VOLUME 2: CHAPTER 15 – SOCIO-ECONOMICS

Figures and Visualisations (Volume 3a and 3b of this EIA Report)

There are no figures or visualisations associated with this chapter.

Appendices (Volume 4 of this EIA Report)

Appendix 15.1: Carnaig Socio-Economic Assessment Report

15. SOCIO-ECONOMICS

15.1 Introduction

This socio-economic chapter has been prepared by ERM based upon a report by Ove Arup & Partners Ltd ("Arup") on behalf of Scottish and Southern Electricity Networks Transmission ("SSEN Transmission"). The underlying report can be found in **Volume 4 Appendix 15.1** Carnaig Socio-Economic Assessment Report.

The report assesses the socio-economic impacts of the Proposed Development during both the construction and operational phases, considering effects at various geographical scales; the local (Highland Council Area), regional (Scotland), and national (UK) study areas. In addition to employment and Gross Value Added (GVA) impacts, it also assesses potential effects on tourism and recreational activities, recognising their importance to communities and the economy of the north of Scotland.

15.2 Assessment Methodology and Significance Criteria

Scope of the Assessment

The scope of the assessment includes the following aspects:

- Defining the impact areas for the assessment.
- Assessment of economic impacts during the construction phase.
- Assessment of economic impacts during the operational phase.
- Assessment of impacts on tourism and recreation.

Extent of the Study Area

The Proposed Development would be located in The Highland Council area, approximately 9.5 km north east of Bonar Bridge and approximately 70 km to the north of the city of Inverness - the administrative and economic hub of the Highlands.

The geographical scope of the socio-economic assessment is defined across three distinct scales to reflect the varying levels of impact:

- Local (The Highland Council area): This scale focuses on the immediate context of the development, providing insights into the impacts on local communities and economies within the Highland Council area.
- Regional (Scotland): The regional scale assesses the broader impacts across Scotland, allowing for an understanding of how the project contributes to regional economic trends, particularly in terms of employment and GVA.
- National (UK): At the national level, the assessment examines the project's wider socio-economic implications, considering its potential influence on national economic patterns and contributions within the UK. By incorporating both broader regional scales and detailed local data, the assessment ensures that socio-economic impacts are evaluated at the most relevant levels.

In addition to these broader geographical scales, more detailed socio-economic indicator data is used at the Data Zone level. The project is located in the 'Sutherland South – 07 Data Zone'. This granular data allows for a more focused assessment of localised impacts, considering the unique characteristics and socio-economic dynamics of this specific area.

The study area is more site-specific for the assessment of tourism and recreation. This includes the land within the boundaries of the Proposed Development, as well as immediately adjacent areas where direct effects, such as visual or noise impacts might be experienced. The study also considers a wider area extending up to 5 km from the red line boundary of the Proposed Development, to account for any indirect effects on tourism assets or recreational activities within the broader vicinity.

By tailoring the study areas to these different scales, the assessment ensures that both localised and broader socio-economic, recreational and tourism impacts are thoroughly evaluated.

Consultation Undertaken to Date

Consultations with key stakeholders, including project developers and contractors, have been conducted to refine the assumptions used in the analysis and ensure the accuracy of the economic impact estimates. These consultations involved reviewing documents from SSEN Transmission and engaging in discussions with contracted developers and project managers to gather CAPEX data and worker strategy details. It is important to note that consultation has not been undertaken with local authorities or tourism stakeholders; instead, the analysis has relied on previous consultation documents and existing data. The objectives of these consultations are as follows:

Validate expenditure data: Confirm the accuracy of CAPEX, and OPEX data.

Understand contracting practices: Gain insights into the location and sectoral distribution of contractors.

Assess local economic contribution: Understand the proportion of expenditure expected to benefit the local and regional economies.

Evaluate tourism and recreation concerns: Gather input from existing consultation documents on potential impacts and mitigation strategies.

Method of Baseline Data Collection

A desk-based study was undertaken for the assessment of existing socio-economic conditions to provide a full overview of the current conditions in the Proposed Development study area. This assessment covers various critical aspects, including population, economic activity, employment, supply chain capacity and capability, qualifications, earnings, Gross Value Added (GVA), deprivation, land use, housing, tourism, and recreation. Spatial analysis using Geographic Information Systems (GIS) has been used to ensure accurate and detailed insights.

Assessment Modelling

The methodology for assessing socio-economic impacts covers both the construction and operational phase.

It begins with a comprehensive assessment of existing socio-economic conditions in the area.

Following this, Proposed Development specific inputs — such as footprint, worker strategy, and capital costs—were integrated, detailing the anticipated changes and investments associated with the development.

These inputs were then used in input / output modelling to analyse the economic interactions and impacts.

The results from these analyses informed the GVA (Gross Value Added) and employment calculations, providing a detailed understanding of the economic contributions and job creation potential.

Alongside this modelling, an assessment of Tourism and Recreation was conducted to evaluate the potential effects on local tourism and recreational activities.

Employment and GVA Multipliers for 2019[1], sourced from Scottish Supply, Use and Input-Output Tables, are used to calculate direct, indirect and induced economic impacts of the Proposed Development.

Direct impacts refer to the jobs and economic output created directly by the Proposed Development, such as employing contractors on-site.

Indirect impacts capture the economic value generated by contractors' spending within their supply chains. These are calculated using Type I multipliers, which apply to the direct impacts.

Induced impacts arise from the spending of workers involved in the Proposed Development. This spending boosts economic activity further and is calculated using Type II multipliers applied to the direct impacts.

[1] Scottish Government (2023) Supply, Use and Input-Output Tables: 1998-2020

By applying these multipliers, the analysis accounts for the full economic ripple effect of the Proposed Development.

A key assumption in this socio-economic assessment methodology is that 60% of the capital expenditure is retained within the UK, based on SSEN Transmission's past procurement experience. However, there is a risk that the UK supply chain for substations may not be mature enough to meet the equipment demands for the significant network upgrades. With the accelerated construction pipeline, including ASTI works expected to be completed before 2030, there is a possibility that less of the expenditure will be retained within the UK. Supporting evidence for this figure has not been received, so it is recommended that results are viewed as being at the upper limit of potential benefits.

Determining Magnitude of Change and Sensitivity of Receptors

The assessment of the Proposed Development's impacts on tourism and recreation focuses on key tourism and recreational assets in the surrounding area. Given the absence of specific guidelines for substation projects, professional judgment is applied, supported by widely recognised economic impact assessment methods. The assessment considers potential effects on recreational behaviour, such as changes to routes, access issues, reduced amenity, and changes to the landscape. The key impacts considered are:

Visual impact: Infrastructure may reduce scenic views, affecting tourist appeal.

Noise and disturbance: Construction and operational noise may disrupt visitor tranquillity.

Accessibility: Infrastructure may impact access to tourist spots.

Perception: Landscape changes or industrial presence may alter the area's recreational appeal.

15.2.1 Sensitivity of Receptors

To assess how sensitive different tourism and recreational assets are to potential impacts, we evaluate their importance and capacity to absorb change. The sensitivity of each receptor or asset is based on factors such as:

Its importance at a local, regional, national, or international level.

Availability of alternative resources or routes.

Ease of replacing the resource or adjusting behaviour.

The asset's ability to accommodate change over time.

The nature of its users.

Table 15.1 outlines how the sensitivity of socioeconomic, tourism and recreational receptors are categorised.

Table 15.1 Sensitivity of Receptors

Sensitivity of Receptor	Definition
High	The asset/ receptor has limited capacity to absorb change and is of high socioeconomic / tourism / recreational value. It may be of national or international importance, or there may be no substitutes within its catchment area. Example: remote nature reserves or scenic hiking trails where tourism is driven by natural beauty and tranquillity.
Medium	The asset/ receptor can absorb some change without significantly altering its character and is of regional importance or has some substitutes within its catchment area. Example: villages with mixed cultural and natural attractions.

Low	The asset/ receptor can tolerate change with minimal impact on its character and has low socioeconomic / tourism / recreational value. It may be of local importance with multiple alternatives available. Example: areas near existing infrastructure or industrial sites.
Negligible	The asset/ receptor is highly resilient to change and has little to no socioeconomic / tourism / recreational value.

The magnitude of effect is assessed by determining how much the baseline position changes due to the development. This provides a foundation to measure the scale of impact. The magnitude is proportional to the degree of change in the asset's baseline condition and is categorised in **Table 15.2**.

Table 15.2 Magnitude of Effect

Sensitivity of Receptor	Definition
High	A major loss or improvement to key features of the baseline condition, resulting in a fundamental change to the asset. Example: substantial increase or decrease in tourism spend, or a long-term improvement of recreational assets. Major effect on large numbers of businesses or employment creation.
Medium	A material change to key elements of the baseline condition, altering the character of the asset but not fundamentally. Example: moderate changes in employment, tourism spend or improvement in recreational opportunities.
Low	Changes are detectable but do not significantly alter the baseline. Example: small changes to employment, tourism spend or recreational value.
Negligible	Changes are barely distinguishable from baseline conditions and approximate a "no change" situation.

Source: **Volume 4 Appendix 15.1**

The significance of the effect is determined by combining the sensitivity of the receptor with the magnitude of the impact. This process uses professional judgment to determine whether effects are significant or not, particularly when sensitivities or magnitudes are borderline. For the purposes of the assessment and the EIA Regulations[2], 'significant effects' are those identified as being moderate or major (adverse or beneficial). Minor effects are not considered to be significant. **Table 15.3** guides this process.

Table 15.3 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

[2] 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)

Limitations and Assumptions

Some baseline datasets are not available at all levels, therefore the most appropriate level of data has been used where needed.

15.3 Baseline

15.3.1 Tourism Receptors

For the Proposed Development, tourism receptors within a 5 km radius of the red line boundary have been identified. These receptors are assessed for their sensitivity to the Proposed Development and the magnitude of its impact on them. **Table 15.4** outlines the identified tourism receptors:

Table 15.4 Tourism receptors

Tourist attraction	Description	Distance from Site Boundary
Fishing at Loch Buidhe*	Fishing at Loch Buidhe is carried out from either the banks or by boat, with the loch reaching depths of more than 30 feet. The Loch has a surplus population of wild brown trout and small numbers of salmon and sea trout.	<10 m
Fishing at Loch a'Ghobhair*	The loch is home to the northern pike, brown trout, Atlantic salmon and the ocean trout.	1.2 km
Fishing at Loch an Lagain*	The loch is popular among anglers due to its abundant trout supply.	480 m
Midgey Beach	A historical landmark located on the eastern bank of Loch Buidhe.	50 m
Notes: *signifies a tourist attraction that is also considered to be used for reactional purposes.		

Source: **Volume 4 Appendix 15.1**

The recreational receptors have been identified at a 5 km radius from the red line boundary of the Proposed Development. It is anticipated that there would be no significant effects on visual amenity, air quality or noise impacts beyond approximately 5 km from the red line boundary of the Proposed Development. Therefore, recreational receptors located further than 5 km from the Proposed Development are anticipated to experience negligible effects as a result of the Proposed Development and are not considered further in this assessment.

The key recreational activities within 5 km radius of the red line boundary of the Proposed Development are walking routes, and fishing spots. The existing conditions for recreation within 5 km of the red line boundary of the Proposed Development are not expected to be affected by the Proposed Development once operational, as there is already a substation nearby. The following recreation receptors have been identified:

- Meall Mor Fire Track
- Balbair Forest Walk (Bonar Bridge)
- Achue Track
- Fishing at Loch Buidhe
- Fishing at Loch a'Ghobhair

Fishing at Loch an Lagain

15.3.2 Population

The Highlands is a mainly rural region in the north of Scotland covering an area of around 26,484km^2 [3]and has a population of 238,060 (as of June 2021[4]). The Highlands had the seventh highest population in 2021, out of all 32 council areas in Scotland. The main settlements within the Highlands area include Inverness, Fort William and Nairn which have populations of approximately 46,960, 10,500 and 10,100 respectively. The area is divided into eight city and local committees which are recognised by the Council.

Data released by the National Records of Scotland (NRS) and Office for National Statistics (ONS) shows that, in 2021, Sutherland South – 07 Data Zone had a population of 681 and just over half (58%) of the residents were of working age. This percentage is slightly lower compared to the working-age population in 2022 for the Highland Council Area (60%), Scotland (63%), and the UK (63%).

Additionally, in 2021, 22% of the population in the Data Zone were aged 65 and over. This is significantly higher than the figures for the Highland Council Area (16%), Scotland (16%), and the UK (18%) in 2022. These figures indicate an aging population and a high elderly dependency ratio in the area surrounding the Proposed Development, compared to the wider Highlands, Scotland, and the UK. The population of economically active 16 – 64-year-olds is 5% lower than the Scottish average.

There is considerable outward migration of the under-24's in the Highland area, and by 2026 the 16-24 population is expected to decrease by 7.1% from the 2016 figure. The 16-24 age-group is important for supporting future economic stability and growth, with continued outward migration of young people from the Highlands presenting a risk to the future of economic development for the local area.

15.3.3 Economic Activity

In the year to March 2024, The Highland Council Area experienced a similar rate of economic activity to Scotland and the UK although with a marginally higher employment rate than the Scotland and the UK (77%, 74% and 75% respectively) (APS[5]). At this time, a significant portion of the working-age population (27%) in the Highland Council area was economically inactive but wanted a job. This suggests barriers, such as a lack of suitable job opportunities and skills mismatch, exist. While the Highlands economic activity (79%) rate indicates vibrancy, the high rate of economically inactive people who want a job (27%) is high, compared to Scotland averages (17%) which highlights underlying issues that need to be addressed to fully utilise the available workforce. **Table 15.5** summarises rates of economic activity between April 2023 and March 2024.

Table 15.5 Economic Activity, April 2023 - March 2024

	Highland	Scotland	UK
Economic activity rate - aged 16-64	**79%**	**77%**	**79%**
Employment rate - aged 16-64	77%	74%	75%
% aged 16-64 who are employees	68%	66%	66%
% aged 16-64 who are self employed	8%	8%	9%

[3] Highland Council (2022) available at https://www.highland.gov.uk/info/695/council_information_performance_and_statistics/165/highland_profile_-_key_facts_and_figures [Accessed 23/08/2024]

[4] National Records of Scotland (2022) Highland Council Area Profile. Available at Highland Council Area Profile (nrscotland.gov.uk) [Accessed 23/08/2024]

[5] ONS (2024) Annual Population Survey (APS)

Unemployment rate - aged 16-64	*	4%	4%
Unemployment rate - aged 16+	*	4%	4%
% who are economically inactive - aged 16-64	**22%**	**23%**	**22%**
% of economically inactive who want a job	27%	17%	17%
% of economically inactive who do not want a job	73%	84%	83%

Source: **Volume 4 Appendix 15.1**

Between April 2023 and March 2024, the most popular occupations in the Highland Council Area were professional occupations, followed by elementary occupations, then associate professional occupations (APS). Whilst professional occupations accounted for a large proportion of jobs in the Highland Council Area (22%), this figure is low relative to Scotland and the UK, at 26% and 27% respectively. The same can be said of associate professional occupations, which account for just 12% of jobs in the Highland Council Area relative to 16% in Scotland and 15% across the UK. Occupations that account for a greater portion of jobs in the Highland Council Area than in Scotland and the UK are elementary occupations; skilled trades; caring, leisure and other service occupations; sales and customer service occupations; and process, plant and machine operatives.

15.3.4 Employment

In 2022, there were around 127,400 employees in the Highlands[6]. 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%). In the Highland Council Area, Scotland and UK, the construction industry employed 7%, 6% and 5%, of the respective areas total workforces.

Tourism is an important component of the Scottish economy and a significant source of employment across the country[7]. The sector employs people of varying ages, abilities, skill sets and nationalities, and it encompasses a range of subsectors such as accommodation, restaurants, travel agents, museums and other recreational and cultural activities. This makes tourism a flexible industry with a low barrier to entry, and employability programmes focussed on priority groups (young people with previous offending history 'back to work' and young people) exemplify the important role that tourism can play in ensuring inclusive growth in Scotland.

Using 14 identified Standard Industry Classification (SIC) codes for the tourism sector, as recommended by VisitScotland[8], employment data was obtained from BRES (2022). This data reveals that the tourism sector accounted for ten jobs in the Sutherland South – 07 Data Zone in 2022, all in restaurants and mobile food service activities. In the Highland Council Area, the tourism sector supported 13% of jobs, and across Scotland, tourism accounted for 9% of jobs.

15.3.5 Supply Chain Capacity and Capability

Several sectors may be impacted by construction and operation of the substation, including construction and engineering sectors. As shown above, the area has a relatively high concentration of construction employment. Assuming the necessary construction and maintenance skills can be sourced from the local area and are

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

[7] Scottish Government (2018). 'Tourism in Scotland: the economic contribution of the sector', available at: Foreword from the Chair of the Tourism Leadership Group - Tourism in Scotland: the economic contribution of the sector (www.gov.scot)

[8] VisitScotland (2024).'TOURISM EMPLOYMENT IN SCOTLAND', available at: Tourism Employment in Scotland - Statistics | VisitScotland.org

selected by the main contractor, the Proposed Development could create economic opportunities in local supply chains and across sectors, boosting local businesses and supporting employment.

15.3.6 Qualifications

In 2023, the proportion of the working-age population with at least an SCQF Level 7 qualification[9] (equivalent to a Scottish Higher) in the Highland Council Area was slightly lower than that of Scotland, but higher than the UK level. This indicates that the Highland Council Area has a workforce that is well-qualified and shows potential for upskilling.

15.3.7 Earnings

The mean gross pay for full-time workers in the Highland Council Area is slightly lower than in Scotland and the UK, with the UK having the highest mean gross pay[10]. However, the median gross pay is highest in the Highland Council Area and lowest at the UK level.

Similarly, the mean workplace-based gross pay of full-time workers is higher at wider geographical levels, with the Highland Council Area claiming the lowest mean pay and the UK the highest. This is expected given that the Highland Council Area is more rural, with less industry, while wider Scotland and the UK benefit from economic hotspots such as Glasgow and London where there are greater economic opportunities and more highly paid, skilled jobs.

The median workplace-based pay of full-time workers appears to be highest at the regional level, with Scotland claiming the highest pay; the UK follows closely behind, and the Highland Council Area has the lowest gross pay. It is worth noting that, again, the discrepancy between mean and median pay is largest at the UK level and lowest at the Highland level.

15.3.8 GVA

Gross value added (GVA) is a productivity metric that measures the value generated by any unit engaged in the production of goods and services. It provides a monetised value for outputs less the cost of inputs directly attributable to that production, such as raw materials and labour contracts. Therefore, GVA per worker represents the average economic contribution made by an individual worker to a region, sector or economy.

In 2021[11], the total GVA in the Sutherland South – 07 Data Zone was around [redacted] for the year, and the GVA per FTE[12] for this area was around [redacted]. In the Highland Council Area, GVA totalled [redacted], and GVA per worker stood at [redacted]. The GVA per FTE in Sutherland South is similar to that of the Scotland average [redacted] per FTE. The GVA per FTE as the data zone level is higher than the wider Highlands average which suggests that the activity undertaken by workers in the Sutherland South adds more value to the economy than other Data Zones in the Highlands.

15.3.9 Deprivation

The Scottish Index of Multiple Deprivation (SIMD[13]) 2020 ranks each of Scotland's 6,976 Data Zones from 1 (most deprived) to 6,976 (least deprived). This ranking is based on over 30 indicators of deprivation grouped into seven domains: Income, Employment, Education, Health, Access, Crime, and Housing. Quintiles split the ranked Data Zones into five groups, each containing 20% of Scotland's Data Zones. Data Zones in the 1st quintile fall within the 20% most deprived in Scotland. Sutherland South 07- Data Zone falls within the 3rd quintile of the SIMD, indicating a moderate level of deprivation.

[9] ONS (2023) APS
[10] ONS (2023) Annual survey of hours and earnings
[11] ONS (2021) Gross value added – statistics for lower layer super output areas, data zones and super output areas
[12] ONS (2021) Regional Gross Value Added & ONS (2021) BRES
[13] Scottish Government (2020) Scottish Index of Multiple Deprivation 2020

15.3.10 Tourism

Scotland's Tourism Strategy[14] sets out plans to deliver an additional [redacted] growth or more in visitor spend to [redacted] by 2020. The Strategy highlights potential assets that could be developed in Scotland, including walking and cycling routes, adventure tourism, food and drink experiences and local history and culture in rural areas. Other identified growth opportunities include adventure tourism, business tourism, cruises, golf, mountain biking and sailing.

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 million overnight trips by international visitors and Great Britain (GB) residents in 2022, resulting in 7.3 million nights in accommodation and [redacted] being spent by international visitors. It is also a popular day trip destination attracting 6.6 million-day trips from GB residents in 2022.

Neither Scotland's Tourism Strategy nor the Tourism Scotland 2020 Yearly Review suggests that energy projects are viewed as obstacles to tourism growth. A review of the Tourism Scotland 2020 Strategy indicates that total overnight visitor spending, growth in overnight spend in key markets, and overall tourism turnover generally increased between 2012 and 2017. In 2023, there were 2.29 million overnight tourism visits to the Highlands, with a total overnight spend of [redacted].

According to VisitScotland's 2023[16] tourism survey, 85% of visitors cited the region's scenery and landscape as their main reason for visiting. The top three reasons for tourists visiting the Highlands are the scenery and landscape, the history and culture, and the outdoor activities available. The top five attractions or activities undertaken in the Highlands include hill walking, mountaineering, hiking, and rambling; visiting a castle or fort; exploring a nature reserve; visiting a visitor or heritage centre; and shopping.

15.4 Issues Scoped Out

The Carnaig Substation is unlikely to significantly impact individual households and local communities. Housing assets in proximity to the Proposed Development have been identified in the assessment of existing socio-economic conditions. The closest residential property is 106 Sleasdareidh, which is approximately 1.5 km south west of the Proposed Development. There are also several scattered farm buildings located within 2 km of the Proposed Development. Given that there is unlikely to be any potentially significant effects on individual households and local communities, no further assessment has been undertaken.

15.5 Assessment of Effects, Mitigation and Residual Effects

Mitigation by Design

The site was selected for the following reasons:

- Clustering development next to the existing substation minimises landscape and visual impacts in the wider area.
- Historical bird surveys suggest the area is not heavily favoured by nesting hen harriers due to the closed canopy, reducing potential constraints.
- It offers the shortest connection to the existing substation and can utilise the access road for the existing Loch Buidhe substation.

There is a detailed process outlined in **Volume 4 Appendix 3.1 Substation Site Selection document**, which outlines how technical, environmental and cost considerations were brought together in a way which seeks the best balance in accordance with the Transmission Network Operators Licence and the Electricity Act 1989.

[14] Scottish Tourism Alliance, Scotland Outlook 2030 Responsible tourism for a sustainable future. Online. Accessed at < Scotland Outlook 2030 - Scotland's tourism strategy>

[15] Visit Scotland (2023) Highlands. Online. Accessed at < Highlands - Tourism Statistics & Visitor Numbers | VisitScotland.org >

[16] Visit Scotland (2023) Visitor Survey. Online. Accessed at < Scotland Visitor Survey - Domestic & International | VisitScotland.org>

Construction Phase

The CAPEX will generate socio-economic benefits for the Local (Highland Council Area), Regional (Scotland) and National (UK) study areas, particularly in terms of employment and Gross Value Added (GVA). The employment and GVA figures for each study area cannot be aggregated, as the impacts within the Highland Council are included in the overall impacts for Scotland, and similarly for the UK.

15.5.1 Employment Effects

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.

Estimates indicate that the Proposed Development could support 58 job years in the Highland Council Area, where one job year represents one year of continuous employment. This is conditional on commitment by the supply chain to employing local labour as far as possible. However, given the sectoral strengths in the Highlands[17] and supply chain strengths outlined in **Section 13.3.4**, the magnitude of impact for construction jobs is likely to be negligible at the local level. 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 negligible effect that would not be significant.

Additionally, employment impact modelling suggests that the Proposed Development could support 736 job years across Scotland, and the Proposed Development could support 1,627 job years on a national scale, (**Table 15.6**).

Table 15.6 Estimated employment (job years)

Employment	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Highland	37	12	9	58
Scotland	427	159	150	736
UK	665	477	485	1,627

Source: **Volume 4 Appendix 15.1**

Note: the UK is inclusive of local and regional values

The increase in construction employment would represent 0.5% of the current sector. 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.

15.5.2 GVA

The Proposed Development could contribute [redacted] to the total Gross Value Added (GVA) in the Highland Council Area over the construction period. At the regional level, the Proposed Development could contribute up to [redacted] in GVA to the Scottish economy, and for the UK economy this number could rise up to [redacted] (**Table 15.7**).

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

Source: **Volume 4 Appendix 15.1**[18]

Note: the UK is inclusive of local and regional values

The construction phase of the Proposed Development will result in direct, indirect and induced GVA impacts that vary by geographical level. When a contract is secured, jobs and economic output will be directly generated. During the construction phase, [redacted] in GVA could be directly generated as a result of contracts being secured in the Highland Council Area. The spending by contractors within their supply chains is expected to generate a further [redacted] indirect GVA, and together the direct and indirect effects are expected to generate [redacted] in induced GVA through the discretionary spending of direct and indirect jobs. As mentioned in **Section 13.3.8** GVA in the Highlands was [redacted] in 2021[19]. 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 and the sensitivity of the receptor is low, resulting in a negligible effect for the Highlands and not significant.

15.5.3 Tourism

It is anticipated that there would be no significant effects on visual amenity, air quality or noise impacts beyond approximately 5 km from the red line boundary of the Proposed Development. Therefore, tourist receptors located further than 5 km are expected to experience negligible effects and are not considered further in this assessment.

Construction vehicles will access the Proposed Development via Lochbuie Road, potentially deterring tourists fishing on the southern side of Loch Buidhe due to noise, air pollution, and increased traffic. Fish may migrate due to construction vibrations, but with no hydrological connection to Loch Buidhe, water quality and fish populations should remain minimally impacted. Tourists can fish from the opposite side of the Loch, where construction impact will be less significant. Additionally, there are multiple other good fishing locations within 10 km. Despite good practice measures to minimise noise and air pollution, therefore the magnitude of the impact is assessed as medium and medium sensitivity. Therefore, the impact is assessed as moderate but temporary, unlikely to affect long-term tourist numbers at Loch Buidhe. More detail on traffic impact is provided in the EIA Traffic and Transport assessment (**Chapter 12**).

It is anticipated that access to Loch a'Ghobhair and Loch an Lagain would be maintained throughout the construction period. The tranquillity of the local area and visual amenity are expected to be impacted by the construction of the Proposed Development, with a moderate overall impact assigned to both areas. However, this impact will be temporary and is unlikely to deter many keen anglers.

The impact on the tourism sector has been assessed as moderate at worst (**Table 15.8**). Moderate impacts on the number of anglers visiting Loch Buidhe to fish during the construction period of the Proposed Development has been assessed. This is due to construction vehicles accessing the Proposed Development via the Lochbuie Road to the south, the impact of the construction vibrations on the fish and the amenity, noise and air pollution disrupting the previously tranquil area and hence acting as a deterrent to the loch. However, as the construction

[18] Note that ERM has not independently audited or verified these estimates.

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

phase is temporary, no long-term impacts on the tourism industry is expected to result from the Proposed Development and no significant changes to the existing tourism conditions are anticipated.

Table 15.8 Effects on Tourism Receptors during Construction

Receptor	Sensitivity	Magnitude	Assessment of significance
Fishing at Loch Buidhe	Medium	Medium	Moderate
Fishing at Loch a'Ghobhair	Medium	Low	Minor
Fishing at Loch an Lagain	Medium	Medium	Moderate
Midgey Beach Historical Landmark	Medium	Medium	Moderate

Source: **Volume 4 Appendix 15.1**

15.5.4 Recreation

The key local recreational activities within 5 km of the red line boundary of the Proposed Development are walking routes, and fishing spots.

As shown in **Table 15.9** below the potential effect of the Proposed Development on recreational walking routes in the study area is expected to be negligible, leading to no significant impact. Due to the distance between the recreational site and the Proposed Development and the nearby forestry coverage, there is expected to be little visual amenity, noise and air pollution impact on these paths. The magnitude of impact on recreational walking routes for the construction phase is therefore concluded to be negligible and the sensitivity of the receptors negligible resulting in a negligible effect for the Highlands and not significant.

In terms of fishing, construction vehicles are expected to use Lochbuie Road to access the Proposed Development, which may deter tourists fishing on the southern side of Loch Buidhe due to noise, air pollution and increase traffic. Additionally, fish might migrate within the loch due to vibrations from construction works. However, as there is no hydrological link between the project and Loch Buidhe, water quality and fish populations should remain largely unaffected.

Tourists can still access quieter fishing spots on the opposite side of the loch or at the other lochs nearby. While noise and pollution will be mitigated, the impact of construction has been assessed as major but temporary, with no long-term effect on tourism. Access to Loch a'Ghobhair and Loch an Lagain will be maintained, with moderate, temporary impacts on the area's tranquillity and visual amenity, unlikely to deter most anglers.

The magnitude of impact of the Proposed Development on recreation is assessed to be medium. The sensitivity of the recreational receptors is judged to be medium. Therefore, this would result in an overall moderate effect of moderate significance. These effects are arising from the construction phase. However, as the construction phase is temporary, no long-term adverse significant impacts on the recreational assets are expected to result from the Proposed Development and no significant changes to the existing conditions described in **Section 15.3.11** are anticipated.

Table 15.9 Effects on Recreation receptors during Construction

Receptor	Sensitivity	Magnitude	Assessment of significance
Meall Mor Fire Track	Low	Low	Negligible

Balbair Forest Walk (Bonar Bridge)	Low	Low	Negligible
Achue Track	Low	Low	Negligible
Fishing at Loch Buidhe	Medium	High	Major
Fishing at Loch a'Ghobhair	Medium	Low	Minor
Fishing at Loch an Lagain	Medium	Medium	Moderate

Source: **Volume 4 Appendix 15.1**

Mitigation and Residual Effects

The Proposed Development is committed to the implementation of measures to mitigate impacts that could lead to significant effects in relation to socio-economic characteristics. This includes mitigation that is integral to the design of the Development, including for legislative compliance, as well as good practice mitigation measures that the Proposed Development is committed to adopting during construction and operation and maintenance.

As outlined in the Construction Environmental Management Plan (CEMP) (**Volume 4 Appendix 2.2**) the Proposed Development aims to, where possible, minimise the environmental impacts of the construction work and minimise the risk of causing pollution or a nuisance and associated cost delays. The CEMP outlines a number of environmental ground rules for employees to adhere to:

- Keep a tidy site
- Prevent a silty run-off
- Contain oil and fuel
- Respect wildlife
- Respect neighbours
- Assess environmental risks
- Report incidents

Additionally, the CEMP states that noise and vibration will be minimised in accordance with the controls specified in the Noise and Vibration Procedure and Environmental Management Guide. Traffic management controls will include the routing of vehicles to maintain the free flow of public traffic, access for pedestrians and strict management of works vehicles, including the issues of increased congestion, mud and dust and parking of workers vehicles. The measures set out in the CEMP will reduce environmental impacts and therefore the likelihood of significant effects for tourism and recreational receptors.

Operational Phase

The operational socio-economic impacts of individual substations are expected to be minimal. This is primarily because, once constructed, substations require relatively low levels of ongoing maintenance and staffing compared to other types of infrastructure projects. The primary function of a substation is to manage and distribute electrical power, which is largely automated and monitored remotely. As a result, the day-to-day operations do not generate significant employment opportunities or economic activity (GVA) at the local level. Therefore, for both employment and GVA the magnitude of impact is likely to be negligible and the sensitivity of receptor is also assessed to be negligible. Therefore, the impacts are concluded to be negligible and not significant.

The tourism assets are not expected to be affected by the Proposed Development once operational, as there is already an operational substation on the site and whilst there may be slight differences in the number of

employees accessing the site, it is unlikely to be a significant change. No significant impacts were identified in the EIA Noise and Vibration assessment (**Chapter 14**), thus no significant impacts on tourism receptors are likely.

The existing conditions for recreation within 5 km of the red line boundary of the Proposed Development are not expected to be affected by the Proposed Development once operational, as there is already a substation nearby. Any potential impacts during the operational phase would result from maintenance activities and would therefore only be short-term and temporary.

Cumulative Effects

When considering the cumulative impacts of all the projects under the Pathway to 2030 SSEN-T programme, the overall socio-economic benefits will become more apparent. Collectively, these projects will create more jobs in maintenance, monitoring, and support services across the network. While any single substation may not significantly impact local employment or economic activity, the combined effect of multiple substations and related infrastructure projects will contribute to sustained job creation and economic growth on a broader scale.

These cumulative impacts will be assessed as part of a national cumulative report, which will provide a comprehensive evaluation of the overall socio-economic benefits of the Pathway to 2030 SSEN-T projects.

There is potential for cumulative effects to arise from various projects included in the Pathway to 2030. These effects could impact Gross Value Added (GVA), employment, tourism, and recreation. The impacts on GVA and employment are likely to be more significant at a regional level, particularly during the operational phase of these projects. Additionally, tourists and recreational users, especially those on long-distance routes, may experience effects if they encounter multiple overhead lines in succession. This sequential visibility could affect their overall experience and perception of the landscape.

15.6 Summary

The Proposed Development is expected to deliver socio-economic benefits across the Highland Council Area, Scotland, and the UK. During the construction phase, the Proposed Development will generate economic activity. These benefits will manifest through direct impacts, such as supporting job creation and increased Gross Value Added (GVA), as well as indirect and induced impacts. The construction phase will support 58 job years and a direct GVA contribution of [redacted] in The Highland Council area. When combined with indirect and induced impacts, the total GVA contribution rises to [redacted]

At the regional level, Scotland will benefit from a total GVA impact of [redacted] and 736 job years, while the UK will see a GVA contribution of [redacted] and 1,627 job years. These figures represent the maximum GVA and employment anticipated in the UK.