VOLUME 2: CHAPTER 14 – LAND USE, AMENITY AND SOCIO-ECONOMICS

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14. LAND USE, AMENITY AND SOCIO-ECONOMICS

14.1 Introduction

This chapter assesses the likely significant effects of the construction and operation of the Proposed Development on land use, amenity and socio-economics.

The chapter refers to baseline information and assessment findings in other EIAR chapters, including:

- Chapter 8 Landscape Character and Visual Amenity;
- Chapter 11 Traffic and Transport; and
- Chapter 13 Noise and Vibration.

14.2 Assessment Methodology and Significance Criteria

14.2.1 Scope of the Assessment

The scope of the assessment includes the following aspects:

- Impact on private residential land (during the construction and operation phases). The Proposed Development may have adverse impacts on private residential property that may be disrupted by construction and operational phases.
- Impact on agricultural holdings (construction and operation). The Proposed Development may have adverse economic impacts on agricultural land holdings that may be disrupted by construction and operational phases.
- Impact on community facilities (construction and operation). The Proposed Development may have adverse impacts through severance from community facilities for local populations. This is particularly relevant for schools and healthcare facilities.
- Impact on tourism and recreation assets (construction and operation). Project may result in long term and short-term impacts on tourism and recreation assets from a series of sources including traffic, landscape and visual impacts, land use, noise, and air quality, which are assessed separately in the relevant chapters of this Environmental Impact Assessment Report (EIAR).
- Impact on employment (construction and operation). Temporary and permanent employment opportunities will arise throughout the supply chain to support construction and operation activities. This will have a long-term beneficial effect expected to last throughout the project lifecycle.
- Impact on Gross Value Added (GVA) (construction and operation). The spending from the primary contractors and supply chain businesses delivering the Proposed Development will result in an increase in GVA across the study area considered. This will have a long-term beneficial effect expected to last throughout the project lifecycle.
- Impact on demographics (construction phase only). Construction activity could result in temporary migration into the study area (see below), which could increase the local/ regional population within a short period of time.
- Impact on social infrastructure (construction phase only). Construction activity may result in temporary pressures and/or disruption to social infrastructure in the local/ regional area. Assets that may be affected include housing, the health service, and schools.

14.2.2 Extent of the Study Area

The assessment of likely significant effects on land use, amenity and socio-economics considers effects over three distinct study areas:

- For direct impacts, such as loss of community or recreational land or severance of agricultural fields, the study area is the red line planning boundary for the Proposed Development (see **Volume 3 Figure 1.1**).
- For indirect impacts such as severance and in-combination effects on amenity for community and tourism receptors, effects are considered for a local study area comprising a 5km radius from the site boundary, including the settlements of Spittal and Halkirk (see **Volume 3 Figure 14.1**). This is informed by the study

areas used by relevant assessments such as Noise and Vibration, Landscape Character and Visual Amenity and Traffic and Transport, and comprises the area in which it is expected that these effects could arise.

- For impacts on employment, GVA, demographics and social infrastructure, the study area comprises the historic county of Caithness as well as The Highland Council area and Scotland as a whole.

14.2.3 Consultation Undertaken to Date

The Highland Council (THC) were consulted on the proposed scope of the EIA and responded in their Scoping Opinion (**Volume 4 Appendix 1.2**). Comments relevant to this chapter are set out in **Table 14.1**, along with the response to each comment:

Table 14.1: THC comments on Proposed Scope of the Assessment

Comment received	Response
'A Socio-Economic, Tourism and Recreation EIAR chapter is required. The EIAR should estimate who may be affected by the development, in all or in part, which may require 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 and operation of the development.'	This chapter of the EIAR provides an assessment of aspects including socio-economics, tourism and recreation. The assessment considers residential, community, tourism and recreational receptors that could be impacted and assesses the likely magnitude and significance of effects for these receptors, taking into account the sensitivity of user groups. The chapter also provides an assessment of the direct, indirect and induced employment that will arise during the construction and operational phases of the Proposed Development, the potential for training opportunities, and impacts on the local supply chain.
'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. While the Scoping Report and an eventual EIAR 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 and operational phase.'	This chapter of the EIAR provides an assessment of the likely significant effects on recreational receptors within the relevant study area during construction and operation, taking into account both direct impacts such as severance, and the potential for in-combination effects on amenity for users of recreational receptors.
'The EIAR should include an Access Management Plan to be developed in consultation with The Highland Council as Access Authority and other relevant stakeholder groups including neighbouring Community Councils, Companies, and Development Trusts. The AMP should accord with NPF4 Policies 11 (Energy) and 20 (Blue and Green Infrastructure) as well as HwLDP Policy 77 for Outdoor Access. The AMP should cover existing access and how that will be dealt with during the development, and future access provision within and linking to the development. The AMP should be clearly referred to in the EIAR Contents so that the Council's Access Officer can readily find it.'	There is no existing access to the site. It is intended that there remains no access to the site during construction and operation. The Proposed Development is to support critical national infrastructure. The site will be covered with operational substations, overhead lines and buried cables. There are numerous third party cables also entering the site and there is no safe option to allow access for members of the public to access the site.

14.2.4 Method of Baseline Data Collation

A desk-based study was undertaken to establish the baseline for the Land Use, Amenity and Socio-economic assessment. Data was collected from national data sources including the Office for National Statistics (ONS), VisitScotland, and relevant Scottish and UK government departments listed in **Table 14.2**. Receptors such as community facilities, recreational assets and tourism attractions have been identified based on published information and GIS data, cross checked against internet mapping.

Table 14.2: Sources of Baseline Information

Source	Summary	Geography
ONS mid-year population estimates	Total population and demographic structure	Highlands, Scotland
National Records of Scotland (NRS), population projections	Population projections	Highlands, Scotland
NRS, estimated population aged 15 years and over	Data on the number of people who are unemployed and in employment	Highlands, Scotland
NRS, household income	Estimates of income per person	Highlands, Scotland
Scottish Government, cost of housing	Median price of housing over time	Highlands, Scotland
Scottish Government, housing stock	Housing stock	Highlands, Scotland
Scottish Government, pupil-teacher ratio	Scottish Government data on pupil and teacher numbers for first and second level institutions	Scotland
The Highland Council, school capacity	Local authority data on school places at primary and secondary schools	Highlands
Public Health Scotland, patients per doctor	Data from National Heath Service (NHS) Scotland	Highlands, Scotland
ONS, business demography	Information on employees, active enterprises and persons engaged by sector	Highlands, Scotland
ONS, labour market statistics	Information on employment levels	Highlands, Scotland
ONS, Gross Value Added	Changes in GVA over time	Highlands, Scotland
ONS Business Register and Employment Survey (BRES), tourism employment	Estimates of employment supported by tourism	Highlands, Scotland
Visit Scotland / Visit Britain, tourism spending	Spending by visitors to Scotland	Highlands, Scotland
Visit Scotland / Visit Britain tourism volume	Number of visitors to Scotland	Highlands, Scotland
Visit Scotland / Visit Britain, tourism attractions	Tourism attractions within the local study area	Highlands
Visit Scotland, tourism accommodation	Accommodation occupancy by sector	Scotland
The Highland Council, Core Paths in Caithness	Maps of core paths within the local study area	Caithness

14.2.5 Assessment of Impacts on Residential, Agricultural, Community, Tourism and Recreation Receptors

The assessment of direct impacts on residential, agricultural, community, tourism and recreational receptors considers the land within the red line boundary for the Proposed Development. The assessment of indirect impacts for these receptors looks across the local study area and takes into account the findings of other relevant assessments including traffic and transport, landscape and visual, and noise.

In relation to access, it considers whether the significant effects identified in **Chapter 11 Traffic and Transport** have the potential to disrupt access to residential, community, tourism and recreational receptors. In relation to amenity, it considers whether the significant effects identified in **Chapter 8 Landscape Character and Visual Amenity**, **Chapter 11 Traffic and Transport**, **Chapter 13 Noise and Vibration** could, in combination, result in effects on amenity for residents or users of sensitive community, tourism and recreational resources.

14.2.6 Assessment Modelling: Economic Impact Assessment

The assessment of effects on employment and GVA is based on an economic model developed following industry best practice, published guidance and professional judgement.

The capital expenditure (CAPEX) data for the Proposed Development is broken down for the relevant local (The Highlands), national (Scotland) and United Kingdom study areas, based on assumptions around the local labour market and supply chain and the proportion of spend that is likely to occur within each area. Employment and GVA Type I and Type II effects and multipliers are then taken from the Scottish Government's Supply, Use and Input-Output Tables and applied to the CAPEX figure to estimate the Proposed Development's construction-phase direct, indirect and induced employment and GVA estimates. For the UK impacts the UK ONS input-output tables have been used for both direct and indirect estimates for employment[1] and GVA[2], however in the absence of type II multipliers the Scottish Type II multipliers have been used. A discount rate is applied to the GVA figure to express the economic impact in present values.

This approach estimates construction employment as 'person years of employment'. The employment figures include direct, indirect and induced jobs, which are defined as:

- Direct jobs - people employed by the main contractors responsible for the Proposed Development;
- Indirect jobs – people indirectly linked to the Project through the supply chain or employed by sub-contractors; and
- Induced jobs – additional jobs created, for example, when direct and indirect employees spend their incomes on consumer goods and services.

Operational employment is estimated based on figures supplied by the Applicant.

14.2.7 Demographic and Social Infrastructure Assessment

The demographic and social infrastructure impact assessment follows from the economic impact assessment and considers the implications of the employment supported during each phase. The potential change in population arising from employment opportunities is put into the context of an annual change in population typical for the study area. This is then used to determine the magnitude of effect.

The capacity of the study areas to absorb and adapt to this change in population is determined by the relative sensitivity of elements of social infrastructure in each of the study areas, for example:

- Housing – the relative availability within the housing market will be determined by relative increases in house prices over a period, as this will be determined by the potential scarcity of supply and insufficient ability to increase the supply of housing;
- Healthcare – the relative capacity of healthcare provision within each of the study areas to accommodate changes in population will be determined by metrics such as the number of patients per GP in each area; and,
- Education – the relative capacity of education provision within each of the study areas to accommodate changes in population will be determined by metrics such as the typical class sizes in primary and secondary schools.

14.2.8 Determining Magnitude of Change and Sensitivity of Receptors

The likely significance of effects is assessed as a function of the sensitivity of the receptors expected to experience an impact and the magnitude of change associated with that impact. Sensitivity is assessed on a scale from High to Negligible. The criteria used to determine sensitivity are set out in **Table 14.3**.

[1] ONS (2024) Employment multipliers and effects in the UK, 2020

[2] ONS (X) United Kingdom Unput-Output Analytical Tables, 2020

Table 14.3: Criteria for determining sensitivity of receptors

Sensitivity	Description
High	• There is very limited capacity within the local labour market to absorb additional demand, for example as a result of very low unemployment rates. Therefore, the Proposed Development could be expected to lead to labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation). • The asset is of high community, socio-economic, tourism, or recreational use value. It is of importance at a national or international level and has little capacity to absorb change without fundamentally altering its present character. There are no alternatives locally and/or it would not be possible to re-provide the affected land use. • The receptor possesses priority in national land use, socio-economic or tourism and recreation strategy and policy.
Medium	• The area has a constrained supply of labour and skills. Therefore, the Proposed Development may lead to labour market pressure and distortions. • The asset is of moderate socio-economic, tourism, recreation use value. It is of importance at a regional or national level and has some capacity to absorb change without fundamentally altering its present character. There are few alternatives locally and/or it may be possible to re-provide the affected land use. • The receptor possesses priority in local land use, socio-economic or tourism and recreation strategy and policy.
Low	• There is some pressure on labour and skills within the study area, and the Proposed Development could lead to some limited labour market pressure. • The asset is of low socio-economic, tourism, or recreation value. It is of importance at a regional or local level and can absorb change without fundamentally altering its present character. There are some alternatives locally and/or it would be possible to re-provide the affected land use. • The receptor is not identified as a priority in local land use, socio-economic or tourism and recreation strategy or policy.
Negligible	There is capacity within the local labour market to absorb additional demand. • The receptor is receptive to change and is of little socio-economic, tourism or recreation use value. There are alternatives locally and/or it would be possible to re-provide the affected land use. • The receptor is not identified as a priority in local land use, socio-economic or tourism and recreation strategy or policy.

Magnitude of change is also assessed on a scale from High to Negligible. The criteria used to determine magnitude are set out in **Table 14.4**.

Table 14.4: Criteria for Determining Magnitude of Change

Magnitude	Description
High	• The impact would dominate over baseline conditions. • Effects would be experienced at an international or national scale. • For non-agricultural land - constitutes a long-term change to baseline. Effects would be of long-term duration (continuous i.e. permanent and irreversible). • Major effect on large numbers of businesses, employment creation or well-being of receptors/local people (with number depending on the local context). • Permanent loss of the majority of a single agricultural holding.
Medium	• For non-agricultural land - a medium-term impact on the baseline conditions (i.e. 3-5 years). • Effects would be experienced at a regional, or sub-regional scale. • Moderate effect on businesses, employment creation or well-being of receptors/local people (with number depending on the local context). • Temporary or permanent loss of a large proportion of a single agricultural holding.

Low	• For non-agricultural land - a short-term impact on the baseline conditions (i.e. 1-2 years). • Effects would be experienced at a local level. • Minor effect on businesses, employment creation or well-being of receptors/local people (with number depending on the local context). • Temporary loss of a small proportion of a single agricultural holding.
Negligible	• For non-agricultural land - a very short-term/temporary change to the baseline (i.e. < 1 year). • Any impacts would be experienced at a local level. • Slight/no impact on businesses, employment creation or well-being of receptors/local people (with number depending on the local context).

The level of significance is determined by the sensitivity of the receptor and magnitude of the impacts upon them (see **Table 14.5**). For the purposes of the assessment and the EIA Regulations[3], 'significant effects' are those identified as being moderate or major (adverse or beneficial). Minor effects are not considered to be significant.

Table 14.5: Matrix for Determining the Significance of Effects

		Sensitivity of receptors			
		High	Medium	Low	Negligible
Magnitude of impact	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible
	Negligible	Minor	Negligible	Negligible	Negligible

14.2.9 Limitations and Assumptions

Some baseline datasets are not available at local authority level. Where this is the case, data for Scotland has been used instead and assumptions applied in terms of relevance to the local context.

Operation expenditure (OPEX) data for the Proposed Development was not available at the time of writing, and so operational employment is instead based on an estimate provided by the Applicant. Due to this the assumptions of local and national employment have been altered in line with relevant industry research, therefore not accounting for any leakage outside of the UK.

There is limited existing research surrounding the economic impact of substation development and operation specifically.

14.3 Sensitive Receptors

14.3.1 Local businesses

Businesses located within the Spittal and Halkirk area include the Auld Post Office Bed and Breakfast in Spittal, the Ulbster Arms in Halkirk, and Stemster House wedding venue to the east of Halkirk. These receptors are shown in **Volume 3, Figure 14.2.**

14.3.2 Community facilities

Community facilities identified in the Spittal and Halkirk area include:

- Spittal Community Centre;
- Halkirk Primary School; and
- Halkirk Surgery.

[3] HM Government (2017), The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Available online at: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (legislation.gov.uk)

These receptors are shown in **Volume 3, Figure 14.3.**

Further community facilities are located in Watten, approximately 8km to the east of the Proposed Development, and Thurso, approximately 12km to the north of the Proposed Development.

14.3.3 Tourism attractions and recreational assets

Major tourism attractions in Caithness includes part of the North Coast 500 driving route and John O'Groats, the most northerly point of the British mainland. Other tourist attractions in the wider Caithness area include historical sites and natural landscape features.

Tourist attractions and recreational assets within the Spittal and Halkirk area include:

- Achalone Activities Horse Riding School;
- Achnaharras Quarry Nature Reserve; and
- Sibster Walk, Halkirk.

Core paths in the Halkirk and Spittal area include:

- Caithness Core Path CA06.01 Brawl Castle and pond;
- Caithness Core Path CA06.02 Halkirk riverside;
- Caithness Core Path CA06.04 Causeymire Wind Farm;
- Caithness Core Path CA06.05 Lane along the east edge of Halkirk village;
- Caithness Core Path CA06.07 Achnaharras Quarry;
- Caithness Core Path CA06.08 The old quarry;
- Caithness Core Path CA06.10 Halkirk railside to river link;
- Caithness Core Path CA06.11 Brawl Castle riverside link;
- Caithness Core Path CA14.03 Sports pitch path; and
- Caithness Core Path C14.05 Watten Riverside Link[4] .

These receptors are shown in **Volume 3, Figure 14.4.**

The Northern Pilgrims' Trail pilgrimage route, an approximately 130-mile walking route linking Tain and Kirkwall, follows the route of the A9 through Spittal and includes the ruins of St Magnus's Church.

14.4 Baseline Conditions

14.4.1 Population

The most recent available data (2022) states that the population of the Highlands was 235,710. Over the decade 2012 – 2022, the population of the Highland population increased by 1.2%, which was a smaller increase than the national average increase of 2.6%[5]. Estimated population projections forecast that the population of the Highlands will increase by 0.5% by 2028[6], which is lower than the national trend (+1.8%).

The Highlands has a smaller proportion of working aged residents than nationally (60.4% and 63.5% respectively)[7]. Over the period from 2012 – 2022, the working age population of the Highlands fell by -3.4%, which was a greater reduction than seen at the national working age population (-0.23%). The number of residents aged 0-15 decreased by -8.6% over the decade – a higher rate than seen nationally (-2.4%) – while the over 65 population increased by 24.9% which is greater than the national average (18.5%).

[4] The highland council, Core paths in Caithness. Online Available at < Core paths in Caithness | (highland.gov.uk) >
[5] ONS (2023) Population Estimates by Local Authority
[6] ONS (2020) Sub-National Population Projections – 2018 based
[7] ONS (2023) Population Estimates local authority based by five year age band

The Highlands has the lowest population density of any of the 32 local authorities in Scotland[8]. The Highlands is significantly more sparsely populated than the national average with a 2020 population density of nine persons per hectare compared to 70 persons per hectare for Scotland in 2020[9].

14.4.2 Employment and economic activity

In 2023, the employment rate of the working age population was marginally higher in the Highlands than the national average (76.0% and 74.7% respectively[10]), and the rate of unemployment was marginally lower (2.5% and 3.0% respectively). The rate of economic inactivity – i.e. those who are neither in employment nor actively seeking employment - marginally higher across the Highlands than average at 22.9%, compared with 22.5% nationally. The Highlands had a claimant count of 2.3% - with a year-on-year decrease (March 2023 – March 2024) of 345 claimants (-10%[11]).

14.4.3 Employment by sector

In 2022, there were around 127,400 employees in the Highlands[12]. Over the period 2020–2022 The Highlands experienced slower employment growth compared to the national average (+6% and +20% respectively). Despite this, some sectors did record high levels of growth over this period, including accommodation and food services (+25%), arts, entertainment and recreation (+20%), and agriculture, forestry and fishing (+17%).

The Location Quotient (LQ[13]) measures the relative concentration of employment against the national averages – which provides a measure of specialisation or strength. The Highlands is highly specialised in the agriculture, forestry and fishing industry (LQ of 3.2), and more specialised than nationally in construction (LQ of 1.3) and accommodation and food services (LQ of 1.4). Conversely, the Highlands has a lower LQ in terms of employment across many sectors, most notably, the financial and insurance sector (LQ of 0.2) and the professional, scientific and technical sector (LQ of 0.6).

The Highland Council has noted local labour shortages, especially in rural areas, with Police Scotland, the Scottish Fire and Rescue Service and NHS Highland all reporting staffing issues[14].

14.4.4 Businesses by sector

According to the latest data (2023[15]) there were approximately 10,710 business in the Highlands. The business base in the Highlands has seen a small decline in terms of overall business numbers since 2018 (-0.8%). However, on a sectoral basis there is more fluctuation with the greatest growth in the following sectors; education (+16%), accommodation and food services (+14%) and the transport & storage services (+11%). In terms of absolute business growth, the construction sector has seen strong growth with an uplift of 95 businesses over the same period.

14.4.5 GVA

The most recent available data (2022[16]) shows that the overall GVA for the Highland's region was £6.957m. The region has experienced above average growth over the last decade in terms of GVA growth – with a 41% uplift in GVA since 2012, which is greater than the Scotland average (+39%). Underlying this growth are a number of key growth sectors driving GVA growth across the Highlands, including; accommodation & food services and the Information and communications (ICT) sector (both +68%) and the agriculture, mining and electricity sector (+82%).

[8] The Highland Council, Highland profile – key facts and figures. Online. Available at < Geography | Highland profile - key facts and figures | The Highland Council >

[9] ONS (2020) mid year population estimates & Local Insights Tool

[10] ONS (2024) Annual Population Survey

[11] ONS (2024) Claimant count by sex and age

[12] ONS (2023) Business Register and Employment Survey

[13] An LQ of 1.0 is in line with the national average, higher than 1.0 is greater than average, and lower than 1.0 is below average.

[14] The Highland Council (2023) Assessing Future Population Related Challenges in the Highland Council Area

[15] ONS (2023) UK Business Counts

[16] ONS (2024) Regional gross value added by industry

Three sectors make up over a third (38%) of all GVA in the Highlands. These are: agriculture, mining and electricity (12%), human health and social work (12%) and real estate (14%). Despite a number of overall strong GVA sectors the Highlands lags slightly behind the Scotland average in terms of GVA per FTE (£75,500 and £78,700 respectively)[17].

14.4.6 Household income

Analysis of gross weekly resident earnings[18] for full-time workers show slightly higher earnings in the Highlands (£705 per week) than the national average (£702 per week). By contrast, workplace earnings are lower in the Highlands (£664 per week) compared to Scotland (£703 per week)[19]. The resident earnings are higher in the Highlands compared to the workplace earnings.

14.4.7 Cost of housing

The median residential property price in the Highlands in 2023-24 was £205,000[20], placing it joint seventh most expensive local authority area in Scotland (out of 32) and above the Scottish average of £185,000. The data shows that there was a 24% uplift in average property price in the Highlands over the last five years – which is slightly greater than the national average (+22%). Over the last year the Highlands average house price increased by 2% - comparatively over half (59%) of the local authorities either experienced no uplift or a decrease over the same period. This points to potential housing affordability issues in the Highlands.

14.4.8 Housing stock

According to Scottish Government estimates of dwellings by tenure, in 2022 there were 121,510 dwellings in the Highlands, of which 67.86% were owner-occupied. This is above the average for Scotland (60.6%). Dwellings rented privately or with a job/business are less prevalent in the Highlands area (7.2%) than in Scotland (12.7%), while the proportion of public housing provision (rented from either housing associations, local authorities, New Towns or Scottish Homes) is also below average at 18% compared with 23% for Scotland[21].

The proportion of vacant private dwellings and second homes is slightly higher in the Highlands, at 7%, compared with the Scotland average of 4%. Between 2017 and 2022, an average of 1,159 new houses were built per annum in the Highlands.

14.4.9 Education

In the Highlands, the pupil-teacher ratio in 2023 was reported to be 15.8 in publicly funded primary schools, 11.8 in publicly funded secondary schools, and four in publicly funded special schools. Scotland had slightly different ratios: 15.3 in publicly funded primary schools, 12.5 in publicly funded secondary schools, and 3.7 in publicly funded special schools. Hence, the Highland area had a higher pupil-teacher ratio in primary and special schools but a lower ratio in secondary schools than Scotland's national average[22].

The nearest primary school to the site is Halkirk Primary School, a small village primary school which currently has 83 pupils on its roll[23]. This is a decrease from 101 pupils in 2021/22[24] and is around half its total capacity[25]. The nearest secondary school is Thurso High School, which has 753 pupils on its roll[26], around

[17] ONS (2023) BRES & ONS (2023) Regional Gross Value Added by Industry

[18] ONS (2023) Annual survey of hours and earnings – resident analysis

[19] ONS (2023) Annual survey of hours and earnings – workplace analysis

[20] Registers of Scotland (2024) Median residential property price by local authority

[21] Scottish Government (2022), Estimated stock of dwellings by tenure and local authority, at https://www.gov.scot/publications/housing-statistics-stock-by-tenure/ accessed on 16/07/2024

[22] Teacher census supplementary statistics 2023 at https://www.gov.scot/publications/teacher-census-supplementary-statistics/ accessed on 16/07/2024

[23] The Highland Council Schools – Halkirk Primary. Available online at: Schools - Halkirk Primary | The Highland Council

[24] The Highland Council (2022), Standards and Quality Report: Halkirk Primary School. Available online at: School Standards and Quality reports - Primary 2021-2022 | Halkirk Primary School SQ Report 2021-22 (highland.gov.uk)

[25] The Highland Council (2022), School Roll Forecasts – Thurso High school. Available online at: School roll forecasts March 2022 | Thurso High School (highland.gov.uk)

[26] The Highland Council Schools – Thurso High. Available online at: Schools - Thurso High School | The Highland Council

68% of its total capacity[27]. The school roll forecast for Thurso High School predicts a decrease in pupil numbers over the period to 2037/38.

14.4.10 Patients per doctor

NHS Scotland data shows that there are 369 GPs working in the Highlands, equivalent to 299 whole-time equivalent (WTE) roles. This equates to 11 GPs, or 8.9 WTEs, per 10,000 population. Across Scotland as a whole, there are 7.5 GPs and 5.9 WTEs per 10,000 population[28]. 30.4% of GP practices in the Highlands report vacancies for GPs, compared with 42.3% of practices across Scotland.

14.4.11 Tourism volume

Tourism is a key sector for the Highlands, with several nationally and internationally recognisable attractions, including Loch Ness, Urquhart Castle, and Ben Nevis, located in the area. The Highlands attracted around 1.9[29] million overnight trips by international visitors and Great Britain (GB) residents in 2022, resulting in 7.3 million nights in accommodation and £1.1bn being spent by international visitors[30]. It is also a popular day trip destination attracting 6.6 million-day trips from GB residents in 2022.

14.4.12 Tourism employment

The Highlands tourism sector[31] employs around 20,040 people (2022)[32]. Over the period 2015 – 2022 the sector's total employment in the Highlands increased by 2%, however it was heavily impacted by the Covid-19 pandemic with employment dropping by 23% from 2019 – 2020 – a greater decrease than seen nationally (-16%). Despite this, the sector had a strong bounce back from 2021 – 2022 increasing by 18%, 8%greater than that seen at the national level. This highlights the sector's fragility to adverse impacts, but also its ability to bounce back.

14.4.13 Tourism spending

Prior to Covid-19 the visitor spend in the region reached £1.5bn[33]. However, more recent data post-Covid 19 highlights the increase in international travel to the Highlands and Scotland more generally. In terms of spending, international visitors to Scotland spent a total of approximately £3.6 billion in 2022[34], of which £1.1 billion[35] was spent in the Highlands.

14.4.14 Tourism accommodation

Data from the Scottish Accommodation Survey 2023[36] shows that average occupancy in hotels in Scotland was 65.4% in 2023, while average occupancy in guesthouses and B&Bs was 77%, and average occupancy in self-catering accommodation was 43.1%. This varies significantly throughout the year, with hotel occupancy reaching a peak of 84.5% in September 2023, guest house and B&B accommodation a peak of 89.1% in August 2023, and self-catering accommodation a peak of 58.4% in August 2023[37]. Equivalent data for the Highlands is not available.

[27] The Highland Council (2022), School Roll Forecasts – Thurso High school. Available online at: School roll forecasts March 2022 | Thurso High School (highland.gov.uk)
[28] NHS Scotland (2023), General Practice Workforce Survey 2023. Available online at General Practice Workforce Survey 2023 (nhs.scot)
[29] VisitBritain (2019) Great Britain Tourism Survey
[30] International Passenger Survey (2022) Great Britain Tourism Survey, Great Britain Day Visits Survey
[31] Using ONS SIC definition of tourism industries available at - Workers in the tourism sector - Office for National Statistics (ons.gov.uk)
[32] ONS (2022) BRES
[33] HIE, Supporting the tourism sector. Online. Available at < Tourism | Highlands and Islands Enterprise | HIE >
[34] Visit Scotland, International Tourism Performance. Available online at: https://www.visitscotland.org/research-insights/about-our-visitors/international/annual-performance-report
[35] Visit Scotland, Highlands – research and insights on tourism in the Highlands. Available online at: https://www.visitscotland.org/research-insights/regions/highlands
[36] Visit Scotland (2023) Scottish Accommodation Occupancy Survey. Online. Available at < Scottish Accommodation Occupancy Survey 2023 (visitscotland.org) >
[37] Visit Scotland, Monthly Accommodation Sector Reports. Available online at: Accommodation - Occupancy Statistics | VisitScotland.org

Future Baseline

14.4.15 Population projections

The National Records of Scotland[38] published statistics on population projections across local authority areas in Scotland. The latest release (2020) estimates a marginal decrease in population across the Highlands from 2024 to 2043 of 1.5% (-3,460 persons). Comparatively Scotland nationally is anticipated to see an increase in population of +1.3% (+69,950). The main factor for the change in population is natural change, however migration also accounts for a proportion of the change projected over this period.

Population projections vary considerably across different age groups, with the population of children aged 0-15 projected to decrease by 15.4% compared to 10.5% nationally. The working age population is also projected to decrease, by 5.4% compared with a Scotland average of -0.2%. In terms of the pensionable age and those aged over 75 both are expected to see growth projections of +22.1% and +78.3%.

14.5 Issues Scoped Out

Issues that were scoped out as part of the EIA Scoping Report are:

- Impact on demographics (operation phase). The scale of employment required to fulfil operations and maintenance contracts, is likely to be smaller in scale than during the construction period. This suggest smaller impacts on demography, which, in the case of operations and maintenance, are likely sustained over time.
- Impact on social infrastructure (operation phase). The level of employment supported by operations and maintenance is likely to be more limited in scale than during the construction phase. In addition, long-term effects on demographics with implications on social services will be accommodated by the increase in local tax revenue associated with the Proposed Development.
- Impact on human health (construction and operation). The Proposed Development may have adverse impacts on human health. As stated in the EIA Scoping Report, these impacts are assessed indirectly in other chapters of this EIAR, such as **Chapter 11 Traffic and Transport** and **Chapter 13 Noise and Vibration**, and are therefore scoped out of this assessment.
- Transboundary effects (construction and operation). The only effects on other countries expected will come from the potential award of some of the construction contracts to companies based outside of Scotland. These effects are considered beneficial.

14.6 Assessment of Effects, Mitigation and Residual Effects

14.6.1 Mitigation by design

The site selection process (described in detail in **Chapter 4 The Site Selection Process and Alternatives**) has sought to avoid residential land, businesses and community facilities, and has taken into account potential impacts on agriculture, forestry and recreation.

14.6.2 Construction Phase

Private residential land

The construction of the Proposed Development will not have any direct impacts on residential property.

Chapter 8 Landscape and Visual has identified significant adverse visual effects on viewpoints representing residential receptors at Achalone. **Chapter 13 Noise and Vibration** also reports adverse effects for receptors in the Achalone area, however following mitigation including the implementation of a construction noise management plan (CNMP) these effects are assessed as not significant. Therefore, it is not expected that there will be any in-combination effect on amenity for residents of properties in the study area.

[38] National Records of Scotland (2020) 2018-based Sub-National Population Projections Scotland

Agricultural holdings

The site of the Proposed Development is currently in agricultural use. The land is classified as Land Capability for Agriculture (LCA) class 4.2, capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops. It is understood that the land is currently in use as grassland for grazing sheep and cattle and is in the ownership of a single landowner.

The construction of the Proposed Development will require the permanent loss of 87 ha of agricultural land. The landowner will be compensated for the loss of the land required for construction. It is assumed that the loss of this land will not impact on wider farm operations, and that access for the landowner to the remainder of the landholding will be maintained.

Given the LCA classification of the land, the sensitivity of the site is considered to be low. As the landowner will be compensated for the loss of the land and no further impacts on farm operations are anticipated, the magnitude of the impact is considered to be low. This would result in a minor adverse effect which would not be significant.

Community facilities

The construction of the Proposed Development will not have any direct impacts on community facilities and property. **Chapter 8 Landscape and Visual**, **Chapter 11 Traffic and Transport**, and **Chapter 13 Noise and Vibration** have not identified any significant residual effects that could, in combination, result in effects on amenity for users of community facilities within the relevant study area.

Tourism and recreation

The construction of the Proposed Development will not have any direct impacts on tourism and recreation assets, including core paths.

Chapter 8 Landscape and Visual has identified significant adverse visual effects on viewpoints at Achalone and at Achnaharras Quarry. Chapter 13 Noise and Vibration also reports adverse effects for receptors in the Achalone area, however following mitigation including the implementation of a CNMP these effects are assessed as not significant. Therefore, it is not expected that there will be any in-combination effect on amenity for users of tourism and recreation receptors in the study area, including Achalone Activities Horse Riding School, Achnaharras Quarry Nature Reserve, and associated core paths.

Employment and GVA

The construction of the Proposed Development will create employment locally and more widely across Scotland and the UK. Jobs will be created both onsite and offsite. Indirect jobs will be created throughout the supply chain. Induced employment will be created as workers spend their income on local goods and services.

Construction employment has been estimated based on the CAPEX for the Proposed Development. Project expenditure was supplied by the Applicant using a 2024 price base. These construction prices were converted into 2020 equivalent prices to enable matching with relevant Scottish Government data sets[39], by applying the relevant deflator published by the ONS[40].

The construction phase is anticipated to be 36 months profiled across:

- Site access September 2025;
- Construction works commencing 1st September 2025; and
- Construction works on site completed 1st September 2028.

Information received from the Applicant indicates that, at the peak of construction, there will be up to 440 workers on site.

Table 14.6 sets out estimates of local and national direct, indirect and induced employment and GVA across the construction period. The assessment of employment is presented in person years of employment and

[39] Scottish Government (2023) Supply, Use and Input-Output Tables: 1998-2020
[40] ONS (2024) GDP Deflators at Market Prices, and Money GDP

represents the jobs that would be created and safeguarded within the local (the Highlands) and national (Scotland) and UK economy, over the construction period as a whole.

Table 14.6: Estimated employment and GVA in construction based on CAPEX figures

Construction Employment	Local	National	UK	Total
Direct FTEs - Person Years	976	3,903	1,240	**6,119**
Indirect FTEs - Person Years	579	2,316	1,305	**4,200**
Induced FTEs - Person Years	860	3,439	1,112	**5,410**
Total - Person Years	**2,414**	**9,657**	**3,657**	**15,729**
Construction GVA	**Local (£m)**	**National (£m)**	**UK (£m)**	**Total (£m)**
Direct	£52.8	£211.0	£160.5	**£424.2**
Indirect	£27.6	£110.3	£164.9	**£302.8**
Induced	£44.9	£179.6	£136.7	**£361.3**
Total	**£125.3**	**£501.0**	**£462.1**	**£1,088.3**

Source: ERM calculations, 2024 (may not sum due to rounding)

It is estimated that the Proposed Development could generate around 2,414 person years of employment locally in the Highlands, which would lead to a temporary increase in current jobs in relevant supply chain industries. There is no data to accurately determine how many of these jobs will be taken by residents from the local area. However, given the sectoral strengths in the Highlands[41], the magnitude of impact for construction jobs is likely to be negligible at both the neighbourhood and local levels. The sensitivity of receptor is judged to be low because baseline data suggests there is skilled workforce available in the local economy. This would result in a medium effect that would not be significant.

The Scottish Government produces input-output tables across industries. Using the relevant sectors it is possible to estimate the additional impacts of the construction phase. It is estimated that the Proposed Development will generate around 579 indirect person years and 860 induced person years over the construction period.

It is estimated that the Proposed Development could generate 9,657 person years of employment across Scotland, equivalent to 3,219 FTEs which would represent a temporary increase of around 2.2% of current jobs across the relevant supply chain industries. Therefore, the magnitude of impact for the construction phase employment is concluded to be negligible. The sensitivity of receptor is judged to be low because baseline data suggests there is skilled workforce available in the Scotland economy and there are policy drivers supporting growth in this sector. This would result in a negligible effect that would not be significant.

GVA is a commonly used metric to measure economic productivity. As noted earlier, GVA is assessed by applying GVA Type I and II effects and multipliers taken from the Scottish Government's 'Supply, Use and Input-Output Tables'. These GVA effects and multipliers were applied to the CAPEX data provided by the Applicant. On this basis, it is estimated that the Proposed Development could deliver an additional £939.4m of direct, indirect and induced GVA per annum across the Highlands, the rest of Scotland and the UK.

The Proposed Development is estimated to contribute £125.3million of GVA across the Highlands during the construction phase (per annum just over three years). The baseline shows GVA in the Highlands was £6.96 billion in 2022[42]. The additional GVA impact of the Proposed Development would represent a fractional contribution to the local baseline position. The magnitude of impact on GVA for the construction phase is therefore concluded to be negligible for the Highlands and not significant.

[41] CIOB (2023) Building up Scotland: professional insights from the construction sector in 2023

[42] ONS (2024)Regional gross value added by industry

The Proposed Development is estimated to contribute £501.0 million GVA to the Scotland economy during the construction phase (per annum over three years). The baseline shows GVA in Scotland was £165.7bn in 2022. The additional GVA impact of the Proposed Development would represent a fractional contribution to the Scotland baseline position. The magnitude of impact for construction phase GVA is therefore concluded to be negligible for Scotland and not significant.

Demographics

It is likely that the construction of the Proposed Development will require some labour from outside The Highland Council area, and that a proportion of this incoming construction workforce would choose to reside temporarily within the Caithness area. There is the potential that this could result in effects on the demographics of the local population.

The size and duration of the incoming workforce is expected to be relatively small and short-term. The construction programme is expected to run for 36 months (assumed 01 September 2025 to 01 September 2028) and, at the peak of construction, it is estimated that there could be up to a maximum of 440 workers employed directly on site, for a period of approximately one year. Assuming that around a third of these jobs are taken up by people living within the Highlands, this could equate to up to 290 workers from other parts of Scotland and the UK seeking accommodation temporarily in the area.

As shown in the baseline, the working-age population of the Highlands has decreased in recent years, and the population as a whole is projected to decrease over the period from 2024-2043. The area immediately surrounding the site of the Proposed Development is sparsely populated, and it is considered likely that any incoming construction workforce would be dispersed across the wider Caithness area, which would reduce the likelihood of noticeable changes in local demographics.

Given the low rate of growth in the local population and a projected decrease in the population from 2024-2043, the sensitivity of the local population is considered to be low. The magnitude of the impact is also considered to be low, resulting in a minor adverse effect which would not be significant.

Social infrastructure

Any temporary increase in population during construction could have the potential to increase pressure on local services and social infrastructure such as housing, healthcare and education. The baseline shows that house prices in the Highlands have increased at a faster rate than Scotland as a whole, and that there is above average proportion of vacant properties and second homes, indicating that there is some existing pressure on the availability of housing within the local authority area.

However, tourism accommodation data for Scotland suggests that there is likely to be capacity within hotels, B&Bs, guesthouses and self-catering accommodation, even at the peak of the tourist season. Local schools, including Halkirk Primary School and Thurso High School, are currently below capacity and, in the case of Thurso High School, are expected to see a further decline in pupil numbers. The ratio of GPs to patients is higher in the Highlands than Scotland as a whole, and there is a lower rate of GP vacancies.

Given assumed capacity in tourism accommodation, and capacity within local schools, the sensitivity of social infrastructure in the study area is considered to be low. As discussed above, the number of construction workers expected to move into the area for the duration of construction is expected to be relatively small and so any impact is likely to be negligible in magnitude. This would result in a negligible effect which would be not significant.

14.6.3 Operational Phase

Private residential land

The operation of the Proposed Development will not have any direct impacts on residential property and it is not anticipated that traffic associated with the operation of the Proposed Development will result in any indirect effects for local residents.

Chapter 13 Noise and Vibration has identified significant adverse noise effects during operation at Banniskirk House and Banniskirk Mains. Chapter 8 Landscape and Visual notes that existing woodland at Banniskirk

House provides screening of the Site, however there would be moderate adverse effect on a viewpoint at Banniskirk Mains in year 1 and year 12 of operation. There is therefore the potential for an adverse in-combination effect on amenity for residents of properties at Banniskirk House and Banniskirk Mains.

Chapter 13 Noise and Vibration notes that the assessment at Banniskirk House is relatively conservative, and that a further assessment should be conducted during detailed design, following further refinement of the assessment data and implementation of mitigation. It is anticipated that, with appropriate engineering design or mitigation, noise impacts would be reduced and no significant residual effects are predicted. Assuming that this is the case, there would not therefore be any in-combination effect on amenity for residents.

Agricultural holdings

The permanent loss of agricultural land within the Proposed Development boundary would arise during the construction phase and is assessed as a permanent construction effect. The operation of the Proposed Development will not have any further direct impacts on agricultural holdings. It is not anticipated that traffic or other environmental effects associated with the operation of the Proposed Development will result in any indirect effects on agricultural land holdings.

Community facilities

The operation of the Proposed Development will not have any direct impacts on community facilities. It is not anticipated that traffic associated with the operation of the Proposed Development will result in any indirect effects for users of community facilities, or that traffic, landscape and visual, noise and air quality effects will result in any in-combination effects on amenity.

Tourism and recreation

The operation of the Proposed Development will not have any direct impacts on tourism and recreation assets, including core paths. It is not anticipated that traffic associated with the operation of the Proposed Development will result in any indirect effects for users of tourism and recreation receptors. While **Chapter 8 Landscape and Visual** has identified significant adverse visual effects at Achalone and at Achnaharras Quarry, other relevant topics have not identified significant residual effects at these locations and it is therefore not anticipated that there will be any in-combination effects on amenity for users of tourism and recreation resources.

Employment and GVA

OPEX data for the Proposed Development is not available at the time of writing, however the Applicant anticipates that the Proposed Development will support approximately 10 direct FTE jobs when fully operational. The Proposed Development is estimated to become operational by 1st September 2028. Substation operational employment mainly revolves around maintenance of the site. It is estimated that the Proposed Development will support a further eight indirect and induced jobs within the local supply chain.

Table 14.7: Estimated employment and GVA in operation

Operation Employment	Local	National	Total
Direct	4	6	**10**
Indirect	1	7	**8**
Induced	7	9	**16**
Total	**12**	**22**	**34**
Operation (p/a) GVA	**Local**	**National**	**Total**
Direct	£263,211	£363,482	**£626,693**
Indirect	£150,480	£207,805	**£358,285**
Induced	£204,929	£282,997	**£487,925**
Total	**£618,619**	**£854,284**	**£1,472,903**

Source: ERM calculations, 2024 (may not sum due to rounding)

Based on research[43,44,45] the on-going operational roles are estimated to be across the following sub sectors:

- Repair and installation of machinery and equipment;
- Services to buildings and landscape activities;
- Architectural and engineering activities; technical testing and analysis; and
- Electricity.

The extent to which employment benefits are captured locally within the Highlands and Scotland will depend on the ability of local labour and supply chains to take advantage of the opportunity. The evidence suggests that there is local expertise[46] in the sector. SSE describes the Highlands as 'Scotland's Renewable Powerhouse'[47], and is investing £20bn in upgrading grid infrastructure in the north of Scotland as part of its Pathway to 2030 strategy[48].

The Project would generate around 10 direct local permanent FTE jobs. The industry[49] employs almost half of its workforce in skilled trades (21%) and professional occupations (24%)[50], and so it is likely that many of these jobs would be skilled, which could be beneficial in the context of a rural economy that has experienced a decrease in its working-age population and records low rates of employment growth. Given the low number of jobs that would be created overall, however, the magnitude of impact on operation and maintenance phase jobs is concluded to be negligible. For the rest of Scotland, the Proposed Development will generate an anticipated 22 annual FTE jobs which is a negligible proportion of jobs compared against the baseline. Therefore, the magnitude of impact for the operation and maintenance phase employment is concluded to be negligible and not significant.

The economic benefit of the Proposed Development can be measured in terms of GVA, which is a key measure of economic productivity. It measures the increase in the value of the economy due to the production of goods and services. GVA is estimated for the operation phases, including direct, indirect and induced GVA. The GVA benefit values are discounted by HM Treasury recommended discount rate of 3.5% to measure benefits in present values, i.e. 2024 prices.

GVA is calculated by utilising GVA Type I and II effects and multipliers taken from the Scottish Government's 'Supply, Use and Input-Output Tables'. These GVA effects and multipliers were applied to the 10 FTE jobs figure provided by the Applicant to estimate GVA impacts from the operation and maintenance phase. It is estimated that the Proposed Development could deliver an additional £1.5 million of direct, indirect and induced GVA per annum across the Highlands and the rest of Scotland. The additional GVA impact of the Proposed Development would represent a fractional contribution to the Highlands and Scotland baseline position. The magnitude of impact for operation phase GVA is therefore concluded to be negligible and not significant.

14.6.4 Cumulative Effects

This assessment has considered the potential for cumulative effects to arise as a result of the construction and/or operation of the Proposed Development, in combination with other projects planned within the local area, as outlined in **Table 5.2** (**Chapter 5 EIA Process and Methodology**).

There is the potential for cumulative effects on the local labour market as a result of increased demand for construction workers, should a number of the cumulative schemes come forward concurrently. This could lead to displacement of economic activity elsewhere within the local economy, shortages of labour and distortions in the labour market. There could also be cumulative effects related to incoming construction workers and impacts

[43] Engineering Update (2024) Introduction to Substation Construction: Building the Backbone of the Electrical Grid. Online. Available at < Introduction to Substation Construction: Building the Backbone of the Electrical Grid - Engineering Update (engineering-update.co.uk)>

[44] RenewableUK (2015) Onshore Wind: Economic Impacts in 2014

[45] BVG (2022) Berwick Bank Wind Farm Socioeconomic technical report

[46] BBC News (2023) Highlands and Islands: Rural backwater to industrial powerhouse. Online. Available at < Highlands and Islands: Rural backwater to industrial powerhouse - BBC News >

[47] SSE Renewables – Scotland's Renewable Powerhouse. Online < Scotland's Renewable Powerhouse | SSE Renewables >

[48] SSEN – Projects delivering a Network for Net Zero Pathway to 2030. Online < Projects delivering a Network for Net Zero - Pathway to 2030 - SSEN Transmission (ssen-transmission.co.uk) >

[49] RenewableUK (2015) Onshore Wind: Economic Impacts in 2014

[50] Energy & Utility Skills Group (2017) Power Industry: workforce and skills profile

on local accommodation and services, although given the assumed capacity within the tourism accommodation sector discussed above this is not considered likely to be significant. The Applicant will continue to engage with THC and with other developers to understand the potential for significant cumulative effects, and to identify the need for measures to mitigate any significant effect on the local labour market and on the supply of housing and tourism accommodation.

Chapter 13 Noise and Vibration reports significant adverse cumulative effects associated with the construction of projects including the West of Orkney Windfarm Grid Connection and the Ayre Windfarm Grid Connection. After mitigation, including communication with the respective developers and a combined CNMP during potential high noise activities, these effects are assessed as not significant. Therefore, it is not expected that there will be any cumulative in-combination effect on amenity for users of tourism and recreation receptors in the study area, including Achalone Activities Horse Riding School, Achnaharras Quarry Nature Reserve, and associated core paths.

14.7 Summary

The assessment has considered the likely significant effects of the construction and operation of the Proposed Development on land use, amenity and socio-economics. It has not identified any significant adverse effects for relevant receptors, including as a result of in-combination effects on amenity. There are likely to be positive effects associated with employment and GVA generated during construction and operation, however these are not expected to be significant.

There is the potential for cumulative effects on the local labour market as a result of increased demand for construction workers, should a number of the cumulative schemes come forward concurrently. The Applicant will continue to engage with THC and developers of relevant schemes to understand the potential for such effects and to identify the need for measures to mitigate any significant adverse cumulative effects. It is not expected that there will be any cumulative in-combination effect on amenity for users of tourism and recreation receptors in the study area.