local, regional and national. This is intended to encompass the areas where significant effects, as a result of the proposed Development, on employment and the economy could occur. The local study area is based on Caithness and Sutherland, comprising the electoral wards of East Sutherland and Edderton; North, West and Central Sutherland; Thurso and Northwest Caithness; and Wick and East Caithness. The regional study area is based on THC administrative area. The national study area is based on Scotland.

14.4.1.2 Recreation, Tourism and Land Use Study Area

48. A three-tiered approach to the study area for tourism, recreation and land use effects has been adopted. A study area of 15 km from the Site has been used to identify tourism receptors, including accommodation, attractions and events. A study area of 5 km from the Site has been used to identify recreational receptors. However, direct impacts will only be assessed for receptors within the application boundary. The study area for land use covers all the land taken by the proposed Development either temporarily during construction or permanently during operation.

14.4.2 Scope of Assessment

14.4.2.1 Effects Assessed in Full

49. Impacts are the outcome of the potential interaction between the characteristics of the proposed Development and the characteristics of the host environment (i.e., the receptors). These characteristics will be defined in **Section 14.5**. Based on this potential interaction it has been predicted that the construction and operation of the proposed development has the potential for the following socio-economic, tourism and recreation impacts:

- direct economic impacts (e.g., income and employment);
- wider economic impacts (e.g., multiplier effects and impacts on the tourism economy);
- direct impacts on recreational and tourism amenity (e.g., physical obstructions);
- indirect impacts on recreational and tourism amenity (e.g., reduced attractiveness of a tourism or recreation receptor in the vicinity of the proposed Development); and
- changes to land use.

14.4.2.2 Effects Scoped Out

50. The construction phase of the proposed Development would be relatively short-term (22 months), and, as will be explained in **Section 14.6** below, the number of in-migrants associated with the construction and operation of the proposed Development would be 'Negligible'. Therefore, it is not expected that workers from outside Caithness and the Highlands would have significant social effect on the demand for housing, health or educational services so these effects have been scoped out.

14.4.3 Baseline Determination

51. Baseline conditions have been determined using desk survey techniques, including publicly available statistics and information, and Geographic Information System (GIS) software, and through consultation. Data sources referred to in undertaking this assessment are referenced in full in this Chapter and provided in **Section 14.10**. No specific field survey has been undertaken with regard to socio-economic and land use effects, although information has been gathered where relevant

from surveys undertaken in respect of other disciplines, notably landscape and visual (**Chapter 7: Landscape and Visual Impact Assessment**).

14.4.4 Approach to Assessment of Effects

14.4.4.1 Socio-Economic Effects

52. There are no published standards or technical guidelines that set out a preferred methodology for assessing the likely socioeconomic, recreation, tourism or land use effects of an onshore windfarms or solar developments.
53. The assessment of economic effects was undertaken using a model that has been developed by BiGGAR Economics specifically to estimate the socio-economic effects of windfarm developments. This model was also the basis of an assessment of the UK onshore wind sector for the then Department of Energy and Climate Change (DECC) and RenewableUK in 2012 (Department of Energy and Climate Change, RenewableUK, 2012), which was subsequently updated in 2015 (RenewableUK, 2015). These assessments were based on case studies of the local, regional and national socio-economic effects of windfarms that have been developed in the UK in recent years.
54. In 2017, BVG Associates (BVG Associates, 2017) conducted an evaluation of the benefits from onshore wind based on data from eight windfarms in south west of Scotland (Dumfries and Galloway, East Ayrshire, North Lanarkshire and South Ayrshire). The approach used in that analysis is similar to the approach used in this assessment, in that it has a focus on expenditure in the supply chain and assess where the activity occurs.
55. This approach is considered industry best practice in the assessment of the socio-economic effects of the onshore wind sector. This model has been used by BiGGAR Economics to assess the socio-economic effects of numerous windfarms across the UK, with the results being accepted as robust at several public inquiries.
56. The assumptions used as the basis of assessment have been based on two main sources:
- the analysis undertaken in the 2015 report on behalf of RenewableUK, which uses evidence from previous windfarms around the UK. This report examined the size and location of contracts for their development, construction, and operation and maintenance phases; and
 - assessment of the economies of the relevant study areas undertaken, based on analysis of local, regional and national statistics.
57. The assessment of socio-economic effects is presented in two parts, addressing both the construction phase aspects of the proposed Development and the longer-term effects once the proposed Development is built and operational.

Employment Effects

58. The employment effects that are attributable to the proposed Development are divided into three components:
- Direct:** the employment and other economic outputs that are directly attributable to the delivery of the proposed Development. These include any new jobs that are created to manage and supervise the construction and operational phases of the proposed Development and that are filled by employees of the Applicant or the appointed Contractor (or subcontracted employees);
 - Indirect:** employment and other outputs created in other companies and organisations that provide services to the proposed Development (i.e., procurement and other supply chain effects); and
 - Induced:** additional jobs and other economic outputs that are created in the wider economy as a result of the spending of employee incomes on locally produced goods and services (i.e. personal vehicle maintenance, food and drink etc) and other ripple effects that occur as a result of direct and indirect effects of the proposed Development.
59. There is potential for job creation through the investment of community benefit funds, but this will not be factored into the assessment because community benefit is not a material consideration in the planning decision and the decisions on what is funded will be made by the local community organisation.

Economic Effects

60. Economic output will be measured by estimating capital and operational expenditure within each study area. Additionally, gross value added (GVA) arising from increased employment will be included.

14.4.4.2 Recreation, Tourism and Land Use Effects

61. Recreation, tourism and land use effects have been assessed qualitatively with reference to evidence from research and comparable windfarms and using professional experience and judgment.

14.4.4.3 Effects Evaluation Methodology

62. The significance of the socio-economic, recreation, land use and tourism effects resulting from the proposed Development have been assessed in accordance by combining the magnitude of impact and the sensitivity of receptor.

Sensitivity of Receptor

63. There are no published standards that define receptor sensitivity relating to socio-economic assessment. For the purpose of this assessment the sensitivity of each receptor or receptor group is based on its importance or scale and the ability of the baseline to absorb or be influenced by the identified effects. This is consistent with the criteria outlined for environmental sensitivity in regulation 7(2)(a) of the EIA Regulations. For example, a receptor (such as a public footpath or a supply chain business) is considered less sensitive if there are alternatives with capacity within the study area. In assigning receptor sensitivity, consideration has been given to the following:
- the importance of the receptor e.g., local, regional, national, international;
 - the availability of comparable alternatives;
 - the ease at which the resource could be replaced;
 - the capacity of the resource to accommodate the identified impacts over a period of time; and
 - the level of usage and nature of users (e.g., sensitive groups such as people with disabilities).
64. Based upon professional judgement and experience on other large-scale projects, four levels of sensitivity are used: '**High**'; '**Medium**'; '**Low**'; and '**Negligible**'. These are defined in **Table 14.3**.

Table 14.3: Socio-economic sensitivity criteria

Sensitivity	Description
High	The receptor: <ul style="list-style-type: none"> has little or no capacity to absorb change without fundamentally altering its present character; or is of high socio-economic, recreational, or tourism value; or is of national or international importance; or is accorded priority in national policy; or has no alternatives with available capacity within its catchment area; or is a destination in its own right (as regards tourism and visitor attractions)
Medium	The receptor: <ul style="list-style-type: none"> has moderate capacity to absorb change without fundamentally altering its present character; or has a moderate socio-economic, recreational or tourism value; or is of regional importance; or is accorded priority in local policy; or has some alternatives with available capacity within its catchment area; or is a destination for people already visiting the area (as regards tourism and visitor attractions); or forms a cluster of low sensitivity receptors.
Low	The receptor: <ul style="list-style-type: none"> is tolerant of change without detriment to its character; or is of low socio-economic, recreational or tourism value; or is of local importance; or is accorded low priority in policy; or has a choice of alternatives with available capacity within its catchment area; or is an incidental destination for people already visiting the area (as regards tourism and visitor attractions)
Negligible	The receptor is resistant to change and is of low socio-economic, recreational or tourism value or there is a wide choice of alternatives with available capacity within its catchment area.

65. In considering the sensitivity of a receptor it is important to remember that, in the case of socio-economic assessment, the sensitivity is often subjective and different receptors have differing sensitivities depending on matters such as the economic profile of the local area, perception of the type of development and attitude to the potential benefits of a development. This assessment is based on the assumption of a worst-case which assumes that there is a negative perception of the proposed Development.

Magnitude of Impact

66. There are no published standards that define thresholds of magnitude for socio-economic, tourism or recreation impacts. In order to aid clear and robust identification of significant effects, specific and targeted criteria for defining the magnitude of impacts have been developed for this assessment based on experience on other similar projects. The following four levels of magnitude have been adopted using professional judgement: 'High'; 'Medium'; 'Low' and 'Negligible'. These impacts can be beneficial, adverse or neutral. Criteria for each of these levels of magnitude for each receptor group are set out in **Table 14.4**.

Table 14.4: Magnitude of impact

Receptor Group	High	Medium	Low	Negligible
Economy	An impact that would dominate over baseline economic conditions by >10 %.	An impact that would be expected to result in a moderate change to baseline economic conditions by >5 %.	An impact that would be expected to result in a perceptible difference from baseline economic conditions by >0.5 %.	An impact that would not be expected to result in a measurable variation from baseline economic conditions.
Employment	An impact that would dominate over baseline labour market conditions and/or would affect a large proportion (>10 %) of the existing resident workforce.	An impact that would be expected to result in a moderate change to baseline labour market conditions and/or would affect a moderate proportion (>5 %) of the existing resident workforce.	An impact that would be expected to result in a perceptible difference from baseline labour market conditions and/or would affect a small proportion (>0.5 %) of the existing resident workforce.	An impact that would not be expected to result in a measurable variation from baseline labour market conditions.
Tourism and visitor economy	An impact that would dominate over baseline tourism and visitor economy conditions.	An impact that would be expected to result in a moderate change to baseline tourism and visitor economy conditions.	An impact that would be expected to result in a perceptible difference to baseline tourism and visitor economy conditions	An impact that would not be expected to result in a measurable variation from baseline tourism and visitor economy conditions
Tourism and visitor receptors	An impact that would be expected to cause a major restriction of access to or availability of tourism and visitor assets in the study area or would result in a major change to existing patterns of use.	An impact that would be expected to have a moderate restriction of access to or availability of tourism and visitor assets in the study area or would result in a moderate change to existing patterns of use.	An impact that would be expected to have a small restriction of access to or availability of tourism and visitor assets in the study area or would result in a small change to existing patterns of use.	An impact that would be unlikely to result in a noticeable difference to tourism and visitor assets in the study area.
Land use	An impact that would lead to a major restriction on the operation of a receptor, e.g., forestry business, or complete closure of receptor.	An impact that would lead to a moderate to major restriction on the operation of the receptor.	An impact that would lead to a minor restriction on the operation of the receptor.	An impact that would lead to a negligible restriction on the use of the receptor.

Receptor Group	High	Medium	Low	Negligible
Cumulative	An impact that would lead to a major change to baseline conditions.	An impact that would lead to a moderate change to baseline conditions.	An impact that would lead to a minor change to baseline conditions.	An impact that would lead to a negligible change to baseline conditions.

Potential Effects

67. The level of effects matrix presented in **Table 14.5** provides a guide to how magnitude of impact and sensitivity of receptor were combined, but it is not a substitute for professional judgement.

Table 14.5: Level of effects matrix

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

68. Effects may be positive (beneficial) or negative (adverse) and this would be specified where applicable. Where an effect is classified as major, this is considered to represent a 'significant effect' in terms of the EIA Regulations. Where an effect is classified as moderate, this may be considered to represent a 'significant effect' but should always be subject to professional judgement and interpretation, particularly where the sensitivity or impact magnitude levels are not clear or are borderline between categories or the impact is intermittent. It should be noted that significant effects need not be unacceptable or irreversible.

Mitigation

69. The assessment takes account of any environmental principles that are incorporated into the design of the proposed Development. These include good practice measures with regard to traffic management, control of noise and dust, signage and provisions for maintaining access for walkers, details of which are set out in **Technical Appendix 3.1: Outline Construction and Environmental Management Plan (CEMP)**. Any additional mitigation measures that would reduce the level of any significant effects are set out and considered prior to assessing residual effects.

Residual Effects

70. Residual effects, which are the effects that would remain following implementation of proposed mitigation measures, will be outlined in the text and a summary table and statement of significance has been provided in **Section 14.9**. will be presented at the end of the Chapter.

14.4.5 Assessment Limitations

71. Data has been collated from published sources and comparable experience of similar developments. No surveys specific to the development and in support of assessment have been completed.

72. The Applicant has endeavoured to thoroughly report the potential local impact of the proposed Development; however, detailed statistics relating to employment and the local economy where not always available so there are certain effects that are not possible to assess at a local level.

73. While every effort has been made to ensure that the key tourism and recreation facilities in the area have been identified, it is possible that there are a number of small attractions that will not have been identified through the data collection process.

74. In order to maximise the economic effects associated with the proposed Development, it will be necessary for local contractors to engage with the opportunities that arise and increase awareness of these opportunities.

14.5 Baseline Conditions

14.5.1 Socio-Economic Baseline

14.5.1.1 Labour Force

Economically Active

75. Data on employment is available for each of the study areas from the Business Register and Employment Survey (ONS, 2020), The size of the economically active workforce for each of the socio-economic study areas is shown in **Table 14.6** below.

Table 14.6: Economic active workforce by study area (source: ONS annual population survey (2020))

Economic Status	Caithness and Sutherland	Highland	Scotland
Economically active	32,900 (78.3%)	122,600 (79.4%)	2,755,000 (77.4%)
Employment	31,700 (75.3%)	119,600 (77.5%)	2,635,000 (74%)
Unemployed	1,190 (5.3%)	3,900 (3.2%)	121,000 (4.4%)

76. The most recently available figures show that the principal employment sectors within Highland are (Scottish Government, 2018):

- distribution;
- hotels and restaurants;
- manufacturing;
- construction;
- transport and communications; and
- agriculture and fishing.

77. Employment can be disaggregated by industry (**Table 14.7**) and occupational group (**Table 14.8**) to indicate whether there is labour available locally to meet the construction and operation needs of the proposed Development².

Table 14.7: Employment by industry

Industry	Caithness and Sutherland		Highland		Scotland	
	Number	%	Number	%	Number	%
Agriculture, Forestry and Fishing	85	0.8	5,000	4.3	42,000	1.7
Mining and Quarrying	90	1.0	500	0.4	28,000	1.1
Manufacturing	500	4.9	6,000	5.2	167,000	6.7
Electricity, Gas, Steam and Air Conditioning Supply	35	0.3	900	0.8	18,000	0.7
Water Supply; Sewerage, Waste Management and Remediation Activities	1,600	13.5	2,000	1.7	19,000	0.8
Construction	575	5.8	7,000	6.0	135,000	5.4
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	1,500	14.8	16,000	13.8	334,000	13.3
Transportation and Storage	350	3.3	5,000	4.3	104,000	4.2
Accommodation and Food Service Activities	1,100	10.3	15,000	12.9	206,000	8.2
Information and Communication	270	2.4	2,250	1.9	85,000	3.4
Financial and Insurance Activities	110	1.0	1,000	0.9	83,000	3.3
Real Estate Activities	80	0.8	1,500	1.3	38,000	1.5

² Data provided by the latest Business Register and Employment Survey (relates to 2019) and only accounts for employee jobs (i.e., excludes self-employed, government-supported trainees and HM Forces) and does not include farm-based agriculture.

Industry	Caithness and Sutherland		Highland		Scotland	
	Number	%	Number	%	Number	%
Professional, Scientific and Technical Activities	950	8.3	6,000	5.2	178,000	7.1
Administrative and Support Service Activities	275	2.8	6,000	5.2	202,000	8.1
Public Administration and Defence; Compulsory Social Security	450	4.3	6,000	5.2	155,000	6.2
Education	800	7.5	9,000	7.8	204,000	8.2
Human Health and Social Work Activities	1,850	18.9	21,000	18.1	396,000	15.8
Arts, Entertainment and Recreation	250	2.6	4,000	3.4	69,000	2.8
Other Service Activities	150	1.4	1,250	1.1	41,000	1.6

Table 14.8: Employment by occupational group

Occupational Group	Caithness and Sutherland	Highland	Scotland
Managers, Directors and Senior Officials	2,900	13,200	233,700
Professional Occupations	5,900	22,700	615,600
Associate Professional & Technical	2,800	13,400	390,300
Administrative & Secretarial	2,800	12,700	252,000
Skilled Trades Occupations	7,000	19,700	245,900
Caring, Leisure and Other Service Occupations	2,300	11,100	250,300
Sales and Customer Service Occupations	2,500	7,200	213,100
Process Plant & Machine Operatives	3,100	7,700	155,200
Elementary Occupations	2,400	11,800	256,400

14.5.1.2 Skills and supply chain

78. Data from the 2011 census show for Ward 4 Landward Caithness (previous ward structure) which covers the current wards of Thurso and Northwest Caithness and Wick and East Caithness area, a lower level of education and skill attainment than for Highland and Scotland as demonstrated in **Table 14.9**. There is also notably a higher percentage of population with no qualifications. When the census breakdown of skill and educational attainment for 2011 is compared to the data for 2001 this provides some indication of the impact from recent socio-economic activities in the area such as the Dounreay decommissioning programme and other initiatives led by the Caithness Chamber of Commerce.

Table 14.9: Highest Qualification percentage (%) of 16-74 Year Olds have attained. Comparison between 2001 and 2011 census data

Qualification Level	Caithness and Sutherland %	Highland %	Scotland %
No qualifications	36.7 29.8	32.6 25.5	33.2 26.8
Level 1: 0 Grade, Standard Grade, Access 3 Cluster, Intermediate 1 or 2, GCSE, CSE, Senior Certification or equivalent; GSVQ Foundation or Intermediate, SVQ level 1 or 2, SCOTVEC Module, City and Guilds Craft or equivalent; Other school qualifications not already mentioned (including foreign qualifications).	25.2 24.8	26.1 25.5	24.7 26.8
Level 2: SCE Higher Grade, Higher, Advanced Higher, CSYS, A Level, AS Level, Advanced Senior Certificate or equivalent; GSVQ Advanced, SVQ level 3, ONC, OND, SCOTVEC National Diploma, City and Guilds Advanced Craft or equivalent.	14 13.7	15.3 14.4	15.7 14.3

Qualification Level	Caithness and Sutherland %	Highland %	Scotland %
Level 3: HNC, HND, SVQ level 4 or equivalent; Other post-school but pre-Higher Education qualifications not already mentioned (including foreign qualifications).	6.3 9.9	6.4 9.2	7.0 9.7
Level 4 and above: Degree, Postgraduate qualifications, Masters, PhD, SVQ level 5 or equivalent; Professional qualifications (for example, teaching, nursing, accountancy); Other Higher Education qualifications not already mentioned (including foreign qualifications).	17.8 21.7	19.6 26.4	19.5 26.1

*(Black = 2001 Census Data Red=2011 Census Data)

79. The construction sector is expected to see the biggest increase in employment over the coming years, increasing by one percent on average each year (equivalent to 2,000 jobs); other sectors expecting increases are the administrative and support services sector (1,100 jobs), and professional, scientific and technical activities (1,000 jobs) (Skills Development Scotland, 2018). Additionally, the North Coast 500 tourist attraction route has contributed to – and is expected to continue to contribute to – employment within Highland (Highlands and Island Enterprise, 2017); in 2018, 180 jobs were created as a result of the route (BBC, 2019).
80. One of the aims of the CaSPlan is to ensure that development helps to maintain and grow a strong and diverse Caithness and Sutherland economy. This is fundamental to continuing to create long-term employment opportunities and attract inward investment.
81. Although the decommissioning of Dounreay nuclear reactor (approximately 32 km west of the Site) has been seen as the main reason for a decline in overall job numbers within Caithness and Sutherland over recent years the Dounreay decommissioning programme has led to the development of infrastructure for skill development across Caithness and Sutherland. This development was coordinated through the CNSRP. A summary of the key providers of training and skill development is presented in **Table 14.10**.

Table 14.10: Key Training and Skill Development Providers supporting Caithness area

Provider	Provision
North Highland College – University of the Highlands and Islands – Thurso campus	Wide range of courses available which have been developed to reflect industry needs. These include: Care, Science, Engineering, Construction, Hospitality, Hairdressing, Business, Accounting and Computing.
Engineering, Technology and Energy Centre (ETEC) – Thurso campus	Engineering programmes and modern apprenticeships in partnership with employers are delivered from this campus. Examples of courses available include Access to Construction and engineering, BEng (Hons) Energy Engineering and BEng (Hons) Electrical and Mechanical Engineering
Centre for Energy and the Environment (CFEE) – Thurso campus.	Courses include: BSc (Hons) Bioscience and BSc (Hons) Environmental Science
Caithness Chamber of Commerce	Caithness Chamber of Commerce have previously run courses for members which have included: Scottish Personal Licence Holder Training Courses, Leadership and management Skills, Food Hygiene, Excel, Mental Health Awareness, Fire Warden training, Emergency First Aid, Cat and Genny training, Asbestos awareness, Food Hygiene, Sustainability, NEBOSH National Construction Certificate in Health and Safety.

82. The onshore wind industry across Caithness has resulted in the construction of 12 Large windfarms³, in the area with a further 7 approved or under construction. The local supply chain has been involved with supporting this. Information made available

³ This classification is based on the class assigned to wind energy developments which have a blade tip height between 80 m and 149.9 m by THC.

in relation to the construction of ScottishPower Renewables Halsary Windfarm, recently completed, has shown how the local (Caithness) supply chain has benefitted from this particular development. Whilst Northstone (NI) Limited was awarded the main infrastructure contract for the construction of Halsary Windfarm, 85.2% of the total contract was spent in Caithness and £8.34 M awarded to businesses within 20 miles of Halsary Windfarm between September 2019 and May 2021. A list of the companies involved is presented in **Table 14.11**.

Table 14.11: Local Supply Chain Involved with Halsary Windfarm

Subcontractor/Supplier/Surveys	Address/Local Spend	Scope of Works
Gow Groundworks	Halkirk, Inverness	Control building and reinforced concrete turbine foundations
McFadden Civils Ltd	Based in Tyrone, Northern Ireland but using 30% local labour and renting 3 houses locally.	Earthworks/Drainage
RTS Ltd	Based in Perth but renting property locally	Forestry Clearance
John Gunn and Son	Lybster, Caithness	Site Access, Concrete supply, site setup
RJS Electrical Services	Wick, Caithness	Site Security
Keyline Builders merchant	Thurso	Building materials, pipes
Clean Crazy Ltd	Thurso	Cleaning
GMR Henderson	Wick	Aggregate Supply
LED Scotland Ltd	Thurso	Signage, PPE, tools and equipment
Messrs Donald Macdonald	Thurso	Environmental supplies
Travis Perkins	Thurso	General Building Supplies

83. There are signs that efforts to diversify the economy are working as the percentage of jobs dependent upon Dounreay decreased from 15% to 10% between 2006 and 2011, and the number of new businesses being created is on the rise.
84. The increase in relevant skills discussed previously is expected to continue to contribute to employment within the renewables supply chain.
85. The Wick and East Caithness ward, and the proposed Development, is situated within the Dounreay Travel to work area (the green area shown on **Figure 14.5.2**), which contains a number of economic regeneration activities managed by the North Highland Regeneration Fund, which mitigate against the impact of the Dounreay decommissioning. This includes the provision of funding to new and existing businesses, which could help increase local supply chain capacity for REDs.



Figure 14.5.2: Dounreay Travel to Work Area

14.5.1.3 Renewable Energy and Economic Development National

86. 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 31 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. Scotland's turnover from onshore wind activities totalled £1.5 billion in 2016 and achieving 'world leader' status for renewables in 2017 (WWF, 2017).

87. Investment in renewable energy generation in North Highland is not only helping to meet THC and national climate change targets but it has also delivered economic benefits for the area. Onshore wind energy has grown significantly over recent years, particularly in the south and north-east of Caithness and Sutherland (CaSPlan).

Local

Community Benefit from Existing Renewable Energy Developments in the Highlands

88. There is no publicly available data in regard to the amount of community benefit paid to communities in the Highlands. However, in their 2019 publication, 'Community benefits from onshore renewable energy developments', the Scottish Government confirmed that in the previous year a total of £15,719,720 had been paid in community benefit across Scotland.

89. The Applicant has been working alongside communities throughout the UK for nearly two decades and has to date contributed more than £43 million in benefit funds to support initiatives and projects for those communities local to its onshore windfarm sites. The Applicant has been a neighbour for many years, generating cleaner power and socio-economic benefits to local

⁴ This represents the three-year average between 2015- 2017

communities in the Highlands. The Applicant is owner and operator of Beinn Tharsuinn Windfarm in East Sutherland and has contributed £1.36 million in community benefit from this development to date. The Applicant has recently completed construction of Halsary Windfarm in Caithness. The combined community benefit funds from these two windfarms are projected to be £3.4 million over the lifespan of the projects. Twenty-two community council areas in the Highlands have the opportunity to benefit from this funding.

90. With the development of these sites nearby, the Applicant is continuing the history of working positively with local communities in the Highland region of Scotland. The flexible approach adopted by the Applicant has empowered local communities to decide how best to spend their fund to maximise benefits to their communities. This has resulted in a fantastic diversity of projects being delivered:

91. The Applicant is keen to create employment opportunities during the construction and operation of their windfarms that can benefit those who live near their sites.

14.5.2 Tourism, Recreation and Land Use Baseline

92. With regard to Highland, the tourism sector is valued as it forms a critical part of the economy. THC consider the tourism sector as an increasingly important component of the economy and the CaSPlan supports suitable tourism opportunities throughout Caithness and Sutherland including in more rural and remote locations.

14.5.2.1 Tourism Economy

93. The sustainable tourism sector in the Highlands accounts for £320.4. million Gross Value Added (GVA) and 19,000 jobs, accounting for 42% of total employment in the Highlands.

94. Given that there are 227,600 sustainable tourism jobs in Scotland the Highland area represents 8.3% of Scottish employment in the sector (Scottish Government, 2019). The level of employment and GVA supported by Sustainable Tourism in these areas is given in **Table 14.12**.

Table 14.12: Sustainable Tourism Employment and Gross Value Added, 2018

	The Highlands	Scotland
Employment	19,000	227,600
GVA (£m)	320.4	4,141.2

14.5.2.2 Visitors

95. The Great Britain (GB) Tourist Survey provides the number of domestic overnight visitors by local authority area. It shows that on average there are 1.95 m domestic overnight visitors to The Highlands each year, spending £142 million. This represents 14% of the 13.8 m domestic overnight visits to Scotland each year (Kantar TNS, 2019). The number of domestic overnight trips⁴ and their associated spend in these study areas is given in **Table 14.13**.

Table 14.13: GB Overnight Trips

	The Highlands	Scotland
Employment	1.95	13.8
GVA (£m)	£142	£2,989

96. The Great Britain Day Visitor Survey provides the number of day visitors by local authority area. This shows that on average there are 27 m day visitors to The North of Scotland, spending £1,467 m each year (Kantar TNS, 2019). The number of day visitor trips and their associated spend in these study areas is given in **Table 14.14**.

Table 14.14: GB Day Visits

	The Highlands	Scotland
Trips (m)	27	134
Spend (£m)	£1,467	£5,777

97. Data on overseas trips are provided by the International Passenger Survey (Office for National Statistics, 2019). There were an estimated 459,000 overseas trips to The Highlands in 2019, representing 13% of all Scottish overseas trips with a total spend of £202 million. The number of overseas trips and their associated spend is given in **Table 14.15**.

Table 14.15: Overseas Trips 2019

	The Highlands	Scotland
Trips (m)	459	3,460
Spend (£m)	202	2,538

98. The Highlands of Scotland Visitor Survey 2015-2016 (Visit Scotland, 2016) provides tourism data for The Highland region. The most popular reason for visiting this combined region is given as for the scenery & landscape (87%); sightseeing is the most popular activity (81%) followed by visiting a historic house, stately home, castle (65%) followed by a short walk (59%).

14.5.2.3 Tourism and Recreational Receptors

99. The assessment of tourism and recreational effects considers receptors within 15 km of the Site, but for the more remote parts of the study area any effects are expected to be restricted to visual effects during the operation phase. Consequently, the receptors addressed in this Chapter are restricted to those close to the Site (within approximately 5 km), and those more distant receptors up to 15 km that are shown in the ZTV (**Figure 7.1**) to have visibility of the proposed Development.

Formal Tourism and Recreation Attractions

100. Formal tourism and recreational assets are generally businesses and/or attractions that charge an entry fee for admission or have a significant commercial element. There are a small number of such receptors within 15 km of the Site (**Figure 14.1**). Businesses that provide a service to local residents and other businesses, such as shops, fuel stations and public houses may also serve the tourism economy.

101. The formal tourist attractions within 15 km of the Site include:

- Caithness Broch Centre;
- Castle and Gardens of Mey;
- Castlehill Heritage Centre;
- Duncansby Head Lighthouse;
- Dunnet Bay Distillery;
- Dunnet Bay;
- Dunnet Head Nature Reserve;
- John o' Groats Gallery;
- John o' Groats Signpost;
- North Coast Explorer;
- Nybster Broch;
- Puffin Croft Petting Farm; and
- Watten Church of Scotland.

102. The receptors listed above are considered likely to draw visitors from a wide area and as such are considered of regional importance and **'Medium'** sensitivity in socio-economic terms.

103. Shops and other tourism assets such as restaurants tend to be clustered in settlements such as Dunnet, Mey, Gills and John o' Groats. Such groups of receptors can be considered to be of **'Medium'** sensitivity.

Informal Tourism and Recreation Receptors

104. Informal tourism and recreational assets relate to walking routes and open spaces which aren't commercial in nature. The Site is located within a relatively remote setting with limited recreation opportunity based around the natural environment, with few informally recognised tourist attractions within the 5 km study area

Walking

105. There are nine Core Paths within the recreational study area; however, none within the Site, as shown in **Figure 14.1**. The nearest Core Path is Mey Link (CA05.16), which is adjacent to the Site entrance. A list of the Core Paths within the recreational study area is provided in **Table 14.16** below and are shown on **Figure 14.1**.

Table 14.16: Identified Public Rights of Way

Core Path	Route Reference	Approximate Distance from the Site
Barrock to A836 via Rosegill	CA05.15	3.1 km north west
Castle of Mey Coast	CA05.17	1.9 km north
Dunnet Forest Horse Trail	CA05.21	4.9 km west
Dunnet Forest Long Trail	CA05.20	4.9 km west
Mey Link	CA05.16	0 km north
Old Road	CA07.14	1.4 km north east
St John's Point	CA05.12	2.4 km north
Stroupster Hill	CA08.07	3.5 km south east
Tresdale Track	CA07.12	3.2 km east

106. There are no formally recognised public rights of way in the study area, however it is acknowledged that public access may not be limited to such formally recognised routes, particularly under consideration of the Land Reform Act (Scotland) 2003.

107. The site does contain paths associated with the forestry activity in the area.

Horse Riding

108. There are no designated horse riding tracks or trekking stables within the Site but the Scoping Response from the British Horse Society indicated that horse riding is popular within Caithness.

Tourism Routes

109. The NC500 is located approximately 2.6 km from the nearest proposed turbine. The NC500 is described as a world-renowned Scottish tourist attraction consisting of approximately 500 miles of scenic route around the north coast of Scotland, starting and finishing in Inverness. The route was established as an advertised tourist attraction in 2015 and has helped to improve visitor numbers by attracting 29,000 more visitors to the north Highlands within its first year of operation (2015-2016). Between 2015 and 2016, four Visit Scotland information centres (Duness, Lochinver, Thurso, and Ullapool) experienced an average 26% increase in use, compared to a 6% average increase across other Highlands information centres. As visitor numbers suggest, the NC500 is increasingly important to the Highland economy. In 2018, the NC500 generated an additional £13.46 m in sales for approximately 1,900 businesses located on, or near, the route³¹. The accommodation sector is an example of a sector which has benefitted from the establishment of the NC500, as room occupancy has increased from 52% in 2014 to 78% in 2018. The NC500 is considered to have regional importance and **'Medium'** sensitivity as it is located wholly within THC's administrative boundary.

110. Local ferry routes are considered to be key routes and are regularly used by visitors to the area, thereby have been regarded as tourism receptors. The key ferry routes within the tourism study area comprise:

- Gills Bay to St Margaret's Hope ferry; and
- John o' Groats to Burwick, South Ronaldsay ferry.

111. The users of the ferry routes are likely to be engaged in the whole experience of sailing such as wildlife sightings and the sensitivity of these routes is also considered to be of no more than regional importance and **'Medium'** sensitivity.

112. In addition, the National Cycle Network Route 1 (NCN1) runs along the C1033 Everly-Crockster Toll Road within the offsite area of the application boundary. The NCN is promoted nationally by Sustrans and forms part of the national cycle network so is considered to have national importance and **'High'** sensitivity.

Accommodation

113. Within the tourism study area (15 km from the Site) there are 89 accommodation businesses, summarised as follows.

- 11 Camping/Caravan sites;
- 9 Hotels;
- 34 Self Catering; and
- 35 Guest Houses.

114. These businesses are shown on **Figure 14.1**. None of the accommodation businesses identified are considered to be of more than local value and their sensitivity '**Low**'.

Events

115. The Site is not used to host any events so direct impacts on events has been scoped out of this assessment. It is possible that there could be indirect visual impacts affecting the amenity of events out with the application boundary. The 15 km tourism study area was applied for events likely to draw in visitors from outside of Caithness and the Highlands, these were based on events advertised to a national and international audience on the Visit Scotland and Scotland Info website. The 5 km recreation study area was applied for events likely to attract visitors from within Caithness and the Highlands, these were based on events advertised to a local and regional audience on the A Highland Blend website. The review found that there would be no national or local and regional events hosted within the study areas. Therefore, indirect effects on events have been scoped out of the assessment.

14.5.2.4 Land Use

116. The current land use is classified as agricultural/moorland/forestry. The Site predominately comprises of commercial coniferous forestry consisting mainly of Sitka spruce and lodgepole pine with areas of agricultural land to the south of the Site. The area of the Site is 1149 ha.

117. THC identify the area in which the Site sits to be a mix of local/regional importance and wider countryside in their HwLDP Proposals Map.

118. No public roads are located within the Site; although there is some existing forest track and two private tracks. Access will be taken from the C1033 public road to the west of the Site at Slickly.

119. While there are uninhabited, derelict farm buildings on the Site, there are no residential properties within the site nor within 1 km of the turbine infrastructure.

120. As the land is privately owned, any direct effects on the landowner are subject to a commercial arrangement between the Applicant and the landowner, and therefore not subject to EIA.

14.5.2.5 Public Attitude to Renewable Energy Development

121. The potential for impact on tourism is closely linked to public perception of those visiting the area. This Section provides an overview of studies undertaken to assess public perception of windfarm development across the UK.

122. In 2011, as part of their policy update, VisitScotland commissioned research to learn more about UK consumer attitudes to windfarms. The survey was largely attitudinal based and according to the results, windfarms do not have any significant impacts on the levels of tourism with evidence such as Whitelee Windfarm Visitor Centre which 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.

123. Based on this research, VisitScotland published a Position Statement³⁴ 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."

124. A Department of Energy and Climate Change (DECC) 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.

125. More recently, the Public Attitudes Tracker, published by the Department for Business in 2018, Energy and Industrial Strategy (BEIS) showed a record 76% of people support the development of onshore wind compared to a previous 74% from the start of 2017. The advance in onshore wind development in Scotland has also been accompanied by an interest in understanding how the impacts of windfarm developments affect local house prices. In recent years, there has been considerable research looking at measurable effects on whether or not properties near, or in sight of, new windfarm developments see price changes that differ from other houses. A topical study conducted by RenewableUK and the Centre for Economics and Business Research concluded that no adverse impacts were found on house prices from a range of windfarm cases across England and Wales and that there was, in fact, a slight beneficial influence on house prices from the cases analysed.

126. Shortly after that study was published, an analysis conducted by Gibbons (2015) identified that averaging over windfarms of all sizes, there is a house price reduction of around 5-6% within 2km, falling to less than 2% between 2 and 4 km, and less than 1% by 14 km which is at the limit of likely visibility. It should be noted that the same study also found small (~2%) increases in neighbouring prices where the windfarms are not visible, although these are only statistically significant in the 4-8 km band. This price uplift may indicate some local benefits from windfarms. Subsequently, ClimateXChange did a parallel study based on Scottish property and following Gibbons' approach, but with an increased resolution and precision of the data. This study, undertaken in 2016, concludes that there is no consistent evidence of adverse impacts of wind developments on house price growth and that research sample sizes tend to be too low to be statistically viable and conclude robust results.

127. The Applicant has sought to raise awareness of the proposed Development within the local community and have encouraged members of the public to engage with the project. The public consultation procedure is detailed in **Chapter 6: Scoping and Consultation**. Engagement with and responses to public consultation are documented in the Pre-Application Consultation Report that will form a supporting document to the Section 36 application. For the purpose of this assessment, the general themes of the feedback are as follows, enthusiasm for the potential opportunities the project will create for local businesses, requests for how the community benefit fund should be administered, additional information about the baseline conditions, suggestions for enhancement measures and concerns about the visual impacts from residential properties.

14.6 Assessment of Effects

14.6.1 Socio-Economics

14.6.1.1 Potential Construction Effects

128. During the 22-month construction phase of the proposed Development there would be economic effects resulting from expenditure on items such as site preparation (including forestry services), access roads, purchase and delivery of materials, plant, equipment and components. Based on experience at other windfarms in Scotland, it is predicted there would be a peak onsite workforce of 75 workers. Some of these workers would be sourced from the local and regional labour market within Caithness and the Highlands, and many more would be sourced from Scotland as a whole. **Section 14.5** above indicates that construction is one of the principal industries in Caithness with the greatest growth potential. In addition, there is a higher than regional and national average level of unemployment. The need to transition from the decommissioning of Dounreay has contributed to the availability of funding and training centres to upskill the local labour force. These factors in combination indicate that there would be local labour available for construction and operation of the proposed Development without poaching employees from existing businesses. Employing a majority locally-based labour force combined with the remoteness of the Site would reduce the number of in-migrant workers and ensure that more of the direct investment from the proposed Development remained within the wider local economy.

129. The remainder of this Section sets out to quantify the likely benefits to local and national jobs and the economy based on the proportion of construction expenditure that would take place within the local/regional and national economy.

Capital Expenditure (CAPEX)

130. The construction and development costs for this proposed development were estimated using research undertaken by BIGGAR Economics on behalf of RenewableUK in 2015 (RenewableUK, 2015). On the basis of this methodology the total

construction and development cost of the ten turbines was estimated to be up to £73.5 million⁵. It is predicted the solar array would cost a further £9.4 million including PV panels, electrical infrastructure, and civil engineering works⁶. The cost of BESS has not been included because it is a newer technology with limited deployment in the UK so there is not sufficient research into the related expenditure.

131. This expenditure is split into four main categories of contract:

- development and planning;
- turbines;
- balance of plant; and
- grid connection.

132. The proportion of construction and development spending that is spent on each of the main categories was also informed by the same report. The analysis in 2015 found that approximately 10% of Capex was on development and planning, and less than 60% was on the turbines (RenwablesUK, 2015); however, developments in the sector, and the transition towards larger turbines, has changed the breakdown of Capex. In their socio-economic assessment as part of the Sheirdrim Renewable Energy Development EIAR (2019) BiGGAR Economics analysed the current Capex components and estimated that turbine related contracts accounted for the majority of Capex (70.0%), followed by balance of plant (20.5%), development and planning (4.4%) and grid connection (5.1%). These values are more similar to those in the BVG report (2017) 'Economic Benefits from Onshore Wind', so the updated values were accepted for the purposes of this assessment. The solar-related Capex has not been disaggregated as there is less data available regarding the split across Capex components. The estimated split of total Capex used in the analysis is shown in **Table 14.17**.

Table 14.17: Development and construction expenditure by type

Item	Description	Cost (£millions)
Development and Planning	The processes up to the point of financial close or placing firm orders to proceed with construction, and project management costs incurred by the Applicant. Includes project design, environmental studies, legal agreements, project funding and planning permissions.	3.2
Turbines	The activity by wind turbine and solar manufacturers and their suppliers, covering manufacture and assembly. It excludes the turbine service agreement.	51.5
Civil Works	Includes civil and project management, roads, substation buildings, turbine foundations and hardstandings, landscaping/ forestry/ fencing, and mechanical and electrical installation.	15
Electrical Works	Includes engineering services, construction, electrical components, and industrial equipment and machinery.	3.8
Turbine Sub-total		73.5
Solar	Includes PV panels, electrical infrastructure, and civil engineering works	9.4
Total		82.9

*Totals may not add up due to rounding.

Capital Expenditure (CAPEX) by Study Area

133. The economic impact of the construction and development phase was estimated for Caithness and Sutherland, the Highlands, and Scotland as a whole. To do this, it was necessary to estimate the proportion of each type of contract that might be secured in each of the study areas. An analysis of the supply chain has not been conducted but assumptions were made about how much of each component contract could be secured in each study area based on the findings of the RenewableUK research (2015) and BiGGAR Economics' assessment of Strathy North Wind Farm which is also based in Caithness and

⁵ Based on the sum of development (£150,216) and construction costs (£1,318,875) (i.e., the capital expenditure) per MW, multiplied by 50 MW (i.e., the capacity of the wind turbine element of the proposed Development).

Sutherland (2020). To estimate the expenditure for each contract in each of the study areas these percentages were applied to the estimated value of the development and construction contracts in **Table 14.17**.

134. For the solar array of the proposed Development, it is estimated 7.5% of the construction costs would be spent within the Highlands and 39% would be spent in Scotland as whole. The estimates of the proportion of expenditure within the study areas are based on information on supply chain capabilities and UK content set out in the publication 'Solar Powered Growth in the UK', September 2014 prepared for the Solar Trades Association by the Centre for Economics and Business Research.

135. The estimated value of contract type by study area are shown in **Table 14.18**.

136. All figures presented in the following tables for the Highlands includes Caithness and Sutherland and for Scotland includes Caithness and Sutherland and the Highlands.

Table 14.18: Development and construction expenditure by study area and contract type

Item	Caithness and Sutherland		Highlands		Scotland	
	Cost (£millions)	% of item total	Cost (£millions)	% of item total	Cost (£millions)	% of item total
Development	0	0%	0.3	10%	2	63%
Turbines	0	0%	2.1	4%	9.8	19%
Civil Works	1.5	10%	8.3	55%	11.3	75%
Electrical Works	0.1	3%	1.3	35%	3.8	100%
Solar	0	0%	0.7	7.5%	3.7	39%
Total	1.6	2	12.9	15%	31.8	37%

* Totals may not add up due to rounding.

Gross Employment and Gross Value Added (GVA) Estimates

137. The contract values potentially awarded in each area would represent an increase in turnover of businesses in these areas. Estimates of the expected direct construction phase employment implications of the proposed Development have been derived using the information on anticipated project expenditure set out in **Table 14.18**, as well as assumptions obtained from the following sources:

- employment and GVA multipliers for Scotland, obtained from Input-Output tables for Scotland published by the Scottish Government;
- employment and GVA multipliers for the UK obtained from Input-Output tables published by the UK Government (BEIS);
- and ratios of turnover per unit of GVA and GVA per employee have been derived from Scottish and UK Government data.

138. The employment impacts during the construction and development phase are reported in job years as the contracts would be short-term. Job years measures the number of years of full-time employment generated by a project. For example, an individual working on this project for 18 months would be reported as 1.5 job years.

139. To accurately calculate GVA and job years it is necessary to categorise and then match Capex contracts to the relevant economic sector, using the industry sectors identified in the Input-Output tables. The construction subcomponents were then combined to create an overall weighted construction GVA and employment ratios. For solar, as a detailed analysis of the subcomponent works and their respective percentage value of the overall investment does not exist, generalised construction GVA and employment ratios will be used. **Table 14.19** below shows the GVA and employment multipliers for each Capex contract type.

⁶ Based on analysis undertaken by IRENA (2021), which stated that the weighted average Capex cost for utility-scale solar developments in the UK was \$846 per Kilowatt (KW) per annum. This has been converted to pounds (£627/KW as of 29/09/21) and multiplied by the capacity of the proposed solar array (15 MW).

Table 14.19: GVA and employment ratios for development and construction

Item	Turnover per employee (£)	GVA/ Turnover
Development and Planning	112,037	0.594
Turbines	172,897	0.313
Civil Works	140,477	0.411
Electrical Works	140,477	0.411
Solar	140,477	0.411

140. Using all of the sources summarised above, gross job years and GVA were estimated for Caithness and Sutherland, the Highlands and Scotland as summarised in **Table 14.20**. These figures represent the value created in the economy resulting directly from expenditure in development and construction of the proposed Development

Table 14.20: Gross development and construction GVA and employment in job years by study area

Area	Caithness and Sutherland		Highlands		Scotland	
	Job years	GVA (£ million)	Job years	GVA (£ million)	Job Years	GVA (£ million)
Development	0	0	2.9	0.2	18	1.2
Turbines	0	0	11.9	0.6	56.6	3.1
Civil Works	10.7	0.6	58.7	3.4	80.1	4.6
Electrical Works	0.8	0.05	9.5	0.5	27.1	1.6
Solar	0	0	5	0.3	26.1	1.5
Total	11.5	0.7	88	5.1	207.8	12

*Totals may not add up due to rounding.

Net Employment and GVA Estimates

141. The focus in the assessment set out above has been on gross effects. In order to understand the potential net effects, it is necessary to take into account of a number of 'additionality' concepts. The estimation of net effects takes into account the following additionality factors:

- **Leakage:** is the proportion of project outcomes that benefit individuals or organisations located beyond the relevant area of impact. Leakage is generally higher at a local level, although it also varies by the nature of development type; and
- **Displacement:** is an estimate of the economic activity hosted by the Site that would be diverted from other businesses in the spatial impact area (e.g., Argyll and Bute). This again varies by the nature of development type. However, construction projects of relatively limited duration are usually regarded as having very little if any displacement impact.

142. With respect to leakage, local commuting data obtained from the 2011 Census (NOMIS, 2011) found that 95.7% of workers whose workplace was located in the Highlands were residents of THC area. Commuting data was not available for Caithness and Sutherland specifically so the same leakage factor will be used as the Highlands. The residual 4.3% workers were resident of other parts of the UK, almost all of whom reside elsewhere in Scotland.

143. These data have been used to calculate the following estimates for leakage:

- Caithness and Sutherland, and the Highlands: 4.3%; and
- Scotland: 1.1%.

144. The assumption used with regard to displacement is that displacement would be 5% for the local and regional study areas. Higher levels of displacement are assumed at national level (15%).

145. In addition to considering the effects of leakage and displacement, which act to reduce the value of the project within the local economy, consideration must be given to estimating the additional jobs and economic value that would be created in the local economy through the (positive) indirect and induced effects of subsequent rounds of direct expenditure in the economy. The assumptions used in this assessment with respect to multiplier values are consistent with Type I (indirect) and Type II (indirect and induced) values found in the latest Scottish Input-Output tables. Local and regional ratios have also been calculated for

Caithness and the Highlands using the method proposed by HIE in their City-Regio Deal report (2018). Caithness and Highland GVA and employment multipliers were set at 50% and 65% of the Scottish level respectively, to reflect the lower multiplier effects at local levels. The employment and GVA multipliers are shown in **Table 14.21**.

Table 14.21: Multipliers by study area and contract type

Item	Caithness and Sutherland		Highlands		Scotland	
	Type II Employment Multiplier	Type II GVA Multiplier	Type II Employment Multiplier	Type II GVA Multiplier	Type II Employment Multiplier	Type II GVA Multiplier
Development	1.25	1.3	1.325	1.39	1.5	1.6
Turbines	1.3	1.35	1.39	1.455	1.6	1.7
Civil Works	1.4	1.45	1.52	1.585	1.8	1.9
Electrical Works	1.4	1.45	1.52	1.585	1.8	1.9
Solar	1.4	1.45	1.52	1.585	1.8	1.9

146. The net employment and GVA effects represent the total impact during the construction and development phase. The total combined impact is shown in **Table 14.22** below. Net development and construction GVA and employment in job years by study area.

Table 14.22: Net development and construction employment and GVA impact

Area	Caithness and Sutherland		Highlands		Scotland	
	Job years	GVA (£ million)	Job years	GVA (£ million)	Job Years	GVA (£ million)
Development	0	0	3.4	0.2	22.6	1.6
Turbines	0	0	15	0.9	76	4.4
Civil Works	13.6	0.8	81	4.9	120.9	7.4
Electrical Works	1	0.06	13	0.8	40.9	2.5
Solar	0	0	6.9	0.4	39.4	2.4
Total	14.6	0.9	119.4	7.2	299.8	18.2

*Totals may not add up due to rounding.

147. It is expected that during the construction and development phase, the effect of the proposed Development would be '**Minor (Positive)**' in Caithness and Sutherland and the Highlands, and '**Negligible (Positive)**' in Scotland.

Wider Economic Benefits

Tourism Economy

148. The construction period is expected to last approximately 22 months and would benefit the local economy through expenditure on purchases of accommodation, food, drink, fuel, etc. that are needed to sustain the construction workforce. These beneficial effects would be experienced mainly by businesses within the tourism sector, or those that are partly dependent on tourism for their income e.g., the retail sector.

149. Anecdotal evidence received by the Applicant on other RED construction projects shows that local businesses such as accommodation providers welcome the enhanced level of occupancy that is achieved due to construction contractors using their accommodation on a year-round basis, including periods of the year that are traditionally considered 'low season'. The benefits of increased business, although temporary, can allow businesses to invest in improvements that would not otherwise be affordable, leading to a long-term enhancement.

150. The positive effects arising during the construction period are expected to more than offset any possible temporary losses to the tourism economy that may occur in the event that tourist visitors were deterred (for example, if holiday accommodation was in use by construction workers) during this phase.

151. Whilst overall effects on the tourism economy are considered to be **'Negligible'** and **'Not Significant'**, the benefits to individual businesses may be substantial and may indeed be significant. However, until such time as contracts are let it is not possible to identify the level of benefit to individual businesses.

Supply Chain

152. In terms of potential supply chain benefits, the proposed Development provides opportunities for the involvement of local, regional and Scottish suppliers in a range of activities, including research and development, design, project management, civil engineering, component fabrication / manufacture, installation and maintenance. There is expertise in all of these areas in the wider region, although a full wind energy supply chain covering all aspects of wind turbine component manufacture has not yet been developed within the region or indeed within Scotland as a whole. Scotland currently houses wind turbine manufacturing plants in Argyll and Bute, Fife, and in the Highlands respectively. Proposals are also emerging for the location and development of wind turbine manufacturing facilities, including those in and around the east coast, although these are currently primarily for offshore machines.

153. The key consideration in this context is that with an increasing number of windfarm schemes either operational, under development or having gained consent in Scotland, the commercial viability, and job prospects amongst Scottish firms has improved. Cluster benefits in the industry increase where firms are supported by the spending of other firms within the renewables sector. The net effect is to increase business and employment opportunities within Scotland's renewable energy sector, boosting the performance of local and national economies.

154. In addition, during the construction process there will be opportunities where those employed will develop skills that will be of benefit to the local economy and to local businesses in the longer term. Further, employment generated through the Development will contribute to diversifying the local economy and help support the retention in the area of the working age population. This is **'Not Significant'** in terms of the EIA Regulations.

155. The Applicant works with a variety of Tier 1 / Tier 2 contractors who are actively encouraged to develop local supply chains throughout the local area, and work with subcontractors to invest in training and skills development. The Applicant's recent experience of constructing Halsary Windfarm in Caithness means it has a good knowledge of the local supply chain. Additionally, the Applicant will consider different methods of engaging with local companies to brief them on the types of contracts being let during the lifetime of the proposed Development. This would be based on the experience of the Applicant's development, construction and operational teams, as well as the Principal Contractors. One method that would be considered is 'Meet the Developer / Contractor Days', which typically involve local companies (especially Small and Medium Enterprises (SMEs)) attending a locally-held event, to meet with representatives of the Applicant and Principal Contractors.

Enhancement Measures

156. Procurement of goods and services can have an important effect on the local economy. The potential level of expenditure calculated above shows that, for the proposed Development, local contract spend (within Caithness and the Highlands) could be approximately £9.7 million over the proposed Development (planning) period and 22 month construction period.

157. The Applicant is committed to employing good practice measures with regard to maximising local procurement and would adopt established good practice measures such as those set out in the Renewables UK Good Practice Guidance 2014: 'Local Supply Chain Opportunities in Onshore Wind' (RenewablesUK, 2014). The Applicant has a strong track record of developing onshore windfarms in Scotland, and experience from previous windfarm construction projects is that expenditure in local goods and services is widely spread and makes a difference to existing businesses.

158. Among the services that local contractors may be able to provide during the construction phase:

- felling;
- 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.

159. In terms of a quantitative assessment of effects, the provision of goods and services by local businesses has been taken into account in the assessment of employment and GVA estimates reported in the previous Section. At this stage in the development process it is not possible to quantify economic benefits in respect of individual supply chain companies, as contracts would not be let until consent is granted. However, it is evident from the Applicant's previous experience in Scotland (including the eight windfarms in south west Scotland subject of the BVGA report on economic benefits (BVG Associates, 2017) that suppliers of a wide range of goods and services locally and Scotland as a whole would obtain benefit from the proposed Development.

14.6.1.2 Potential Operational Effects Operational Expenditure (OPEX)

160. If the proposed Development is consented then when it is operational, a team of personnel to provide servicing, maintenance, repairs and other operational support, would be required. The Applicant will aim to employ these from within the local study area where possible.

161. The operation and maintenance impact of the proposed Development was estimated as the impact that would persist throughout the lifespan of the proposed Development. The application for the proposed Development does not specify a timeline for decommissioning (application is for consent in perpetuity). The long-term assessments of the operations and maintenance impacts have been assessed in this study over the first 40-year period.

162. Annual expenditure on operations and maintenance for the turbines and ancillary development was estimated based on analysis undertaken in the 2015 RenewableUK report, which stated that the weighted average cost was £59,867 per Megawatt (MW) per annum. It was estimated that the annual operations and maintenance expenditure associated with the proposed Development could be up to £3 million (which excludes community benefit funding and nondomestic rates). Over the first 40 years of operational life of the proposed Development this could amount to approximately £119.7 million. Annual expenditure on operations and maintenance for the solar array was estimated as £119,100 per annum⁷. BESS has not been included because it is a newer technology with limited deployment in the UK so there is not sufficient research into the related expenditure. Over the first 40 years of operational life of the proposed Development this could amount to approximately £4.8 million. The combined Opex per annum is £3.1 million and over the first 40 years of operational life the Opex is £124.5 million.

163. To estimate the economic impact of the operation and maintenance expenditure in each of the study areas it was first necessary to estimate the proportion of contracts that could be secured in each of these areas. These assumptions were based on BiGGAR Economics supply chain analysis presented in the Strathy South Windfarm EIA Report. On this basis it was estimated that Caithness and Sutherland could secure 16% of operation and maintenance contracts, the Highlands could secure 50% of contracts, and that Scotland could secure 80% of contracts. The estimated value of contracts per study area is shown in **Table 14.23**.

⁷ Based on analysis undertaken by Vartiainen et al (2019), which stated that the weighted average Opex cost for utility-scale solar developments in Europe was €9.2 per Kilowatt (KW) per annum. This has been converted to pounds (£7.93/KW as of 29/09/21) and multiplied by the capacity of the proposed solar array (15 MW).

Table 14.23: Annual operation and maintenance expenditure by study area

Item	Caithness and Sutherland		Highlands		Scotland	
	Cost (£millions)	% of item total	Cost (£millions)	% of item total	Cost (£millions)	% of item total
Operation and Maintenance	0.5	16%	1.6	50%	2.5	80%

Gross Employment and GVA Estimates

164. As with the construction phase, the contract values awarded in each of the study areas represent an increase in turnover in those areas. The economic impact of the increase in turnover on GVA and employment was estimated by using the Scottish Annual Business Statistics (2018) to calculate ratios of turnover to GVA and GVA per employee. It should be noted that GVA per employee data was calculated based on total number of employees and not Full Time Equivalent (FTE), a GVA to FTE ratio would be higher. Assessing employment effects using the GVA per employee ratio represents the worst-case scenario.

165. To accurately calculate GVA and job years it is necessary to categorise and then match OPEX to the relevant economic sector, using the industry sectors identified in the input-output tables. These have then been combined to create a weighted GVA and employment ratios. Assumptions were made regarding the percentage of Opex spend within each category base on the RenewablesUK report (2015). **Table 14.24** below shows the GVA and employment multipliers for each subcomponent and the weighted GVA and employment multipliers for the main components.

Table 14.24: GVA and employment ratios for operation and maintenance

Item	Turnover per employee (£)	GVA/ Turnover	% Spend
Turbine/Solar Maintenance	161,822	0.37	50
Site Maintenance	161,822	0.37	10
Operational Management	112,035	0.59	18
Land Agreements	112,035	0.59	22
Weighted Average	141,907	0.458	100

166. In this way, the turnover generated by the operation and maintenance of the proposed Development was calculated and is shown in **Table 14.25**.

Table 14.25: Annual operation and maintenance direct impact

Item	Caithness and Sutherland		Highlands		Scotland	
	Job Years	GVA (£ millions)	Job Years	GVA (£ millions)	Job Years	GVA (£ millions)
Operation and Maintenance	3.5	0.2	11	0.7	17.5	1.1

Net Employment and GVA Estimates

167. After the gross employment and economic impacts were estimated then the net impacts were estimated by incorporating additionality factors.

168. In order to convert gross employment and GVA estimates into net employment and GVA estimates, additionality factors were incorporated. Assumptions are needed for leakage, displacement and for the potential value of indirect and induced effects. For this project the following assumptions are used:

- **Leakages:** it is assumed that 4.3% of jobs benefit non-Caithness and Highlands residents and 1.1% would benefit non-Scottish residents. This assumption is based on Census 2011 commuting data for the Highlands.
- **Displacement:** it is assumed that displacement effects (e.g., jobs lost in other local businesses as a result of the project) are zero.

169. In addition to considering the effects of leakage and displacement, which act to reduce the value of the project within the local economy, consideration must be given to estimating the additional jobs and economic value that would be created in the local economy through the (positive) indirect and induced effects of subsequent rounds of direct expenditure in the economy. The assumptions used in this assessment with respect to multiplier values are consistent with Type I (indirect) and Type II (indirect and induced) values found in the latest Scottish Input-Output tables. Local and regional ratios have also been calculated for Caithness and the Highlands using the method proposed by HIE in their City-Region Deal report (2018). Caithness and Highland GVA and employment multipliers were set at 50% and 65% of the Scottish level respectively, to reflect the lower multiplier effects at local levels. A weighted average was then applied using the same percentage of spend assumptions as shown in **Table 14.24**. The employment and GVA multipliers are shown in **Table 14.26**.

Table 14.26: Employment and GVA multipliers by study area

Item	Caithness and Sutherland		Highlands		Scotland	
	Type II Employment Multiplier	Type II GVA Multiplier	Type II Employment Multiplier	Type II GVA Multiplier	Type II Employment Multiplier	Type II GVA Multiplier
Turbine/Solar Maintenance	1.35	1.25	1.455	1.325	1.7	1.5
Site Maintenance	1.35	1.25	1.455	1.325	1.7	1.5
Operational Management	1.25	1.25	1.325	1.325	1.5	1.5
Land Agreements	1.15	1.15	1.195	1.195	1.3	1.3
Weighted Average	1.288	1.228	1.3744	1.296	1.576	1.456

170. The net employment and GVA effects represent the total impact during the operational phase. The total combined impact is shown in **Table 14.27**.

Table 14.27: Net annual operation and maintenance direct and indirect impact

Item	Caithness and Sutherland		Highlands		Scotland	
	Job Years	GVA (£ millions)	Job Years	GVA (£ millions)	Job Years	GVA (£ millions)
Operation and Maintenance	4.3	0.3	14.4	0.9	27.3	1.6

171. Although the application for the proposed Development is for consent in perpetuity, the overall operational impacts of the proposed Development are assessed on the basis of a nominal 40-year operational period. This would generate GVA worth a cumulative total of £12 million in Caithness and Sutherland, £36 m in the Highlands, and £64 m for Scotland as a whole (values undiscounted).

172. It is expected that the effect on the economy of Caithness and Sutherland and the Highlands would be **'Negligible' (Positive)**, due to the scale of the regional economy as a whole. In Scotland, it is expected that the effect would also be **'Negligible' (Positive)**.

Embedded Mitigation

173. The Applicant would seek to secure positive benefits for the local economy by encouraging the use of local labour, manufacturers and suppliers where possible during the operational phase. The majority of jobs during the operational phase would be related to turbine/solar maintenance and civils maintenance works. The Applicant runs a graduate trainee scheme which lasts for two years and involves on the job training and placements in various parts/locations of the ScottishPower business including Renewables.

Proposed Mitigation

174. No significant effects have been identified in respect of socio-economic receptors arising from operation of the proposed Development and therefore no mitigation measures are required to reduce or remedy any adverse effect.

Residual Effects

175. As no significant effects have been identified, and no mitigation is required, residual effects would remain as no greater than moderate (adverse) and are considered to be **'Not Significant'**.

Community Benefit

176. The Applicant has contributed more than £43 million in community benefit funding to support initiatives and projects local to their onshore windfarm sites across the UK.

177. The community benefit package for the proposed Development may include benefits in-kind and a community benefit fund.

178. It is expected that any proposed income streams could provide a long-term revenue which could be used to support community projects within Caithness and the Highlands. The Applicant's flexible approach to community benefit empowers local communities as the decision makers about which projects and initiatives are of greatest value to them when deciding what the community benefit is spent on.

179. The Caithness Conversation (2013) was a research project that engaged with local communities within Caithness to understand how future community benefit funds could best benefit Caithness. The main priorities for investment were employment opportunities, social infrastructure, enhancing tourism opportunities and supporting the capacity of local groups and community-led enterprises. Regarding the administration of the community benefit the community responses emphasised the need for a transparent process and the preferred arrangements, in order, were for a 'Caithness organisation with dedicated support', 'locally by communities themselves' and by a 'Caithness organisation'. The report recommended the following principles:

- **Principle 1:** Some of the common issues affecting Caithness communities may be better addressed through a joined-up approach to community benefit.
- **Principle 2:** There doesn't need to be only one way of 'doing' community benefit or an 'exclusive' approach: a strategic, Caithness wide fund, possibly linked to particular themes would not necessarily diminish the need or ambition for 'local' funds to continue.
- **Principle 3:** An inclusive community-led approach to shaping and distributing community benefit is likely to increase its impact in Caithness.
- **Principle 4:** Improving co-ordination and support within and between communities could add value to the shape and structure of future community benefit funds.
- **Principle 5:** Community benefit arrangements for local and/or a Caithness wide fund may achieve greater longevity, legacy and impact if they draw in a range of expertise and knowledge from across different communities and sectors.
- **Principle 6:** Community benefit is an opportunity for the commitment and energy of the community sector to be harnessed & developed as part of a more vibrant, sustainable local economy.

180. To date, in THC area, Community Benefit of over £1,36 million has been paid out in relation to the Applicant's Beinn Tharsuinn Windfarm. Examples of projects/initiatives delivered by this funding:

- over £14,500 towards Broadband provision;
- almost £45,000 towards environmental improvements including floral displays/planters and benches;
- over £38,000 to various child/youth activities including kid's clubs, drama clubs, holiday/after school clubs and outdoor learning;
- over £5,000 to local secondary schools to compete in the annual nationwide 'Rock Challenge', an educational and aspirational performing arts competition for students;
- almost £10,000 towards various local heritage projects;
- £4,500 towards purchase of community minibus and £460 towards Midas training for drivers; and
- over £6,000 to purchase defibrillators and first responder kits.

181. Benefits would accrue from the scale and nature of the proposed income streams and, depending on the choices made, could have a positive effect on the provision and quality of local facilities, the general quality of life of local residents as well as other

economic benefits. The long-term nature of the income could allow the community to plan ahead; to draw in other sources of match funding to maximise the benefits; and to assist in the delivery of local initiatives that are deemed to be of the greatest value by the community.

182. Whilst these effects cannot be quantified at this stage due to uncertainty as to the quantum of funding that would be available to local communities and their choice of priorities, it is clear that the proposed community benefit package could offer real socio-economic benefits to the local community.

183. SPR have made a commitment to THC to provide £50,000 in funding to support the improvement of the electric vehicle network in the local community as part of the proposed Development.

Non-Domestic Rates

184. The proposed Development would be liable for non-domestic rates, the payment of which would contribute directly to public sector finances. According to analysis by BiGGAR Economics (2018) of the rateable values paid by several windfarms in the Highlands, the average rateable value per MW is £22,265. Given that the development will be up to 65 MW (not including BESS), it is estimated that the total rateable value will be £1.4 million.

185. Given a poundage rate of £0.518 per £1 of rateable value, it is estimated that the proposed Development could contribute up to £0.7 million annually to public finances, and contribute £30 million over the first 40 years of its operational lifetime. However, the actual contribution would depend on variables such as the actual load factor, and the potential for any relief from non-domestic rates.

186. These non-domestic rates, by providing an additional revenue stream, would support the delivery of local authority services across Scotland.

Effects on Visitor and Tourism Economy

187. The most comprehensive study of the potential effects of windfarms on tourism was undertaken by the Moffat Centre at Glasgow Caledonian University in 2008 (Glasgow Caledonian University/Moffat Centre, 2008). The study found that, although there may be minor effects on tourism providers and a small number of visitors may not visit Scotland in the future, the overall effect on tourism expenditure and employment would be very limited. This study is now about 10 years old, although a Scottish Government report confirmed the findings (ClimateXchange, 2012), and in that time windfarms have become a more common feature in Scotland. As such, it would be expected that any negative effects on the tourism economy would now be apparent.

188. In 2017 BiGGAR Economics undertook a study into the effects that constructed windfarms were having on tourism at the national, regional and local level (BiGGAR Economics, 2017).

189. Tourism employment was considered from 2009 to 2015, a six-year period over which Scotland and almost all local authority areas increased the number of windfarms, while employment in sustainable tourism also grew significantly. The analysis found no correlation between tourism employment and the number of turbines at the national or local authority level.

190. The study also considered the impact on employment at a smaller level, in data zones up to 15 kilometres from developments. The sites considered were constructed between 2009 and 2015. The study compared employment in 2009, when the sites did not exist, and 2015, when they were constructed, to measure of the effect of windfarms on local employment. This excluded construction impacts, such as windfarm related employees staying in local accommodation.

191. At the local authority level in these smaller areas, no link was found between the development of a windfarm and tourism related employment. In 21 out of the 28 areas considered employment in this sector grew. In 22 of the areas, employment either grew faster or decreased less than the rate for the relevant local authority area as a whole.

192. Overall, the conclusion of this study was that published national statistics on employment in sustainable tourism demonstrate that there is no relationship between the development of onshore windfarms and tourism employment at the level of the Scottish economy, at the local authority level, nor in the areas immediately surrounding windfarm development.

193. The findings of this research are in accordance with those of the Scottish Parliament's Economy, Energy and Tourism Committee in 2012 (Scottish Parliament Economy, Energy and Tourism Committee, 2012), when they concluded that there is no robust, empirical evidence of a negative link between windfarm development and tourism.

194. Overall, there is no research evidence that shows that negative effects on the tourism economy in Scotland as a result of windfarms is likely.

195. Within that overall context, the following assessment nevertheless considers whether there might be any specific effects on individual tourism assets. This considers whether the proposed Development could result in changes in the behaviour of tourists that might lead to effects on the tourism economy.

14.6.1.3 Summary of Socio-Economic Effects

196. The proposed Development would have **'Non-significant'** beneficial residual economic effects, including GVA and employment, during the construction and operational phases. There would also be **'Non-significant'** adverse residual effects on the visitor and tourism economy during the construction and operational phases.

14.6.2 Tourism, Recreation and Land Use

14.6.2.1 Tourism and Recreation Receptors

197. 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

Construction Works

198. There would be a direct impact to recreation caused by construction activities, which would restrict recreational activities within the application boundary. The offsite area of the application boundary includes sections of the NCN1 and NC500 which have **'High'** and **'Medium'** sensitivity respectively. Road improvement works may be required within the application boundary. The magnitude of impact on both receptors would be **'Negligible'** given that it that would cause minor disruption to road users and would be temporary and short term. This would create a **'Minor'** adverse effect on the NCN1 and a **'Negligible'** adverse effect on the NC500, both of which are **'Not Significant'**.

199. The Site is accessible via the general access rights granted under the Land Reform Act (Scotland) 2003 so the Site may be used for cycling, walking and horse riding; however, access to areas where construction is taking place or where there are construction related activities may be restricted. In accordance with the Construction (Design and Management) Regulations 2015 is a legal obligation for health and safety purposes. Notices will be placed in prominent locations around the Site outlining any areas of restricted access. Measures for ensuring public safety during construction will be set out in the Construction Environmental Management Plan (CEMP), an outline of which is provided at **Technical Appendix 3.1**, and periods of exclusion would be kept to the minimum necessary for safe working. The CEMP will set out measures to ensure that recreational users of the Site are informed of the construction work and directed into safe areas where there would be no conflict with plant and machinery. Such measures would be agreed in advance with the Council.

200. The magnitude of impact would be **'Negligible'** given that it would cause minor disruption and would be temporary and short term. It is considered that the Site is of **'Low'** sensitivity for recreation as it does not contain any paths or recreational facilities which are of importance at a local, regional or national level, and access to the neighbouring land will generally be available from other locations surrounding the Site. Additionally, it has been confirmed by the landowners that members of the public do not exercise their general access rights on the Site. Therefore, the direct effects on recreation during construction is considered to be a short-term **'Negligible'** effect, which is **'Not Significant'** in terms of the EIA Regulations.

201. There is a potential indirect impact on recreation caused by visual disturbance during the period of construction, which could affect amenity and enjoyment of nearby walks. The visual impacts of construction effects will be localised and temporary, as the construction works will only be detectable to route users for short periods along the route. There are nine core paths within the 5 km study area, the closest being the Mey Link (CA05.16), which is adjacent to the Site entrance. The Mey link is expected to be used predominantly by local residents so the receptor sensitivity is **'Minor'**. As the walking route has a **'Minor'** sensitivity and the magnitude is considered to be **'Low'**, the effects are considered to be short-term and **'Minor'**, and therefore **'Not Significant'** in terms of the EIA Regulations.

202. Indirect effects on other off-site resources such as the accommodation, mentioned in **Section 14.5.2.3**, are unlikely to be affected by the construction of the Development. Due to the intervening distance of these receptors from the Development and the screening provided by the forestry on the Site, it is considered that the magnitude of effect would not be **'Low'** and of **'Low'** sensitivity to construction effects. Therefore, this signifies a short term, **'Negligible'** adverse effect which is considered to be **'Not Significant'** in terms of the EIA Regulations.

203. Local shops, cafes, accommodation providers and hotels often experience an increase in turnover during the construction phase as they have opportunities to provide additional services to the developer and their contractors. The Development will result in a short term, beneficial effect at local level, resulting in a **'Minor'** effect, which is **'Not Significant'** in terms of the EIA Regulations. As stated throughout this Section, the effects of the construction phase of the Development will not have a significant effect on tourism and recreation receptors in accordance with the EIA Regulations.

Construction Traffic

204. An assessment of effects on road users and other sensitive receptors has been undertaken in **Chapter 12: Access, Traffic and Transport**. The assessment takes account of embedded good practice/mitigation measures to minimise impacts of construction traffic on road users, including users of nearby businesses. Additional mitigation in the form of a Construction Traffic Management Plan (CTMP) is proposed to actively mitigate the effects on vulnerable road users including cyclists and walkers. An outline CTMP is provided as **Technical Appendix 12.1: Draft Construction Traffic Management Plan**.

205. The purpose of the outline CTMP is to provide preliminary details of proposed traffic management measures and associated interventions that would be implemented during the construction phase of the proposed Development in order to minimise disruption and ensure safety. The outline CTMP would be supplemented with additional information as appropriate by the Principal Contractor, prior to commencement of construction activities. The CTMP would be used during the construction phase of the proposed Development to ensure traffic to, from and on the site is properly managed.

206. The Access, Traffic and Transport assessment concludes that, subject to the proposed mitigation measures, construction traffic and the transportation of abnormal loads would not have a **'Not Significant'** effect on community severance, road safety and vulnerable road users including walkers and cyclists.

Embedded Mitigation

207. The proposed Development, as described in **Chapter 3: Proposed Development**, incorporates good practice measures for limiting the adverse effects of the construction works. The principal potential effects arising from construction tend to relate to construction traffic affecting use of the local highway network and onsite tracks and forestry roads for recreational users. Measures are set out in **Chapter 3: Proposed Development** and also in **Chapter 12: Access, Traffic and Transport** relating to how delivery of goods and services would be managed during construction so as to minimise impacts on sensitive receptors. The proposed management measures would be further developed in the CEMP that would be adopted prior to construction commencing. An outline CEMP is provided in **Technical Appendix 3.1**.

Operational

208. Visual effects associated with the Development may occur at receptor locations when people are looking towards the Development and from locations where clear views of the turbines are available. The visual effects of the Development on tourism and recreational resources are assessed in **Chapter 7: Landscape and Visual Impact Assessment**. It should be noted that there is a distinction between a visual effect and a recreational amenity effect. Recreational amenity effects are described as effects that would influence the recreational value e.g., use or enjoyment of an asset such as a walking route.

Formal Tourism and Recreation Attractions

209. There are no potential direct impacts as there are no tourist attractions within the application boundary so only indirect impacts have been assessed. The impact on tourist attractions within 15 km of the Site has been considered. Based on a review of the findings of the assessment in **Chapter 12: Access, Traffic and Transport**, no significant effects are expected due to maintenance vehicles using the access road and Site as this would be on an occasional basis only. Potential indirect impacts that affect tourism amenity might result from visual impacts of the turbines during operation.

210. For the following tourist attractions within the study area it was considered that the potential visual effects were not likely to affect the main features, based on the descriptions provided by VisitScotland or their official websites, of the attraction: CoCo Chocolatier; Dunnet Bay Distillery; Puffin Croft Petting Farm; Watten Church of Scotland; and, John o' Groats Gallery.

211. The following tourist attractions may be impacted visually by the proposed Development in a way that affects their amenity: Dunnet Bay; Dunnet Head Nature Reserve; Castle and Gardens of Mey; Duncansby Head Lighthouse; John o' Groats Signpost; Castletown Heritage Society; Nybster Broch; and, Caithness Broch Centre. Surveys of the public's attitudes to windfarms provide no clear evidence that the presence of windfarms in an area has an adverse impact on local tourism (see **Section 14.5.2.5** of this Chapter). Local tourist attractions may have a particular sensitivity to visual effects; however, access to tourist facilities will be unaffected. Hence, even where significant visual effects are predicted, adverse effects of the operational phase of the Development will not have a significant effect on tourism receptors in accordance with the EIA Regulations.

Informal Tourism and Recreation Attractions

212. As was stated in **Section 14.6.2** above, no significant effects are expected due to maintenance vehicles using the access road and Site as this would be on an occasional basis only. This would apply to the NCN1 that bounds the north of the Site and the NC500 that travels through the wider study area.

213. The land within the Development, including the onsite access tracks, will be accessible to the public at all times of the year as per Section 1 and 2 of Land Reform Act (Scotland) 2003, but it is predicted that there will not be a change in onsite recreation. However, temporary exclusions may be needed, for health and safety reasons, during times where essential maintenance is required, as well as during routine forestry operations. Where these are required, clear signage advising of the restrictions will be provided. This will be similar to the current requirements for forestry operations. This would therefore represent a '**Low**' magnitude of effect on a '**Low**' sensitivity receptor, constituting long-term, '**Negligible**' adverse effect which is '**Not Significant**' in terms of the EIA Regulations

214. The visual effects on the following recreational routes were assessed as significant in **Chapter 7: Landscape and Visual Impact Assessment**: NCN1; NC500 (between Ratter and East Mey); the Gill's Bay to St Margaret's Hope Ferry; and, the Barrock to A836 via Rosegill (CA05.15) core path. Assessment of the socio-economic effects resulting from the findings of the landscape and visual assessment takes account of the fact that the visual experience forms only part of the experience for recreational users.

215. Studies undertaken in respect of other windfarm projects where users have been asked if the presence of turbines would discourage them from using a route have found that the majority would not be deterred. For example, an independent survey of tourists and day-trippers in the area around the proposed Clashindarroch Windfarm in Aberdeenshire (Gilmorton Rural Development, 2009) found that 84% of respondents did not feel that the proposed windfarm would have an impact on their willingness to revisit the area. The survey also found that there was no difference in the attitude of walkers to other visitors in relation to their willingness to revisit. Furthermore, the magnitude of impact for cyclists and horse riders may be less than for walkers as the speed of travel is likely to be faster and individual views are experienced for a shorter period of time. Even for users who find the presence of a windfarm detracts from their experience, this may simply manifest itself in users choosing not to linger in those sections of the route that have clear views of the windfarm.

216. It is expected that the Development would have a '**Negligible**' adverse impact on the behaviour of visitors/tourists using recreational routes, including core paths identified within the study area. Therefore, the effect assessed is considered to be '**Not Significant**' in terms of the EIA Regulations.

Accommodation

217. There would also be some '**Minor**' beneficial effects on local businesses within the study area arising from expenditure on goods and services by staff and suppliers visiting the proposed Development. This is expected to benefit local shops, food and drink businesses, and accommodation providers. Although the expenditure would be intermittent and is difficult to quantify, the benefit would be enhanced by the fact that workers visiting the proposed Development would do so all year round, unlike tourism expenditure which tends to be seasonal.

Embedded Mitigation

218. The proposed Development, as described in **Chapter 3: Proposed Development**, incorporates good practice measures for limiting the adverse effects of the construction works. The principal potential effects arising from construction tend to relate to construction traffic affecting use of the local highway network and onsite tracks and forestry roads for recreational users. Measures are set out in **Chapter 3: Proposed Development** and also in **Chapter 12: Access, Traffic and Transport** relating to how delivery of goods and services would be managed during construction so as to minimise impacts on sensitive

receptors. The proposed management measures would be further developed in the CEMP that would be adopted prior to construction commencing. An outline CEMP is provided in **Technical Appendix 3.1**.

Proposed Mitigation

219. No significant effects have been identified in respect of socio-economic receptors arising from operation of the proposed Development and therefore no mitigation measures are required to reduce or remedy any adverse effect.

Residual Effects

220. Allowing for the implementation of the embedded mitigation such as the good practice construction measures contained in the CEMP, no residual adverse effects are expected.

Enhancement Measures

221. The Applicant has consulted with THC regarding potential partnership on an electric vehicle infrastructure project. It is the Applicant's desire to deliver enhancement measures that will benefit the local community, the characteristics of the proposed Development, and the location of the Site. It was considered that helping to expand the electric vehicle (EV) infrastructure network within the surrounding area offered the best potential. This supports the national vision, stated in Scotland's tourism strategy, 'Scotland Outlook 2030: Responsible Tourism for a Sustainable Future' (2020), for a sustainable tourism offering for the future, and the local EV strategy, outlined in the Electric Vehicle Infrastructure – Strategic Control Plan (2021), to create Scotland's greenest transport system. The Applicant has committed to provide £50,000 of funding to support the improvement of the electric vehicle network as part of the proposed Development. The drive to improve the electric vehicle infrastructure network would benefit locals and tourists alike.

14.6.2.2 Land Use

222. The Site comprises partly privately-owned commercial forest and agriculture. Commercial forestry is not regarded as a receptor for EIA purposes. Effects of the proposed Development for felling, restocking and forest management practices will be described in the forestry chapter, as will the approach to compensatory planting in **Technical Appendix 15.1: Forestry**.

223. Ongoing agricultural activities within the Site and the surrounding area, such as the grazing of livestock may be temporarily affected during the construction phase of the Development. The Applicant will work with the farmer to ensure that they are able, wherever possible, to continue their agricultural activities safely during construction of the Development.

224. The land-use is considered to be a '**Low**' sensitivity receptor as it is not widely used by the public. Public access under the Land Reform Act (Scotland) 2003 would be impacted temporarily to a '**Negligible**' degree during construction and there would be no permanent impact during operation. Therefore, the effect is '**Not Significant**'.

225. The proposed Development will not have any significant effects on land-use receptors in accordance with the EIA Regulations.

Proposed Mitigation

226. No significant effects have been identified in respect of land use receptors arising from operation of the proposed Development and therefore no mitigation measures are required to reduce or remedy any adverse effect.

Residual Effects

227. As no significant effects have been identified, and no mitigation is required, residual effects would remain as no greater than '**Negligible**' (adverse) and are considered to be '**Not Significant**'.

14.7 Cumulative Assessment

228. There is potential for cumulative effects to arise in relation to the construction of a number of prospective or consented projects as described in **Chapter 5: EIA Process and Methodology** should the construction phases overlap with the proposed Development. There are a number of windfarms within the 10 km of the Site, either consented or in the planning process, as set out in **Table 14.28**.

Table 14.28: Cumulative windfarm sites

Windfarm	Status of Windfarm	Approximate Distance to proposed Development (nearest turbine)
Lochend	Operational	0.8 km to the west
Stroupster	Operational	3.8 km to the south east
Taigh Na Muir Dunnet	Operational	4.1 km to the north west
Slickly	Application	2.6 km to the south east

229. The greater the capacity of consented and constructed developments in the area, the more likely it is that the local area can benefit from supply chain opportunities. Additionally, it is likely that operations and maintenance operations of the Development will be based locally as there would be enough opportunities locally to employ full time local employees and companies however, **'Not Significant'** in terms of the EIA Regulations.

14.7.2 Socio-Economics

230. Regional socio-economic effects have been defined as at the scale of Highlands. The beneficial socio-economic effects associated with the Development would be increased and prolonged as a result of the construction and operation of cumulative windfarm developments, benefiting both the construction and energy generation sectors. However, even with the addition of the Development, the combined effect with other windfarms would be considered unlikely to lead to a fundamental change in economic activity within Highlands. This is considered to be **'Not Significant'** in the context of this EIA, in terms of the EIA Regulations. The potential exists in the future, should a large enough number of windfarms be consented in the area, for job creation to occur to support the industry. However, at a regional level, the sustaining of jobs, in construction in particular, is considered to be **'Not Significant'**.

231. A review of existing evidence on the relationship between windfarms has found little evidence of a negative impact and an assessment of effects on local tourism assets and recreational routes indicates that there are likely to be no significant adverse effects on local tourism. On this basis, it seems unlikely that there would be cumulative effects on the local tourism economy. Therefore, the cumulative effect on the tourism economy was assessed as **'Negligible'**.

14.7.3 Tourism and Recreation Effects

232. Cumulative visual effects on outdoor recreational and tourism facilities resulting from the Development in conjunction with other windfarms in the study area are assessed in **Chapter 7: Landscape and Visual Impact Assessment** of this EIA Report.

233. Cumulative effects on the amenity of tourism and recreation receptors during operation are strongly linked to visual effect. As set out in **Section 14.6.3**, there is no evidence that tourism is adversely impacted by windfarms.

234. In the Highlands, the region has seen large increases in wind turbine developments in the last decade, with 617.5 MW growth in installed capacity between 2009 and 2015 within the region. This trend is mirrored across Scotland, with 8.4% growth in onshore wind installed capacity between 2017 and 2018.

235. Despite the increased installation of onshore wind capacity in the Highlands and Scotland, tourism has also risen over the same period. For example, the NC500 attracted 29,000 more visitors to the north Highlands within its first year of operation (2015-2016) despite the deployment of more onshore wind developments.

236. It is assessed that windfarm development does not have a noticeable effect on tourism, and no cumulative effects from the Development are anticipated.

14.7.4 Land Use

237. Given the amount of grassland and forested areas available in the Highlands, windfarms generally have a very small footprint. As stated in **Chapter 3: Proposed Development**, it is estimated that the permanent footprint of the proposed Development

infrastructure following completion of construction would be approximately 33.25 ha⁸, equating to approximately 2.9% of the total land in the Site.

238. The amount of permanent felling that would be required for the proposed Development infrastructure has been minimised through embedded mitigation measures, such as keyhole felling (see **Chapter 15: Other Issues** for more details) resulting in a felling area of 24.3 ha. In addition, there would be a further 88.4 ha of permanent felling required for the habitat management plan resulting in a total felling area of 112.7 ha. The remaining existing commercial forestry land use would continue during the operation of the proposed Development.

239. The cumulative effects of windfarms during construction and operation are considered to be of **'Negligible'** magnitude, for a receptor of **'Low'** sensitivity as impacts are mostly located in poor quality upland areas. This is a resultant **'Negligible'** effect, and therefore, **'Not Significant'** in terms of the EIA Regulations.

14.8 Conclusion

240. This Chapter has considered data from a diverse range of sources to determine the likely effects of the proposed Development on the local economy and land use, together with local effects on tourism and recreation assets. The potential effects on the economy and identified assets take account embedded mitigation, such as good practice measures to be adopted. All of this has been considered in the context of current employment in and regeneration activities, land use, the proposed location of the proposed Development and its relationship with recreational facilities and tourism attractors.

241. In addition, renewable energy and economic development policies for Scotland, THC and Caithness are supportive of renewable energy developments within Caithness. The proposed Development will be situated with the Dounreay Travel to Work Area which has been created to enable a range of economic regeneration activities to mitigate against the impact of the Dounreay Decommissioning.

242. No specific mitigation requirements have been identified and, therefore, residual effects of the proposed Development are effectively the same as the predicted effects. Predicted adverse and beneficial effects have been assessed as **'Not Significant'** during both the construction and operational phases.

243. The overall conclusion of this Chapter is that the proposed Development will bring overall positive socio-economic impact to the Wick and East Caithness ward and wider Caithness area with no adverse effect on the recreation or the tourism economy in the immediate area. This conclusion is based on the following key findings:

- the Applicant is committed to ensuring that the community benefit package from the proposed Development brings direct benefit to the local area and its residents, such as the provision of funding for the electric vehicle network;
- the proposed Development is not located close to key tourist attractions or tourist routes and presents limited visual impact for these attractions and routes;
- the area has been adversely impacted by Dounreay decommissioning and there is a pressing need to attract new opportunities to mitigate against this declining industry; the proposed Development would be located in an area of commercial coniferous forestry which would mean that there is no direct loss of local amenity from the development of the site (impacts on forestry have been considered fully in **Chapter 15: Other Issues**); and
- the proposed Development would bring economic opportunities for local businesses through construction and into operation through direct employment. Additionally, there would be indirect and induced economic opportunities. It is predicted that the proposed Development would generate net £0.9 GVA and 14.6 person years of employment during development and construction and net £0.3 GVA and 4.3 person years of employment per annum during operation within the local community. This could assist in the strategic aim of transitioning away from the locality's reliance on Dounreay decommissioning work for employment. The proposed Development would also generate net £18.2 GVA and 299.8 person years of employment during development and construction and net £1.5 GVA and 27.3 person years of employment during operation at a national level. This aligns with national policy goal, set out in the Government's

⁸ This is a worst-case estimate based on the total footprint of all of the proposed infrastructure, including the areas identified for the solar array and potential borrow pits. Total land-take would likely be less.

Programme for Scotland 2021-22 and SESPS (2021), to achieve a green economic recovery with new green jobs at the heart of this.

14.9 Statement of Significance

244. All effects and the proposed mitigation measures are presented in **Table 14.29**.

Table 14.29: Summary of effects

Description of effect	Significance of potential effects		Mitigation/Enhancement measure	Significance of residual effect	
	Significance	Beneficial / Adverse		Significance	Beneficial / Adverse
Construction effects					
Economic	Not Significant	Beneficial	Encouraging the use of local labour, manufacturers and suppliers where possible during the construction phase	Not Significant	Beneficial
Tourism Economy	Not Significant	Adverse	N/A	Not Significant	Adverse
Tourism and Recreation	Not Significant	Adverse	Adherence to good practice measures as outlined in the outline CEMP (Technical Appendix 3.1)	Not Significant	Adverse
Land Use	Not Significant	Adverse	N/A	Not Significant	Adverse
Operational effects					
Economic	Not Significant	Beneficial	Encouraging the use of local labour, manufacturers and suppliers where possible during the operational phase	Not Significant	Beneficial
Tourism Economy	Not Significant	Adverse	Community benefit	Not Significant	Adverse
Tourism and Recreation	Not Significant	Adverse	<ul style="list-style-type: none"> Adherence to good practice measures as outlined in the outline CEMP (Technical Appendix 3.1) The Applicant has committed to providing £50,000 of funding to THC for improvements to the electric vehicle charging network. 	Not Significant	Adverse
Land Use	Not Significant	Adverse	N/A	Not Significant	Adverse
Cumulative effects					

Description of effect	Significance of potential effects		Mitigation/Enhancement measure	Significance of residual effect	
	Significance	Beneficial / Adverse		Significance	Beneficial / Adverse
Direct Economic	Not Significant	Beneficial	N/A	Not Significant	Beneficial
Wider Economic	Not Significant	Beneficial	N/A	Not Significant	Beneficial
Tourism and Recreation	Not Significant	Adverse	N/A	Not Significant	Adverse
Land Use	Not Significant	Adverse	N/A	Not Significant	Adverse

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