

CONTENTS

INTRODUCTION	14-1
SCOPE AND CONSULTATION	14-1
Consultation and Scoping Responses	14-1
Effects Scoped Out	14-5
APPROACH AND METHODS.....	14-5
Study Area	14-6
Information and Data Sources.....	14-6
Field Surveys.....	14-6
Assessment Methods.....	14-6
Assumptions, Limitations and Confidence.....	14-12
BASELINE CONDITIONS	14-12
Wider Study Area.....	14-12
Local Area of Influence	14-18
Tourism.....	14-21
ASSESSMENT OF EFFECTS.....	14-22
Construction Effects	14-22
Operational Effects.....	14-29
SUMMARY OF PREDICTED EFFECTS	14-33
STATEMENT OF SIGNIFICANCE	14-34
REFERENCES	14-35

INTRODUCTION

- 14.1 This Chapter assesses the potential impacts that the proposed development may have on the socio-economics and land use of the area/region it would be located, including the effects on recreation and tourism. Effects are also considered within the rest of Scotland and the UK, where relevant.
- 14.2 The impacts on socio-economics may come as a result of direct or indirect interaction between the proposed development and the socio-economics and land use of the area/region, where the interactions could be positive or negative.
- 14.3 Socio-economic impacts during the construction phase of the proposed development include the temporary creation of employment opportunities, and potential adverse effects on recreational and tourism receptors.
- 14.4 Once operational, impacts on the local labour market arising from operation and maintenance jobs would be more limited. However, there is potential for further long-term socio-economic benefits to the community, which would result from the proposed shared ownership scheme, community benefit fund payments, near neighbours electricity discount scheme, Octopus Energy 'Fan Club', and the enhancement of access routes. There is also the potential for adverse effects during the operational phase on tourism and recreation assets.
- 14.5 This Chapter is accompanied by **Technical Appendix 14.1: Accommodation Assets**. This Chapter is supported by **Figure 14.1**.
- 14.6 Planning policies of relevance to this assessment are provided in **Technical Appendix 4.1: Legislation, Planning Policy and Guidance**.

SCOPE AND CONSULTATION

Consultation and Scoping Responses

- 14.7 The assessment uses desk-based information sources to assess the likely effects, supplemented by consultation with stakeholders where necessary. Information to inform the baseline has been sought from various sources, including:
- The Highland Council;
 - Scottish Government's Energy Consents Unit (ECU);
 - Melvich Community Council;
 - NatureScot;
 - RSPB Scotland;
 - SEPA; and

- Visit Scotland.

14.8 Any consultation has three key objectives:

- to verify published information;
- to identify potential effects; and
- to help assess significance of potential impacts.

14.9 Consultation with stakeholders has principally been conducted by way of the request for a Scoping Opinion, as described in **Chapter 6: Scoping and Consultation**. This, together with additional communication on access issues, is summarised in **Table 14-1**.

Table 14-1: Consultation Responses – Key Issues

Consultee	Summary of Key Issues	Where Addressed in Chapter
Energy Consents Unit, Scoping Opinion, 25 May 2021	<p><i>“The EIAR should estimate who may be affected by the development, in all or in part, which may required individual households to be identified, local communities or a wider socio economic groupings such as tourists and tourist related businesses, recreational groups, economically active, etc. 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.</i></p> <p><i>Estimations of who may be affected by the development, in all or in part, which may required individual households to be identified, local communities or a wider socio economic groupings such as tourists and tourist related businesses, recreational groups, economically active, etc should be included. 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. In this regard wind farm 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, not just the national economy. Any mitigation proposed should also address impacts on the regional and local economy.”</i></p>	Baseline conditions of the WSA begin from Paragraph 14.46, and the LAI begin in Paragraph 14.71. and assessment of the effects on socio-economics, tourism, recreation and land use effects are addressed from Paragraph 14.98.
	<p><i>“The site is on land with access rights provided by the Land Reform Scotland Act. 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 operational phases.”</i></p>	A baseline for the current levels of accommodation is given from Paragraph 14.95.

Consultee	Summary of Key Issues	Where Addressed in Chapter
	<p><i>“While the Scoping Report and an eventual EIA may include impacts on elements of outdoor access assessed under other headings it is considered that all the impacts on outdoor access should all be brought together here in a comprehensive assessment of the proposals visual and physical impacts on outdoor access during the preparatory, construction, operational and post-operational phases. Those impacts, along with the mitigation measures, will inform an Outdoor or Access Management Plan which should be submitted with an application as per the requirements of HwLDP Policy 77 Outdoor Access. If not, it the Council will ask for a suspensive condition requiring that one be submitted to and approved in writing by the Planning Authority prior to any work starting on site.</i></p> <p><i>Considering the potential for this proposal to have significant negative visual and physical impacts on many forms of outdoor access across all phases of the development it is recommend a similarly significant range of mitigation measures.</i></p> <p><i>Other forms of mitigation will include the accommodation and management of public access across the site in order to minimise any potential negative impacts and maximise benefits to outdoor access. For example all existing paths like core paths, public rights of way or Long Distance Routes should be accommodated before, during and after construction and any damage done to their surfaces be protected and/or repaired at regular intervals throughout an extended construction period and reinstated on or by completion of the project to the satisfaction of those managing those routes.”</i></p>	
The Highland Council – Scoping – 25/05/21	<p><i>“The EIAR 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 (SG). Particular attention should be paid to the provisions of the Onshore Wind Energy SG (OWESG) inclusive of any Landscape Sensitivity Appraisal. This is not instead of but in addition to the expectation of receiving a Planning Statement in support of the application itself which, in addition to exploring compliance with the Development Plan, should look at Scottish Planning Policy and Planning Advice Notes which identify the issues that should be taken into account when considering significant development. Scottish Government policy and guidance on renewable energy and wind energy should be considered in this section. The purpose of this chapter is to highlight relevant policies not to assess the compatibility of the proposal with policy.”</i></p>	Land use baseline is described from Paragraph 14.71, with the assessment beginning on Paragraph 14.121.
British Horse Society – Scoping – 20/04/21	<p><i>“The British Horse Society (BHS) is always pleased to be consulted on transport, planning and development matters and where possible or necessary we are able to engage local riders to get a locally based response. Thank you very much for consulting with us, horses are important and good for people so their safety and capacity to access safe off road hacking is a key consideration in terms of their welfare and the wellbeing of their riders and those who look after them.</i></p> <p><i>A project, like the one you are carrying out is an excellent opportunity to improve connections in a community and hopefully resolve any problems in terms of countryside access, transport and travel.</i></p>	Access and road safety addressed in the CEMP.

Consultee	Summary of Key Issues	Where Addressed in Chapter
	<i>The BHS is here to help, so please do not consider this response the final word, we hope to work with you on an on-going basis to ensure horses and horse riders get as good a deal as they can out of any proposed improvements, so please do not hesitate to contact us in the future."</i>	
John Muir Trust – Scoping – 28/04/21	No comment at this time, intends to comment at the application stage	-
Scottish Rights of Way and Access Society – Scoping – 28/04/21	No comment at this time, intends to comment at the application stage.	-
The Highland Council – Gatecheck 1 – 01/02/22	<i>"As per the pre-application advice, given that there are core paths and public rights of way that will be affected by this proposal, it would be prudent to prepare an outline Access Management Plan at the same time of preparing the Habitat Management Plan for the site, presenting an integrated approach at the application stage. In considering the public access resource created by development, the recent inclusion of additional land to the south brings turbines and their access track closer to the core path at Upper Bighouse. The possibility of introducing a short connection to create an alternative upper route through the strath should therefore be explored further with the Council Access Officer"</i>	An Access Management Plan will be prepared prior to construction commencing, as part of the Construction Environmental Management Plan. The impact on the Core Path is addressed in Paragraph 1.167.

- 14.10 Engagement with the local community has been a key element of the pre-application consultation exercise. **Table 14-2** outlines the engagement that has been undertaken with the local community regarding the proposed development.

Table 14-2: Community Engagement

Date	Exercise
18 & 23 March 2021	First contact with Community Councils advising of project
24 May 2021	Presentation by Wind2 to Caithness West Community Council via zoom
27 May 2021	Presentation by Wind2 to Melvich Community Council via zoom
28 July 2021	Kirkton Energy Park Website went live.
October 2021	First public exhibition held: Strathy Village Hall, Wednesday, 6 th October 2021 (3.00pm – 7.00pm)

	Advertised through newspaper adverts, emails to community councils and leaflets sent to residents (approximately 540) within an approximate area of 10km around the site.
March 2022	Second public exhibition (virtual) held on 16/03/22. The virtual exhibition has remained 'live' since first launch on 16/03/22 and is available for the public to view. The virtual exhibition will remain 'live' through to submission of the Section 36 application. Advertised through newspaper adverts, emails to community councils and leaflets sent to residents (approximately 540) within an approximate area of 10km around the site.
12 April 2022	Online meeting with Melvich Community Scottish Charitable Incorporated Organisation (SCIO)
18 May 2022	In person meeting in Melvich with Melvich SCIO

- 14.11 An 'in person' public exhibition took place on 06 October 2021. This gave the public an opportunity to learn about the proposed development through information boards and visualisations. The attendees were encouraged to take part in the discourse, highlighting any perceived benefits or issues with the proposed development. The feedback given was taken account of in the design of the proposed development.
- 14.12 A further public exhibition was held virtually on 16 March 2022. This exhibition was to show the local community the 'nearly final' design of the proposed development and provide further information on topics that generated questions/discussion in the first public exhibition.

Effects Scoped Out

- 14.13 As the construction phase of the proposed development would be relatively short term (approximately 18 months) it is not expected that construction workers from outside the Wider Study Area (WSA) would have a significant effect on the demand for housing, health or educational services. Effects on demand for such community services are therefore scoped out.
- 14.14 Recreational activities beyond the boundaries of the site are scoped out unless they are promoted regionally/nationally and are therefore likely to draw in visitors from outside the area.
- 14.15 Land use effects during the operational phase are scoped out. The operation of the proposed development would have minimal effect on agriculture as the current grazing activities occurring on the proposed site would be able to continue.

APPROACH AND METHODS

- 14.16 This Chapter takes an appropriate and topic-specific approach to the assessment of the proposed development. It provides a worst-case or conservative assessment for socio-economic effects and presents enough information for consultees and the decision makers to comment on and determine the application within the parameters of the proposed development.

Study Area

14.17 A two-tiered study area has been used for the assessment, which has been defined as the following:

Wider Study Area (WSA)

14.18 The WSA is intended to encompass the area within which significant effects on employment and the local economy, including the tourism economy, could occur. The WSA is required for certain receptor groups because the majority of the business and labour market effects that could occur would be experienced by population and business centres located across a wide area. The WSA area is primarily set at the THC administrative area, but effects are also considered within the rest of Scotland and the UK where relevant.

Local Area of Influence (LAI)

14.19 The LAI forms the focus for assessment of both direct and indirect effects on those receptors that are likely to experience effects at a more local level, particularly recreation and tourism assets. The LAI for such projects is generally defined by the site together with an area extending to 5km from the application boundary. A 5km LAI for the proposed development encompasses the communities of Melvich and Portskerra, and extending down Strath Halladale to Trantlebeg.

Information and Data Sources

14.20 The assessment uses desk-based information sources to assess the likely effects, supplemented by consultation with relevant stakeholders where necessary, and professional judgement based on previous experience. Sources have been identified in citations throughout, and a complete schedule of data sources referred to in undertaking this assessment is contained in a reference list at the end of the Chapter.

Field Surveys

14.21 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 **Chapter 7: Landscape and Visual**.

Assessment Methods

14.22 **Chapter 5: Environmental Impact Assessment** provides an overview of the approach to assessment and explains the parameters being assessed in the EIA. Chapter 5 also sets out the information on cumulative sites, and the approach to assessing cumulative effects.

14.23 There are no published standards or technical guidelines that set out a preferred methodology for assessing the likely socio-economic effects of an onshore wind farm proposal. However, there is a series of commonly used methodologies for such an assessment, including recognised approaches to quantifying economic effects both during the construction of a development and following its completion, that have been widely used in other major projects. These have been adopted here and are described below.

- 14.24 The approach to the socio-economic assessment is presented in two parts, addressing both the construction phase aspects of the proposed development and the longer-term economic effects once the proposed development is built and operational.

Assessment of likely effects on the WSA

- 14.25 This part of the assessment comprises a quantitative analysis of the likely direct, indirect and induced effects of the proposed development on the WSA (as defined in Paragraph 14.18) in terms of investment, employment, additional Gross Value Added (GVA)¹ and contribution to the labour market.
- 14.26 The employment effects that are attributable to the proposed development are divisible into three components. These are:
- **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 Kirkton Wind Farm Ltd or the appointed Contractor (or sub-contracted 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 and other ripple effects that occur as a result of direct and indirect effects of the proposed development.
- 14.27 Construction phase job creation and investment have been assessed through the use of employment estimates provided by the applicant and the estimated construction elements categories within which these jobs would fall. The assessment addresses the potential effects of the proposed development to the labour market and the local supply chain and economic output in terms of GVA. The estimate for construction phase GVA is calculated using the latest regional estimates for the average yield of GVA per worker for the construction and civil engineering sector in the Highland council area, obtained from the Office of National Statistics (ONS).
- 14.28 Information gathered from the baseline data review has been used to develop a quantitative economic model which includes direct, indirect and induced effects of the development.
- 14.29 In the case of operational phase effects, quantitative economic modelling has been undertaken based on information regarding likely creation of permanent jobs based on experience of similar projects and expenditure projections provided by the applicant. As well as direct job creation (e.g. facility management and maintenance), the assessment models indirect and induced job effects

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

(i.e. supply chain jobs and multiplier effects; and jobs arising from investment of funds from the shared ownership scheme and community benefit fund).

Assessment of the likely effects on the LAI

- 14.30 The proposed development may have direct and indirect effects on tourism and recreation receptors within the LAI. This part of the socio-economic assessment comprises a qualitative assessment of the effects of the proposed development on receptors within the LAI including land use, recreational paths and long-distance routes, and tourist attractions, including beaches.
- 14.31 This Chapter assesses the significance of the likely socio-economic effects of the proposed development based on the magnitude of the impacts and the sensitivity of the receptor groups. The following sections set out the criteria for establishing magnitude of impact and sensitivity of the receptors.

Sensitivity of Receptor

- 14.32 There are no published standards that define receptor sensitivity in relation to a socio-economic assessment. As a general rule, 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. For example, a receptor (such as a public footpath or an accommodation 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).
- 14.33 Based upon professional judgement and experience on other large-scale projects, four levels of sensitivity have been used: high; medium; low; and negligible. These are defined in **Table 14-3**.

Table 14-3: Sensitivity Criteria

Sensitivity	Description
High	<p>The receptor:</p> <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 value²; or • is of national or international importance; or

² Which may include being of high value to a user group of high sensitivity (e.g. mobility impaired users)

	<ul style="list-style-type: none"> • 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	<p>The receptor:</p> <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	<p>The receptor:</p> <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	<p>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.</p>

14.34 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 will 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, although this may not be the case for all receptors.

Magnitude of Impact

14.35 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
WSA 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.
WSA labour market	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.
WSA 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 recreation assets	An impact that would be expected to cause a major restriction of access to or availability of tourism and visitor assets in the LAI 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 LAI 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 LAI 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 LAI.
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.

Potential Effects

- 14.36 The level of effect of an impact on socio-economic and land use receptors is initially assessed by combining the magnitude of the impact and the sensitivity of the receptor. The level of effects presented in **Table 14-5** provides a guide to the decision-making process.

Table 14-5: Level of effects matrix

Sensitivity or Value of Resource or 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

- 14.37 Effects may be positive (beneficial) or negative (adverse). 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.
- 14.38 The level of effects matrix shown in **Table 14-5** therefore provides a guide to decision making but is not a substitute for professional judgement. Impacts and effects can be beneficial, neutral or adverse and these would be specified where applicable. It should be noted that significant effects need not be unacceptable or irreversible.

Potential Cumulative Effects

- 14.39 In relation to economic effects, cumulative effects depend on the extent to which the supply chain and labour market within the WSA have the capacity to meet demand for construction services from a number of similar projects. An assessment has been made as to whether it is considered likely that the cumulative effect indicates a loss of benefit as a result of cumulative projects, or an enhancement of opportunity which would help to develop expertise and capacity in the market. The cumulative effects assessment is able to make a quantitative judgement on potential loss of benefit due to cumulative projects. Enhancement of opportunity is identified only in qualitative terms.
- 14.40 Other cumulative effects may arise if the construction and/or operation of a number of wind farms were to affect receptors in the LAI.

Mitigation

- 14.41 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

- 14.42 A statement of residual effects, following consideration of any specific mitigation measures, is provided.

Statement of Significance

- 14.43 The assessment approach is to describe the baseline conditions, to identify likely effects from construction and operation of the proposed development, consider the sensitivity of receptors, and then to assess the likely significance of any effects. Any adverse effects considered to be 'significant' are further considered with regard to bespoke mitigation measures and residual effects following mitigation are then identified.
- 14.44 Any significant effects that would be direct, indirect, secondary, cumulative, short, medium and long term, permanent or temporary are examined and their significance assessed. These effects are identified as being positive or negative.

Assumptions, Limitations and Confidence

- 14.45 Assumptions used in the assessment are stated where relevant and are set out in such a way as to be as transparent, evidence-based and as accurate as possible. No particular limitations were noted with regard to the assessment of socio-economic and land use effects.

BASELINE CONDITIONS

- 14.46 The proposed development is situated within Strath Halladale, in the Scottish Highlands, within the THC administrative boundary. The area around Strath Halladale is characterised by sweeping hills, peat bogs and sheep grazing, and tourism is an important contributor (Tourism Leadership Group, 2018) to the Highland economy.
- 14.47 The site itself is located across two working farms, on land which is predominately used for grazing and forestry, and is approximately 2.1km to the south of the settlement of Melvich, in Sutherland. The proposed development would be located to the west of the Halladale River, with the Strathly North Wind Farm, which comprises 33 wind turbines (110M tip height), located approximately 4.47km to the west of the site.
- 14.48 The application also includes two areas beyond the main site itself, shown on **Figures 3.2a and 3.2b**, for the turning of abnormal loads. These two areas would be located off the A836, one in Melvich and one would further west, however, only one of these would need to be constructed to accommodate the turning of abnormal loads associated with the proposed development.
- 14.49 Although the tourist and recreational activity in the area is relatively quiet compared to other parts of the north coast, such as Thurso and John o' Groats, the A897 runs parallel to the eastern boundary, and provides access to the site. The A897 intersects part of the iconic Scottish NC500 (North Coast 500), the A836, which further connects the proposed site to the wider road network.

Wider Study Area

- 14.50 A baseline review of population and employment has been undertaken which focuses on the WSA (THC administrative area), although data for Scotland and the UK/Great Britain are provided for comparison as appropriate.

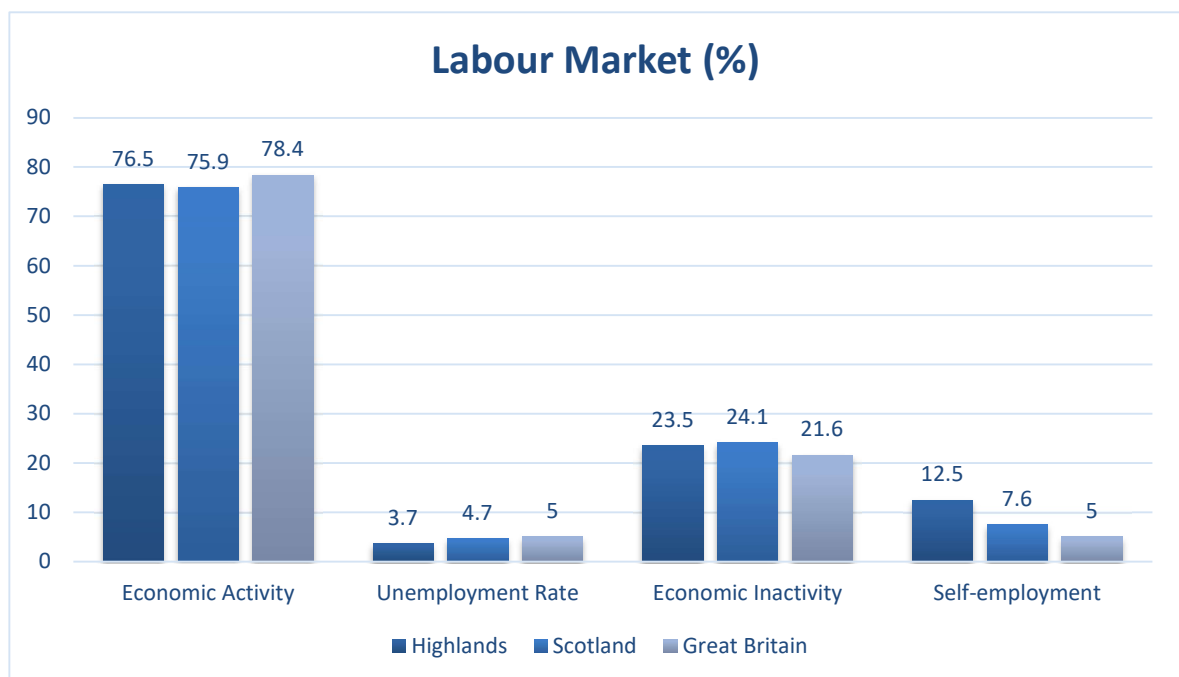
Population

- 14.51 Although the largest administrative area in Scotland by geographical area, the most recent mid-year estimates show the Highland's population stands at 235,400, less than 5% of Scotland's population of 5,466,000. The proportion of the Highland's population of working age (16-64) at 60.7% lower than the Scotland average of 63.9% and also lower than the UK average of 62.4% (NOMIS, 2020).
- 14.52 The Highlands region has one of the lowest population densities in Scotland, with less than 0.1 persons per hectare, comparatively with the national average of Scotland 0.7, in 2011 (NOMIS, 2011).

Labour Market and Supply Chain

- 14.53 The Office of National Statistics (ONS) Annual Population Survey (NOMIS, 2021) reports that there were 116,000 economically active residents of working age in Highland between July 2020 and June 2021, implying an economic activity rate of 76.5%. This is higher than the activity rate for Scotland as a whole (75.9%) but lower than that of the UK (78.4%), illustrated on **Graph 14-1**.

Graph 14-1: Labour Markets (NOMIS, 2021)



- 14.54 The unemployment rate³ in Highland, over the same period, was 3.7%, 1.0% lower than the average for Scotland and 1.3% lower than Great Britain, which were 4.7% and 5.0%, respectively.

³ As unemployed form a small percentage of the population, the APS unemployed estimates within local authorities are based on very small samples so for many areas would be unreliable. To overcome this ONS has developed a statistical model that provides better estimates of total unemployed for unitary authorities and local authority districts.

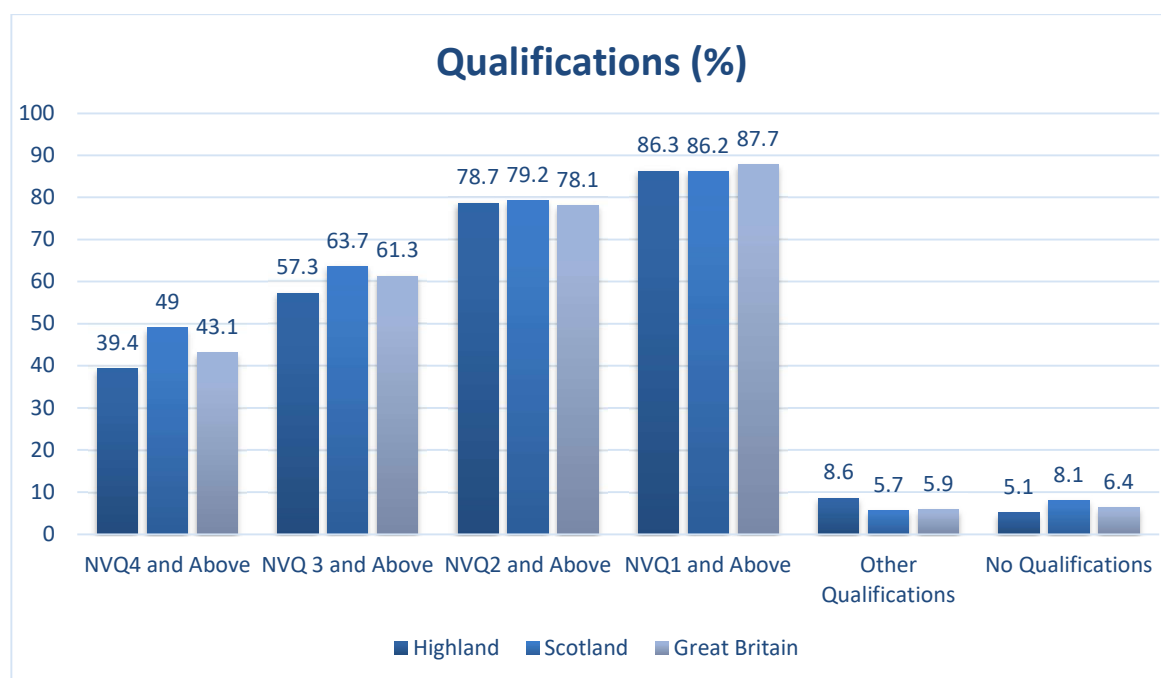
- 14.55 Economic inactivity (those of working age who are not employed nor seeking work; students, sick, retired, for example) is lower in Highland, at 23.5%, than in Scotland as a whole (24.1%) but higher than in Great Britain (21.6%).
- 14.56 The level of self-employment in Highland was 12.5% as over July 2020 - June 2021, this is higher than the Scottish average (7.6%) and the average for Great Britain (5%).
- 14.57 Useful insights into the dynamics of the labour market are often revealed by consideration of the occupational structure of those in employment as shown in Error! Reference source not found.6. The proportion of managers, directors and senior officials (7%) occupation is 1.4% lower than the average for Scotland (8.4%) and 3.9% lower than the average for Great Britain (10.9%), whilst the associate professional & technical occupation (12.9%) is 2.7% lower than averages for both Scotland and Great Britain (15.6%). Conversely, the proportion of skilled trades (13.7%) workers is 4.5% higher than the average of Scotland (9.2%) and 4.7% higher than Great Britain (9.0%). Skilled trades occupations are likely to include skills and services that would be required for wind farm construction and operation.

Table 14-6: Employment by Occupation (NOMIS, 2021)

	Highland (numbers)	Highland (%)	Scotland (%)	Great Britain (%)
1 Managers, directors and senior officials	8,000	7.0	8.4	10.9
2 Professional	26,000	22.8	24.1	23.3
3 Associate professional & technical	14,700	12.9	15.6	15.6
4 Administrative & secretarial	11,400	10.0	9.6	10.2
5 Skilled trades	15,600	13.7	9.2	9.0
6 Caring, leisure and other service	10,200	8.9	9.3	9.0
7 Sales and customer service	8,500	7.5	8.3	7.1
8 Process plant & machine operatives	7,300	6.4	5.3	5.6
9 Elementary	12,500	11.0	9.8	9.1

- 14.58 Degree-qualified (or equivalent) residents of working age account for 39.4% of the population of THC area, which is lower than the average for Scotland as a whole (49.0%) and the average for Great Britain (43.1%). The proportion of the working age population with no qualifications is 5.1%, this is lower than the average for Scotland as a whole (8.1%) and for Great Britain (6.4%), shown in **Graph 14-2**.

Graph 14-2: Qualifications (NOMIS, 2021)



- 14.59 According to the ONS Annual Survey of Hours and Earnings (ASHE) (2021), the average weekly gross earnings for residents of Highland were £611.40, £10.60 lower than the Scottish average of £622.00, and £1.70 lower than the average for Great Britain of £613.10.
- 14.60 Data on an area's business population can be obtained from the ONS UK Business Counts data series (which is sourced from the Interdepartmental Business Register) (ONS, 2019a). This data source can be used to identify the structure of the local business base by sector: this is potentially useful in assessing the capacity of the local area to host supply chain activity for infrastructure and other large-scale construction projects such as the proposed development. Error! Reference source not found.7 provides data on the structure of the local business base, both in absolute and relative terms.

Table 14-7: Structure of the Business Population of Highland (NOMIS, 2021)

Industry	No. of Persons	Highland (%)	Scotland (%)	Great Britain (%)
B: Mining and quarrying	500	0.4	1.1	0.2
C: Manufacturing	6,000	5.3	6.8	8.0
D: Electricity, gas, steam and air conditioning supply	900	0.8	0.7	0.4
E: Water supply; sewerage, waste management and remediation activities	2,000	1.8	0.8	0.7
F: Construction	7,000	6.2	5.5	4.9
G: Wholesale and retail trade; repair of motor vehicles and motorcycles	16,000	14.2	13.5	15.0

Industry	No. of Persons	Highland (%)	Scotland (%)	Great Britain (%)
H: Transportation and storage	5,000	4.4	4.2	4.9
I: Accommodation and food service activities	15,000	13.3	8.3	7.7
J: Information and communication	2,250	2.0	3.4	4.3
K: Financial and insurance activities	1,000	0.9	3.4	3.5
L: Real estate activities	1,500	1.3	1.5	1.7
M: Professional, scientific and technical activities	6,000	5.3	7.2	8.8
N: Administrative and support service activities	6,000	5.3	8.2	8.9
O: Public administration and defence; compulsory social security	6,000	5.3	6.3	4.4
P: Education	9,000	8.0	8.3	8.7
Q: Human health and social work activities	21,000	18.6	16.0	13.1
R: Arts, entertainment and recreation	4,000	3.5	2.8	2.5
S: Other service activities	1,250	1.1	1.7	2.0

14.61 The data in Error! Reference source not found.7 show that accommodation and food services, often associated with tourism, is a particularly important employment sector within THC area. The construction sector is somewhat above the national average, indicating potential capacity and skills in the WSA for construction services.

14.62 Note, persons in agriculture and the self-employed are not included in the NOMIS data set out in **Table 14-7**.

Tourism Economy

14.63 The VisitScotland Insight Department's 'Highland Factsheet' (2019) shows that sustainable tourism GVA in 2018 for Highland was £320 million and 16,400 people worked in the sustainable tourism⁴ sector, a 4% rise on the previous year's workforce.

14.64 Comparatively with other areas of Scotland, in 2016 the Highlands and Islands region, which includes the WSA, received 18% of all visitor expenditure in Scotland (Tourism Leadership Group, 2018)), the second highest after Edinburgh and the Lothian (32%). Regarding total trips, by visitors from Scotland, Great Britain and overseas, the Highlands and Islands region had the third highest proportion of total visitors (14%), behind Edinburgh and the Lothians (42%) and Glasgow and the Clyde Valley (18%).

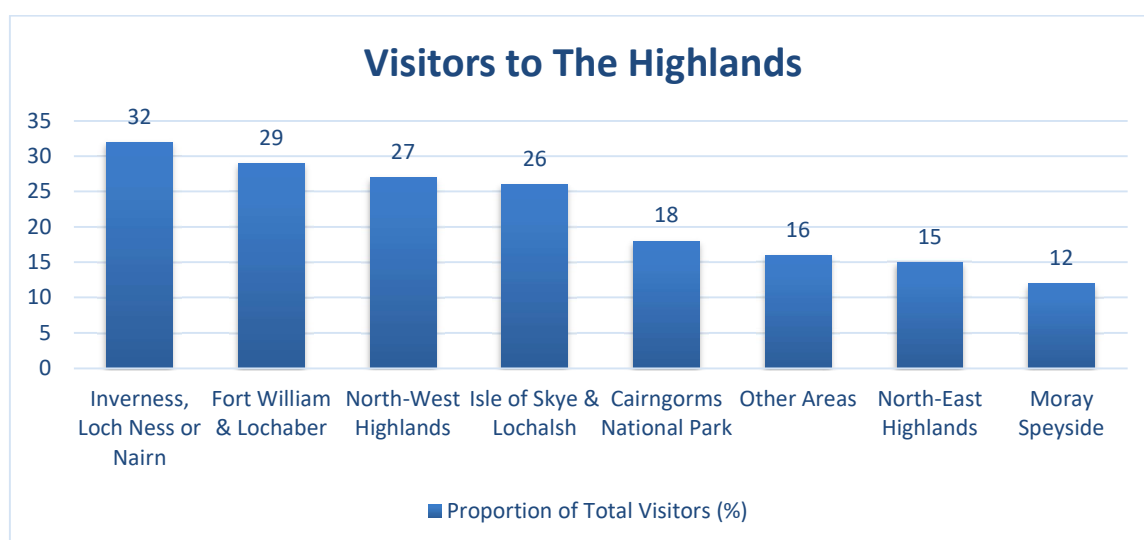
14.65 As a share of total businesses, tourism accounted for over 10% of all businesses in the Highlands over the same year (Tourism Leadership Group, 2018), the second highest after Argyll and Bute

⁴ 'Sustainable tourism' is defined by the Scottish Government as a growth sector, with the GVA used here representative of the SIC07 industry classifications for tourism used by the Scottish Government.

(13%). Highland also contributes the fourth highest proportion to the total Sustainable Tourism sector's GVA (5%), with the City of Edinburgh contributing the most at almost 25% of the sector's GVA.

- 14.66 The Highland Factsheet (VisitScotland, 2019) also surveyed the most popular paid for and free tourist attractions in the Highland region (i.e. the WSA), where Urquhart Castle overlooking Loch Ness, was the most popular. The five most popular free visitor attractions within the Highlands according to the survey were:
- Glencoe visitor centre;
 - Glenmore forest park;
 - Corrieshalloch Gorge;
 - Glen Affric; and
 - Inverness Botanic Gardens.
- 14.67 It is noted that, although some of these attractions are within the WSA, none of these major visitor attractions are located in the LAI and are unlikely to be impacted by the proposed development.
- 14.68 During July – December 2020 (VisitScotland, 2021), the Highlands was the most popular destination for visitors in Scotland, attracting 42% of total visitors, which was 27% higher than the second most (Argyll and the Isles, 15%). When split into residents from Scotland and those not from Scotland, the Highlands still ranked highest with 44% and 41% of the total number of visitors to Scotland, respectively.
- 14.69 Of the total number of visitors to the Highlands that were surveyed, the area of the proposed development, the north east Highlands, ranked seventh highest with 15% of the total visitors, with Inverness, Loch Ness or Nairn (32%) ranking as the top Highland destination during this year, the full breakdown is shown in **Graph 14-3**.

Graph 14-3: Highland Visitors (VisitScotland, 2021)



- 14.70 VisitScotland's 'Scotland Visitor Survey' in 2015 and 2016 (Jump Research, 2017) shows that the most popular reason given for visiting Highland is 'for the scenery & landscape' (87%). In terms of activities undertaken, sightseeing by car/coach/on foot was the most popular activity, mentioned by 81% of survey respondents, followed by 65% who cited visiting a historic house, stately home, castle, and 59% who cited going for a short walk or stroll.

Local Area of Influence

Land Use

- 14.71 The land use within the site is primarily characterised by rolling terrain, consisting of exposed rock, moorland and peatbogs, with evidence of extraction of peat as a fuel source for over several centuries. The land is mainly used for sheep grazing, agriculture and forestry.
- 14.72 The land in the north of the site is used as forestry, with a coniferous woodland plantation currently existing. There are no formal recreational facilities located within the site itself, however, the Kirkton to Upper Bighouse Core Path runs from north to south adjacent to the site's eastern boundary, adjoining the site's access on Kirkton Farm road at its northern end – further information on the Core Paths is detailed from Paragraph 14.79.
- 14.73 The Land Reform (Scotland) Act 2003 conferred general access rights over much of rural Scotland. The lack of formally designated paths does not necessarily preclude the right of the public to use it for recreational purposes including for walking, cycling and horse riding.
- 14.74 Land uses within the site are considered to be of local value and their sensitivity is judged to be low.

Recreation

- 14.75 There are no recreational assets that are promoted nationally or regionally and therefore likely to draw in visitors from outside the area, although tourist visitors to the area may be expected to make use of some of the local recreational attractions.

Formal Recreation Facilities

- 14.76 'Formal' recreation facilities are considered to be those with paid or controlled entry. There is one formal recreational facility within the LAI, Kirkton Farm Buggy Tours, located south east of Melvich and approximately 0.6km north of the proposed site; this facility is owned, and occupies land owned by, the landowner of the proposed development. The tours offer a ride in a 4-wheel buggy, whilst learning about the farm and animals of the area. It is thought that these tours would be primarily booked by people who would be visiting Highland already and, as such, are considered to be of local importance and low sensitivity. Kirkton Farm, within which the majority of the turbines are located, also hosts a campervan hook up site.

Informal Recreation

- 14.77 Within the LAI there are a number of designated paths. The following sections describe the various types of paths and trails within the LAI.

Long Distance Routes

- 14.78 There are no national or long-distance trails which pass through the LAI. The Sutherland Trail, a 111km long-distance trail, is the closest such trail but ends over 27km to the west of the site, at Tongue.

Core Paths

- 14.79 Core Paths are routes identified by THC in accordance with the Land Reform (Scotland) Act 2003, which requires each local authority draw up a plan for a system of paths (Core Paths) that provides *"a basic framework of routes sufficient for the purpose of giving the public reasonable access throughout their area."* Core paths aim to satisfy the basic needs of local people and visitors for general access and recreation and provide links to the wider path network throughout the Highland region.
- 14.80 The first Core Paths Plan for Highland was adopted in 2011. THC is currently awaiting the outcome of a Public Local Enquiry into the Modified Core Paths Plan for Caithness and Sutherland, which was published in April 2019.
- 14.81 The adopted Core Paths within the LAI are shown on **Figure 14.1** as follows:
- Kirkton – Upper Bighouse – a 4.6km path which runs parallel to the east of the site;
 - Melvich Beach – a 1.38km path located to the north of the site at Melvich;
 - Bayview Terrace – Low Road – a 0.13km path located north of the site in the settlement of Portskerra; and
 - Portskerra Coast Walk – a 0.77km path located north of the site in Portskerra.

- 14.82 **Figure 14.1** shows that there is potential for the linkage and integration of the turbine access tracks with the existing Kirkton – Upper Bighouse Core Path. Data from Strava Heatmaps (Strava, 2022) shows low usage of the Kirkton – Upper Bighouse Core Path, with the public highway providing access to the north of the Core Path, Kirkton Farm road, more popular with recreational users. The other 3 Core Paths are located on, or nearby, the north coast and the data shows that these paths are more heavily used recreationally.
- 14.83 The Core Path routes are considered to be of local to medium importance and of low to medium sensitivity depending on the level of access provided to the wider path network.

Rights of Way

- 14.84 No Rights of Way (RoW) have been identified within the LAI.

Heritage Paths

- 14.85 There are no routes in the LAI promoted by the Heritage Paths Project (2019) for their historic interest.

Access Land

- 14.86 The lack of any designated or recorded paths in parts of the LAI does not necessarily preclude the public from using other land within the LAI for recreational purposes in accordance with the Land Reform (Scotland) Act 2003, including for walking, cycling and horse riding. From Strava heatmap data (Strava, 2022) it is evident that land to the north and west of the site boundaries is used lightly for recreational purposes such as dog walking, cycling and running, with more common usage seen on Kirkton Farm road and at Melvich Beach. The site itself is not used recreationally beyond a small access road to a farm in the north.
- 14.87 The access land in this area is considered to be of local importance and low sensitivity.

Cycling

- 14.88 Sustrans (2021) have mapped an on-road route, which is part of the National Cycle Network (NCN), following the A836 which runs 2km to the north of the site (see **Figure 14.1**). The cycle route is part of NCN Route 1 (NCR1), which connects Inverness with the northern Highlands. However, within the LAI this cycle route is part of the existing road network (including the NC500), therefore it is believed to be of regional importance and medium - high sensitivity, due to it being the only NCN route in the north Highlands and the only part of the network leading to tourist attraction such as John o' Groats.
- 14.89 Also, as mentioned previously, the Strava heatmap shows some off-road cycling activity Kirkton Farm road, which provides access to the site. Due to the lack of formal facilities and promotion, other than the A836 these routes are considered to be of local importance and low sensitivity.

Horse Riding

- 14.90 There are no public facilities for horse riding within the LAI.

Beaches

- 14.91 The LAI encompasses the stretch of coast from Portskerra to Melvich, which includes one main beach in the area, Melvich Beach. The beach is readily accessible and popular with recreational users including walking, surfing and bathing (VisitScotland, 2022).
- 14.92 The beach is considered to be of local to regional importance and low to medium sensitivity as part of the NC500 and the wider tourism offering for the northern coast.

Tourism

Tourism Attractions

- 14.93 Certain recreational activities are of sufficient prominence to draw visitors to the area and are therefore considered to be tourist attractions. The LAI does not include any of the 'iconic' landscape features or nationally important tourism 'destinations' that draw tourists to the Highlands.
- 14.94 However, the NC500 route as a whole is considered to be a major draw for car-based and camper van tourism throughout much of the Highland coastline, including the stretch that falls within the LAI. Part of the attraction of this route to visitors is the views along the route, especially coastal views. The route is considered to be of national / regional importance, and of high / medium sensitivity.

Accommodation

- 14.95 According to an online review of Airbnb, Google Maps and further accommodation websites, for local accommodation businesses, within the LAI, there are 24 accommodation businesses. A summary is provided in **Table 14-8**; and the businesses' locations are shown on **Figure 14.1**. Further detail on each accommodation business is provided in **Technical Appendix 14.1**.

Table 14-8: LAI Accommodation

Settlement	Hotel	Bed & Breakfast	Self-Catering	Camping / Caravanning
Portskerra	0	0	7	0
Melvich	1	1	6	1
Kirkton	0	0	0	1
Achimore	0	0	1	0
Dalhaivaig	0	0	2	0
Trandlebeg	0	0	2	0
Baligill	0	0	2	0

- 14.96 Of the individual accommodation businesses identified, each are considered to be of local value and low sensitivity; however, collectively, they comprise a concentration of tourism-related businesses can be considered to be of regional importance and medium sensitivity.
- 14.97 Informal accommodation is also popular amongst tourists throughout the NC500 route, these include ad hoc stopovers for campervans and wild camping that are not easily identified using the above methods as they are, by nature, not related to formal businesses. These sites are therefore not assessed separately from the broader context of the NC500 route.

ASSESSMENT OF EFFECTS

- 14.98 This section is concerned with the assessment of effects for both construction and operational activities within the relevant study areas.

Construction Effects

- 14.99 Construction effects are addressed in turn with regard to the WSA and the LAI.

Wider Study Area

Potential Effects

- 14.100 During the construction phase of the proposed development there would be economic effects resulting from expenditure on items such as site preparation, development of access roads, purchase and delivery of materials, plant, equipment, and components, etc. Based on information provided by the developer, the construction period for the proposed development is expected to occur over an 18-month duration.
- 14.101 The applicant has provided technical information relevant to the proposed project that has enabled the production of broad estimates of likely development costs for the scheme. **Table 14-9** provides a breakdown of this predicted expenditure disaggregated by main category of spend.

Table 14-9: Predevelopment, Construction, and Commissioning Cost Estimates

Category of Spend	£ millions
Development and project management costs	2.25
Turbines/plant	41.25
Electricals/grid connection	6.06
Civils/contingency and miscellaneous	7.05
Total	56.62

14.102 The applicant has also provided an indication of the broad location of expenditure for each category in the **Table 14-9**, in terms of local (WSA), Scotland, other-UK, and non-UK expenditure. This indicative destination of expenditure for the proposed project has been converted into estimated proportions of expenditure in terms of the following spatial areas based on experience with other project applications (including completed schemes): WSA; Scotland; other UK; and international.

Gross effects during construction

14.103 Estimates of the expected direct construction phase employment implications of the project have been derived using the information on anticipated project expenditure set out above, as well as assumptions obtained from the following sources:

- employment and GVA multipliers for Scotland, obtained from Input-Output tables for Scotland (1998-2018) published by the Scottish Government;
- employment and GVA multipliers for the UK obtained from Input-Output tables published by the UK Government; and
- ratios of turnover per unit of GVA and GVA per employee have been derived from Scottish and UK Government data.

14.104 Using all of these sources summarised above, the table below provides estimates of direct gross employment and GVA effects that would be expected to be delivered by the proposed project – assuming it is approved and delivered as intended – for three spatial areas: the WSA; Scotland; and the UK as a whole (**Table 14-10**). These estimates are set out for both the development period as a whole and on a per annum basis. The employment estimates are provided on a full time equivalent (FTE) basis.

Table 14-10: Estimates of gross development phase GVA and employment effects

Spatial Area	GVA overall £million	GVA p.a. £million	Employment total (FTEs)	Employment p.a. (FTEs)
WSA	1.1	0.7	16	11
Scotland (total, including WSA)	5.5	3.7	78	52
UK (total, including Scotland)	12.6	8.4	177	118

14.105 Assuming the project proceeds as expected by the developer, GVA with a gross total of £1.1 million would be expected to be generated by the project in the local WSA economy during the 18-month development, construction, and commissioning phase. This is equivalent to £0.7 million per annum over this period.

14.106 The predicted overall GVA total for Scotland is £5.5 million, and for the UK as a whole it is £12.6 million.

14.107 In terms of employment, a total of 16 person-years of gross temporary employment is predicted to be generated in the local WSA economy during the 18-month construction phase. This amounts to an average of 11 FTE jobs per annum during construction.

14.108 The equivalent predicted total for Scotland is 78 person-years, and for the UK it is 177 person-years.

Net effects during development and construction

14.109 So far, the focus has been on the gross effects of development and construction at three spatial levels. The next step is to consider and quantify the potential for net additional effects by taking account of three additional concepts:

- **Leakage:** is the proportion of project outcomes that benefit individuals or organisations located beyond the relevant area of impact (e.g., the WSA area). Leakage is generally higher at a local level, although it also varies by the nature of development type;
- **Displacement:** is an estimate of the economic activity hosted by the site that would be diverted from other businesses in the spatial impact area. This again varies by the nature of development type; and
- **Multipliers:** an estimate for further economic activity associated with additional income and/or project procurement activity stimulated by project activity within the spatial impact area under consideration.

14.110 The specific values assumed for multipliers for Scotland and the UK are sourced for national input-output tables and vary by the project expenditure category. Assumptions about leakage are based on local labour market indicators and experience of other wind farm projects located in Scotland. **Table 14-11** shows the estimates of net additional development phase effects, both overall and on a per annum basis during the anticipated 18-month construction period.

Table 14-11: Estimates of net additional development phase effects

Spatial Area	GVA net £million	GVA net p.a. £million	Employment net (FTEs)	Employment net p.a. (FTEs)
WSA	1.1	0.7	16	11
Scotland (total, including WSA)	6.7	4.4	94	63
UK (total, including Scotland)	14.0	9.4	198	132

14.111 With respect to employment, a total of 16 person-years of net additional temporary employment is predicted to be generated in the WSA economy during the construction phase of the proposed project. The equivalent total for Scotland is 94 person-years, and for the UK it is 198 person-years.

14.112 It may be noted that the estimated net employment totals for the WSA are the same as the gross job totals presented above. This is because for the WSA, the jobs lost to leakage and displacement are nearly exactly offset by the gains expected due to local multiplier effects.

- 14.113 The predicted duration of the construction phase is 18 months. Therefore, the anticipated additional boost to local (WSA) employment total equivalent to 11 jobs annually if the project is permitted and delivered as intended by the developer.
- 14.114 In 2020, there were an estimated 130,000 jobs located within the Highlands local authority area (NOMIS, 2021). The temporary addition of 11 jobs to this total would increase the number of jobs by around 0.01%. The effect on the local employment base is therefore considered to be negligible and so **not significant**.
- 14.115 In terms of output, a net additional total of £1.1 million of GVA is predicted to be generated by the project in the local WSA economy during the development, construction, and commissioning phase. The equivalent predicted total for Scotland is £6.7 million and for the UK it is £14.0 million.
- 14.116 As of 2019, the estimated annual value of output generated within the Highlands local authority area was approximately £6.40 billion (ONS, 2019b). The temporary augmentation of the local economy by around £1.1 million would increase the size of the local economy by around 0.01%. The effect on the value of the local economy is therefore considered to be negligible and so **not significant**.

Proposed Mitigation and Enhancement

- 14.117 Allowing for the implementation of embedded mitigation, no significant effects have been identified in respect of socio-economic receptors arising from construction of the proposed development and therefore no mitigation measures are required to reduce or remedy any adverse effect.

Residual Construction Effects

- 14.118 No residual adverse construction effects are expected on the WSA.

Potential Effects on the LAI

Assumptions of the Assessment – LAI

- 14.119 The principal potential impact on receptors beyond the boundaries of the site is expected to be caused by delivery vehicles on local roads. The proposed route to the site (described in **Chapter 12: Site Access, Traffic and Transport**) passes through the northeast of the LAI on the NC500 going west, most construction traffic would then turn off the NC500 and down Kirkton Farm road towards the site, however abnormal loads will need to continue westwards and turn at Abnormal Load Turning Area A (west of Melvich) or Abnormal Load Turning Area B (in Melvich itself), before returning eastward and accessing the site via Kirkton Farm road.
- 14.120 Land uses within the site would be affected throughout the construction period by construction activities. Whilst some parts of the site may not be directly affected for lengthy periods, it is expected public access would be controlled as part of the site health and safety plan. Data obtained from Strava heatmaps shows part of the access route along Kirkton Farm road is used for recreation, whilst the site itself has little to no usage in this regard.

Land Use

- 14.121 Whilst commercial forestry is not regarded as a receptor for EIA purposes, effects of the proposed development for felling, restocking and forest management practices are described in **Chapter 3 Description of Development and Technical Appendix 3.2: Forestry**.
- 14.122 The number of recreational users of the site is considered to be low due to the lack of facilities and access available; the Kirkton – Upper Bighouse Core Path runs close to the eastern boundary of the site, which currently diverts users from the need to use the site recreationally, as it provides access for walking and cycling; this is assessed in the succeeding section.
- 14.123 Whilst use of the site’s access track would need to be managed for safety reasons, this would be in a phased manner, following the flow of the construction of the site. Measures for ensuring public safety during construction are set out in **Technical Appendix 3.1: Outline CEMP**. The magnitude of the impact of excluding the public from the site for a short-term temporary period is therefore considered to be negligible. As the sensitivity of the receptor is low, the level of effect would be negligible and **not significant**.
- 14.124 In addition, should planning permission be granted, an Access Management Plan is proposed to be developed and agreed in due course in consultation with THC’s Access Officer, the applicant and recreational groups.

Tourism and Recreation Assets

- 14.125 As the recreational receptors of only local value outwith the site have been scoped out of the assessment, there are no recreational receptors to be assessed.
- 14.126 Tourism receptors within the LAI comprise the NC500 (and associated NCR1 which follows this road) and the local concentration of 25 accommodation businesses.
- 14.127 For the purpose of assessing construction effects, only businesses located along the access route to the site are expected to be adversely affected during construction, as a result of construction traffic using the A836. The principal impact on tourism receptors within the LAI would be experienced in the village of Melvich, with further impacts on the villages south of Melvich in Strath Halladale, on the A897, towards the site.
- 14.128 An assessment of effects on road users and other sensitive receptors has been undertaken in **Chapter 12: Site Access, Traffic and Transport**. The assessment takes account of embedded measures to minimise impacts of construction traffic on other highway users, including tourism users of the highway and nearby properties. An outline Construction Traffic Management Plan (CTMP) has been prepared to outline the mitigation measures recommended during the construction stage; this is provided in **Technical Appendix 12.2**. The Plan offers several points of mitigation to reduce the impact on highway users, including the A836, including a full condition survey; regular monitoring; remedial works as necessary; and breakdown procedure.
- 14.129 The experience of visitors using the A836 as a tourism route may be adversely affected during the construction period despite the implementation of the proposed traffic management measures, although the adverse experience for individual travellers is only likely to be experienced for a short

period of time, as part of a longer journey round the north coast of Scotland and will be limited to the proposed construction hours of working which exclude periods such as evenings and Sundays.

- 14.130 Similarly, the NCR1 would also have near identical effects, however, cyclists would be more able to traverse any obstructions, reducing the magnitude of effect solely for the NCN Route. For the purposes of the assessment, however, this is considered within the context of the higher magnitude of effect on the NC500.
- 14.131 Taking account of the above, the magnitude of impact is considered to be low. As the sensitivity of the receptor is high / medium, the level of effect would be moderate / minor. Moderate effects may be significant but, in this instance, the temporary and intermittent nature of the impact is considered to result in a level of effect that is **not significant**.
- 14.132 The application includes two potential turning places for abnormal loads, which are outwith the main site. These are located on the A836 NC500 route, with one located in Melvich near the turn to Portskerra Road, whilst the second is further west on the NC500, towards Strathy, these are shown on **Figures 3.2a and 3.2b**.
- 14.133 Although the application includes the two potential turning points, only one would need to be constructed. Either could present a potential disruption to traffic on the road, however, as they would both be on the verges of the public highway and mitigated through the Construction Traffic Management Plan, the impact is considered to be **negligible**.
- 14.134 Local businesses including accommodation and food and drink businesses, may experience beneficial impacts during construction due to use by construction workers. The level of effect may be minor for individual businesses, due to the limited workforce needed for the proposed development, and, as the sensitivity of these receptors is low, the effect would be **negligible**.
- 14.135 The Kirkton – Bighouse Core Path may be temporarily affected for a few weeks only as a result of the connecting highway, Kirkton Farm road, being temporarily restricted as it is being widened to deal with abnormal loads. However, this restriction would only be local to the northernmost section of the Core Path, where it meets Kirkton Farm road, to ensure the adequate health and safety of the users, leaving the rest of the Path still accessible to users. Any restriction would be exclusive to vehicles and would last for a relatively short amount of time, the implementation of the CTMP would ensure the safe and continuous access of users of the Core Path around the roadworks.
- 14.136 As this is a temporary restriction which would only need to take place once the widening of the road was at its southern most end, would not impact the great majority of the of the Core Path users and would still allow recreational access to the Core Path, the impact of construction is thought to be **low**; with the receptor being considered of low-medium sensitivity. This would result in a minor – negligible residual effect and therefore not require further forms of mitigation. As the area which would be primarily effects by the restriction is very localised, the impact itself would only be for a short time and still allow for its primary recreational purpose (walking, cycling), the overall level of effect is considered to be **negligible**.

Embedded Mitigation

- 14.137 The proposed development, as described in **Chapter 3: Description of Development**, incorporates good practice measures for limiting the adverse effects of the construction works. Given the nature of the tourism economy in the Highlands, the construction of the proposed development is expected to result in competition for accommodation between construction workers and tourist visitors, potentially resulting in some displacement of tourism visitors during peak season unless management measures are put in place. An Accommodation Strategy is proposed to be developed as part of the final Construction Environment Management Plan (CEMP) to minimise competition for accommodation. An Outline CEMP is provided in **Technical Appendix 3.1: Outline CEMP**.
- 14.138 Construction traffic would affect use of the A836 tourist route and Kirkton Farm road, however, the usage of the adjacent Core Path for recreational users would remain unrestricted. Measures are set out in **Chapter 3: Description of Development** and also in **Chapter 12: Site 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 final CEMP that would be adopted prior to construction commencing.
- 14.139 The abnormal load turning areas included in the application are assessed in **Chapter 12: Site Access, Traffic and Transport**. Further mitigation measures would come in the form of the implementation of the CEMP and CTMP to limit the effect of the NC500 road users.
- 14.140 There is also potential for benefits from the abnormal load turning areas. The proposed turning area at Melvich presents an opportunity to provide a direct benefit to the local community. Melvich Community SCIO are progressing a project to replace the old Melvich Village Hall (now demolished) with a new community hub building; however availability of car parking spaces has been flagged as a significant issue in the early stages of their feasibility study (RIBA Stage 1). The proposed turning circle could act as overspill car parking for the proposed new Melvich Community Hub, which is planned to be located directly opposite on the western side of the A836, and as a result remove a potential planning issue for the new community asset. This turning area would have the potential to be a long term addition to the NC500, such as through the hosting of Electric Vehicle charging facilities, and could also be used for the location of a multi-use games area (MUGA), which the Melvich Community SCIO have expressed an interest in developing. The applicant has been in discussions with Melvich Community SCIO in this regard and the two organisations have agreed to continue to liaise as their respective plans and applications develop.
- 14.141 The proposed development would also incorporate measures for enhancing the beneficial effects of construction on the local economy, particularly with regard to adding value to the local supply chain through implementation of a Local Contractor Policy, where additional weight in the tendering process is given to primary contractors that show a clear commitment to increasing local content in their supply chains.

Proposed Mitigation

- 14.142 Allowing for the implementation of embedded mitigation, no significant effects have been identified in respect of socio-economic receptors arising from the construction of the proposed development and therefore no further proposed mitigation is required to reduce or remedy any adverse effect.

Residual Construction Effects

- 14.143 There is potential for residual construction effects from the implementation of the abnormal load turning areas, although this is thought to be positive. Only one of the two identified turning areas will be utilised in the construction process. If this is the one within Melvich this turning area would be a permanent addition to the NC500 route (e.g. hosting Electric Vehicle charging) and could be used as overspill/event car parking for the new Melvich Village Hall.
- 14.144 No residual adverse construction effects are expected.

Cumulative Effects

- 14.145 There is potential for cumulative effects to arise in relation to the construction of other prospective or consented projects, including the nearby Strathy Wood and Strathy South Wind Farms, as described in **Chapter 3: Description of Development**, should the construction phases overlap with the proposed development. Effects could be experienced on local roads used by tourists if construction traffic were to use the routes proposed for the proposed developments. However, **Chapter 12: Site Access, Traffic and Transport** has assessed the potential for cumulative effects on the proposed routes for construction traffic accessing these wind farms and has found that there would be no cumulative effects.
- 14.146 In terms of economic effects, there are not expected to be any employment and additionality effects. Cumulative effects resulting from accommodation demands could be managed by means of a proposed Accommodation Strategy, as part of the Construction Environment Management Plan (CEMP), that would take account of any potential overlap of construction period, particularly within the peak tourist season. An Outline CEMP is provided in **Technical Appendix 3.1: Outline CEMP**. No other construction cumulative effects are expected.
- 14.147 Further details on the cumulative impacts are detailed at Paragraph 14.73 (operational effects).

Operational Effects

Wider Study Area

Potential Effects

- 14.148 Once operational, a small permanent workforce would be required to operate and maintain the proposed development. Based on experience of proposed and completed onshore wind farm projects of a similar size and in similar locations elsewhere in Scotland, it is estimated that 3 permanent direct jobs are likely to be created by the project during its operational phase.
- 14.149 As well as the direct impacts on employment during the construction phase there would also be indirect effects generated throughout the operational phase. Indirect effects arise from the placing of contracts with other businesses – both in the local area and elsewhere in Scotland – supplying services and materials to the proposed project during its operational phase.
- 14.150 Examples of such supply chain activity would include the procurement of:
- site maintenance;

- waste management and recycling;
- on-site forestry management;
- vegetation management along access roads and tracks;
- maintenance and repair for access roads, ditches, road furniture and gate repair, etc;
- maintenance of fencing;
- plant and equipment hire;
- snow clearing;
- supply of consumable items (e.g., fuels, lubricants and oils, spare parts, office supplies, etc.);
- statutory turbine inspections; and
- catering for meetings and visits.

14.151 In addition to the list above, local shops, cafes, accommodation providers and hotels often experience an increase in business during the operational phase from visitors to the site (e.g., as a result of extra technicians being needed onsite during wind turbine maintenance and servicing).

14.152 Overall, based on experience with similar projects elsewhere in the Highland region and across Scotland, it is expected that there is likely to be 9 indirect jobs created by operational and maintenance supply chain effects associated with the located within the WSA.

14.153 Therefore, in terms of the overall potential for operational phase job creation from the combined direct and supply chain effects, the overall total number of full-time equivalent jobs that could be created in THC area is estimated to amount to 12 full time jobs (i.e., 3 direct jobs plus 9 indirect jobs).

14.154 Given that there are estimated to be 130,000 jobs located in the Highland local authority area (as of 2020), this stimulus to local job creation is judged to be positive but **not significant**.

Proposed Mitigation and Enhancement

14.155 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 Operational Effects

14.156 No residual adverse construction effects are expected on the WSA.

Assumptions of the LAI Assessment

- 14.157 During the operational phase there are expected to be both adverse effects due to visual impacts on tourism receptors, detailed in **Chapter 7: Landscape and Visual**, and beneficial effects arising from the legacy of the enhanced routes within the site. In addition, Wind2 is committed to working with the community through the shared ownership of the proposed development, which could allow financial capital to be directly invested into improving the local area, possibly through community enhancements or improving skills and training, which could have a lasting benefit beyond the lifespan of the proposed development.
- 14.158 No significant effects are expected due to maintenance vehicles using the access road and site as this would be on an occasional basis.

Potential effects on the LAI

- 14.159 Visual effects on recreational receptors are assessed in **Chapter 7: Landscape and Visual**, and the findings have been considered in the assessment below, although it is important to note that a significant landscape and visual effect does not necessarily result in a significant socio-economic effect.
- 14.160 The landscape and visual assessment found that the overall impact on the view of the proposed development would be heavily dependent on the particular viewpoint. This is because the landform screening by the surrounding undulating moorland in medium and longer distance views from the south, east and west, the consideration given to the design of the proposed development and scale of turbines (as described in **Chapter 3: Description of Development**).
- 14.161 Regarding potential tourist attractions at Melvich, such as Melvich Beach and Core Paths, the Landscape and Visual assessment found that the windfarm element of the proposed development would have a moderate but **not significant** effect as the turbines would not be visible from the majority of the village, and no adverse effects. The turning points, however, would have a moderate – major and significant effect, however, they would be very localised and in a socio-economic context, their presence could benefit potential users of the A836 (NC500 tourist route) by allowing potential stopping or passing places.
- 14.162 With regard to visual effects from the A836 (NC500) and the NCR1, adverse visual impacts would be limited for users of the route as views of the proposed development would only be glimpsed intermittently, particularly from the east, travelling west towards Melvich. Actual visibility would be dependent on whether the intervening moorland and coniferous forestry are sufficient for adequate screening from their location, and whether people are looking in that direction. In practice, therefore, people moving through the area whether on foot, bicycle or horseback would experience intermittent views of the proposed development which would not form a major part of their experience.
- 14.163 The Sequential Route Assessment (**Technical Appendix 7.6 of Chapter 7: Landscape and Assessment**) details the potential sequential visual impacts related to the A836 (NC500 / NCR1). The area of the Sequential Route Assessment studied which crosses into the boundaries of the LAI is the A836 between John o' Groats and Tongue, the total length of this road would be 86km, of which 19.1km (22%) is considered to have views of the turbines of the proposed development,

however, it highlights that the area within the LAI is where a greater proportion of the turbines would be visible.

- 14.164 The assessment found that the value of the route was considered to be high due to the NC500 and NCR1, whilst the susceptibility of road users was medium and cyclists was medium-high. In the vicinity of the LAI, a major – moderate magnitude of change and significant effect on visual amenity was predicted at Viewpoint 4 (A836 at the Junction to Bighouse (see LVIA Figure 7.8)), approximately 1.8km north east of the proposed development, as the turbines and their movement would be visible from this location.
- 14.165 Studies undertaken in respect of other wind farm 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 Wind Farm in Aberdeenshire (Gilmorton Rural Development, 2009) found that 84% of respondents did not feel that the proposed wind farm 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.
- 14.166 The proposed development is thought to be visible from areas of the coastal A836 tourist route around Melvich and the junction at Bighouse, however, it is progressively less visible as the distance increases due to the intervening landforms and forestry. The overall impact in deterring visitors from using the promoted NC500 (A836) is thought to be **low** on this **high / medium** sensitivity receptor, resulting in a **minor – moderate** level of effect. However, with prior studies indicating that the vast majority of visitors are not deterred by the presence of a windfarm, and the vast majority of the promoted route not visible to the windfarm, it is not thought that the proposed development would be significant enough to result in a loss of visitors using this route.
- 14.167 The Kirkton – Bighouse Core Path post-construction would revert to its previous condition with no impacts as a result of the proposed development other than occasional use by maintenance vehicles. The level of effect would be **negligible**.

Embedded Mitigation

- 14.168 The development of access routes and tracks towards each turbine for maintenance and construction would open up the area for informal recreational opportunities (walking/biking/horse-riding) and make this part of Strath Halladale generally more accessible for visitors. Due to the low impact on recreational, economic and tourism receptors, further mitigation measures embedded into the design of the proposed development are not considered to be necessary.

Proposed Mitigation

- 14.169 No significant adverse 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.
- 14.170 Whilst no mitigation is required, there is potential for enhancement of the existing Core Path network. The THC Access Officer has requested that opportunities for enhancing the network through creation of a circular path utilising on site tracks should be explored.

- 14.171 It has been noted by the applicant that an existing farm track leads from Upper Bighouse, shown on **Figure 14.1**, to the site of the proposed wind turbines. The applicant has confirmed they are willing to explore the potential for formalising this as a walking route, thereby creating a circular route for users of the Core Path, reconnecting with the Core Path at Kirkton Farm road. This circular track could be utilised by recreational users, such as walkers, cyclists and horse riders, post-construction and throughout the operational life of the proposed development.

Residual construction effects

- 14.172 No residual adverse construction effects are expected.

Cumulative Effects

- 14.173 There is potential for cumulative visual effects to arise with regard to prospective or consented projects as described in **Chapter 3: Description of Development**. **Chapter 7: Landscape and Visual** has assessed the potential for cumulative effects and substantial effects have been identified within the LAI on the A897 in Strath Halladale to the west of the proposed at the closest viewpoints (1.5 – 2.2km) and the A836 junction to Bighouse south west (3.7km).
- 14.174 The Sequential Route Assessment concurred with these results stating that *“it is recognised that in the vicinity of Strath Halladale the proposed development would be prominent and would have locally Major-moderate and Significant effects on visual amenity for people travelling along the A836”*.
- 14.175 However, the cumulative effect of the 16 other viewpoints range from negligible to moderate in the Landscape and Visual assessment and the Sequential Route Assessment offered similar results in that the cumulative change on users of the A836 would be slight, indicating that the substantial effects are highly localised in the immediate vicinity of the proposed development and are unlikely to deter tourists from visiting the area directly or as part of the wider NC500 network and NCR1. As these are both long distance routes which cover areas beyond the scope of the socio-economic and landscape and visual assessments, it is unlikely that the presence of the proposed development in Kirkton, combined with the presence of other constructed and consented windfarms is of a great enough scale to deter visitors from the area, or from the route in its entirety. Cumulative effects on the tourism economy, including specific tourism receptors, are therefore considered unlikely.
- 14.176 Cumulative operational effects on employment are not expected due to the low numbers of operational staff involved, and no other operational cumulative effects are expected.
- 14.177 Further details on the cumulative impacts are located from Paragraph 14.145 (construction effects).

SUMMARY OF PREDICTED EFFECTS

- 14.178 The effects associated with the proposed development during construction are summarised in **Table 14-12**.

Table 14-12: Summary of Predicted Construction Effects

Type	Duration	Sensitivity	Impact	Mitigation Measures	Residual Effect
WSA Labour Market	Temporary	Low–Medium	Minor (beneficial)	None	Negligible
WSA Economy	Temporary	Low–Medium	Minor (beneficial)	None	Negligible
WSA Tourism Economy	Temporary	Low	Minor (beneficial)	None	Negligible
Land Use	Temporary	Low	Negligible	None	Negligible
Recreational/Tourism Receptors	Temporary	High - Medium	Minor	None	Low
Core Path	Temporary	Low - Medium	Minor	CEMP/CTMP	Negligible

14.179 The predicted socio-economic effects associated with the construction of the proposed development are summarised in **Table 14-13**.

Table 14-13: Summary of Predicted Operational Effects

Type	Duration	Sensitivity	Impact	Mitigation Measures	Residual Effect
WSA Labour Market	Long term	Low	Minor (beneficial)	None required	Negligible
Recreational/Tourism Receptors	Long term	High - Medium	Minor - Moderate	None required	Minor
Core Path	Long term	Low - Moderate	Negligible	None required	Negligible

STATEMENT OF SIGNIFICANCE

14.180 This assessment has considered data from a diverse range of sources to determine the likely effects of the proposed development on the local economy, together with local effects on tourism and recreation assets. The potential effects on the economy and identified assets take account of good practice measures to be adopted.

- 14.181 The assessment concludes that no necessary specific mitigation has been identified to be required and therefore residual effects of the proposed development are effectively the same as the predicted effects. Predicted adverse effects have been assessed as not significant; predicted beneficial effects have been assessed as negligible with regard to effects on the local tourism economy during the construction phase.
- 14.182 With regard to local land use, recreational and tourism assets, no significant adverse effects have been identified.
- 14.183 The potential for enhancement of the Core Path network has been identified and will be explored further during the course of the application.

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