BiGGAR Economics

Socio-Economic Assessment of the Emmock 400kV Substation

A report to Scottish and Southern Electricity Networks Transmission (SSEN Transmission)
November 2024

BiGGAR Economics

Contents

1. Executive Summary

The Emmock 400kV Substation could deliver a total of £71.7 million Gross Value Added (GVA) and 635 years of employment across Scotland.

Investment in Scotland's energy infrastructure is essential for advancing the nation towards a sustainable future, strengthening its economic foundation, and paving the way for the realisation of Scotland's ambitious energy goals. As energy generating capacity continues to grow, particularly in the north of Scotland, it is essential to develop new, and upgrade existing, grid infrastructure to distribute this increased energy generation from both onshore and offshore renewables across the rest of the UK.

In July 2022, National Grid, the Electricity System Operator (ESO)2, published the Pathway to 2030 Holistic Network Design (HND)3, setting out the blueprint for the onshore and offshore electricity transmission network infrastructure required to enable the forecasted growth in renewable electricity across Great Britain, including the UK and Scottish Government's 2030 offshore wind targets of 50 GW and 11 GW respectively.

The extensive studies completed to inform the ESO's Pathway to 2030 HND confirmed the requirement to increase the power transfer capacity between Kintore in Aberdeenshire and Tealing in Angus to enable the significant power transfer capability needed to take power from onshore and large scale offshore renewable generation which is proposed to connect at onshore locations on the East Coast of Scotland and transport it to areas of demand.

To achieve this, SSEN Transmission is proposing a new 400 kV overhead transmission line (OHL) between Kintore and Tealing. This new connection also requires two new 400 kV substations to be constructed near Tealing and in Fetteresso Forest in Aberdeenshire to enable future connections and export routes. In addition, two of the existing 275kV OHLs from the existing substation at Tealing, and Alyth and Westfield substations require to be upgraded to 400kV and connected to the new 400kV substation near Tealing. Additional short 275kV connections between the new 400kV and existing Tealing substation are also required.

The Proposed Development could generate £5.3 million GVA and support 48 years of employment across Angus and Dundee City.

In addition to its strategic role, the Proposed Development is expected to support significant employment and economic activity during its development and construction. Under the core scenario, it was estimated that the total investment by SSEN Transmission in the Proposed Development could generate:

- **£5.3 million GVA** and **48 years of employment** across **Angus and Dundee City**; and
- **£71.7 million GVA** and **635 years of employment** across **Scotland**.

Under SSEN Transmission's community wealth building statement of intent, the scale of the economic impacts from the Proposed Development could be maximised, under the ambition scenario, through several initiatives to increase the contracts awarded to businesses within the regional and Scottish economies. This would increase the proportion of the economic benefits that would be retained within these economies and could generate:

- **£20.5 million GVA** and **202 years of employment** across **Angus and Dundee City**; and
- **£106.4 million GVA** and **1,033 years of employment** across **Scotland**.

The Proposed Development will also look to minimise any negative impact on tourism and recreation within the local area. Following a comprehensive assessment, the overall impact on tourism and recreation has been determined to be negligible. This means that the Proposed Development is not expected to disrupt local tourism activities, nor will it significantly affect visitor numbers or the recreational use of the surrounding area. This ensures that the local tourism sector continues to thrive while contributing to the region's economic growth.

2. Introduction

BiGGAR Economics was commissioned by SSEN Transmission to assess the potential economic impacts from the development and construction of the Proposed Development.

2.1 SSEN Transmission

SSEN Transmission is the Transmission Owner responsible for the electricity transmission network in northern Scotland. They maintain and invest in the high voltage electricity transmission network that consists of underground and subsea cables, overhead lines on wooden poles or steel towers, and electricity substations. Their primary goal is to ensure the provision of safe and reliable electricity supply to communities and do so through the onboarding of a combined mix of renewable and traditional energy sources.

2.2 Project Background

Given the rate and scale of increased generating capacity development, SSEN Transmission has identified the need to develop additional substations, necessitating the development of the Emmock 400kV Substation near Tealing (the Proposed Development). This is essential to accommodate the significant power transfer capabilities needed to transmit energy from onshore and large-scale offshore renewable generation sites to the areas of demand.

To achieve this, SSEN Transmission is proposing a new 400 kV overhead transmission line (OHL) between Kintore and Tealing. This new connection also requires two new 400 kV substations to be constructed near Tealing and in Fetteresso Forest in Aberdeenshire to enable future connections and export routes. In addition, two of the existing 275kV OHLs from the existing substation at Tealing, and Alyth and Westfield substations require to be upgraded to 400kV and connected to the new 400kV substation near Tealing. Additional short 275kV connections between the new 400kV and existing Tealing substation are also required.

2.3 Report Structure

The remainder of this report is structured as follows:

- Section 3 considers the economic impact of the Proposed Development;
- Section 4 sets out the economic impacts generated by the Proposed Development in the strategic and socio-economic context of the region;

- Section 5 sets tourism in the area in context and considers the relationship between the Proposed Development and the local tourism economy;
- Appendix A provides the methodology for estimating the economic impact of the Proposed Development; and
- Appendix B includes a list of local tourist attractions.

3. Economic Impacts

The Proposed Development could generate £71.7 million GVA and support 635 years of employment across Scotland.

3.1 Capital Investment

The development and construction of the Proposed Development will involve substantial capital investment, covering the manufacturing, construction, and installation of the substation and related infrastructure. A portion of this investment, proposed by SSEN Transmission, will be allocated to local, Scottish, and UK companies, leading to increased turnover within these regions.

SSEN Transmission provided a breakdown of the investment. Based on this, assumptions were made about how the expenditure could be allocated across different categories. For each category, estimates were developed regarding the proportion of contracts that might be secured in each area and the relevant sectors for those contracts. These assumptions were informed by SSEN Transmission's experience with similar projects and BiGGAR Economics' expertise in the sector.

The economic impact analysis outlined in this chapter is based on the creation of two supply chain expenditure scenarios, which make assumptions on the location of businesses which are awarded contracts during the development and construction of the Proposed Development. The two scenarios are:

- core scenario: based on the minimum level of content that could realistically be achieved locally. This can be considered as a worst-case scenario; and
- ambition scenario: the potential local economic benefits that could be realised from the full implementation of a local supply chain development plan.

While the total investment remains the same in both scenarios, the ambition scenario retains a larger share of the expenditure within the regional and Scottish economies. The following section presents the economic impact that could be generated under the core scenario.

3.2 Economic Impact: Core Scenario

An Input-Output economic model was developed to estimate the economic impact of the Proposed Development. The first step was to consider the direct GVA supported by the Proposed Development. To estimate this, turnover by contract category was divided by a sectoral turnover per GVA ratio, as sourced from the Scottish Annual

Business Statistics[1] and the UK Annual Business Survey[2]. Sectoral allocation of contract categories was based on a mapping of each contract against a level 2 Standard Industrial Classification (SIC) code[3].

It was estimated that the development and construction of the Proposed Development could generate £4.2 million direct GVA in the combined study area of Angus and Dundee City, £40.6 million direct GVA in Scotland, and £49.4 million direct GVA across the UK.

Table 3-1: Core Scenario – Direct GVA by Contract Category (£m)

		Combined Angus and Dundee City	Scotland	UK
Development		0.8	6.4	7.8
Substation	Manufacturing	-	-	-
	Construction	2.7	27.0	27.0
	Installation	0.7	7.1	14.6
Total Direct GVA		**4.2**	**40.6**	**49.4**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

Similarly, the direct employment generated by each of the contract categories was estimated by dividing the turnover of each contract by the relevant sectoral turnover per job ratio. It was estimated that the development and construction of the Proposed Development could support 39 direct years of employment in the combined study area of Angus and Dundee City, 370 direct years of employment in Scotland, and 460 direct years of employment across the UK.

[1] Scottish Government (2023), Scottish Annual Business Statistics 2021.
[2] UK Government (2024), UK Annual Business Survey 2022.
[3] Office for National Statistics (2009), UK Standard Industrial Classification of Economic Activities 2007 (SIC 2007).

Table 3-2: Core Scenario – Direct Employment by contract Category (Years of Employment)

		Combined Angus and Dundee City	Scotland	UK
Development		9	71	91
Substation	Manufacturing	-	-	-
	Construction	22	216	216
	Installation	8	83	154
Total Direct Employment		**39**	**370**	**460**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

To estimate the indirect (supply chain) and induced (staff spending) impacts, it was necessary to multiply the direct GVA and direct employment supported by each contract category by the relevant sectoral GVA and employment Type 1 and Type 2 economic multipliers[4].

It was estimated the GVA impact associated with the multiplier effects could generate £1.1 million GVA in the combined study area of Angus and Dundee City, £31.2 million GVA in Scotland, and £85.1 million GVA across the UK.

Table 3-3: Core Scenario – Multiplier GVA (£m)

	Combined Angus and Dundee City	Scotland	UK
Indirect GVA	0.7	19.4	49.1
Induced GVA	0.4	11.8	36.0
Total Multiplier GVA	**1.1**	**31.2**	**85.1**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

It was estimated the employment impact associated with the multiplier effects could support 9 years of employment in the combined study area of Angus and Dundee City, 266 years of employment in Scotland, and 838 years of employment across the UK.

[4] More details on the methodology are provided in the Appendix A: Methodology.

Table 3-4: Core Scenario – Multiplier Employment (Years of Employment)

	Combined Angus and Dundee City	Scotland	UK
Indirect Employment	6	172	486
Induced Employment	3	94	351
Total Multiplier Employment	**9**	**266**	**838**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

The combined direct, indirect, and induced impacts of the development and construction of the Proposed Development are estimated to generate a total of £5.3 million GVA and 48 years of employment in the combined study area of Angus and Dundee City, £71.7 million GVA and 635 years of employment in Scotland, and £134.5 million GVA and 1,298 years of employment across the UK.

Table 3-5: Core Scenario – Total GVA (£m) and Employment Impact (Years of Employment)

	Combined Angus and Dundee City	Scotland	UK
Total GVA	**5.3**	**71.7**	**134.5**
Total Employment	**48**	**635**	**1,298**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

3.3 Maximising Economic Impact

The scale of the economic impacts from the development and construction of the Proposed Development could be maximised. The recommendations outlined include both sectoral guidance and suggestions to maximise impact in both the short and long term.

3.3.1 Sectoral Guidance

Grid infrastructure plays a crucial role in delivering clean, affordable energy and is key to achieving a just transition to Net Zero. In addition to reducing emissions, energy developments offer significant potential for driving local economic growth. However, to fully realise these local benefits, developers and stakeholders must actively aim for a high level of local content in their projects.

To support this objective, guidance has been developed, offering strategies for developers to maximise local economic benefits. A key resource is RenewableUK's Local Supply Chain in Onshore Wind: Good Practice Guid. While this is aimed at onshore wind, the principles are appliable to grid infrastructure. It provides the following recommendations:

- maximise local presence and start early: begin identifying potential local suppliers as early as possible by engaging and maintaining visibility in the community;
- leverage partnerships: collaborate with local business groups and authorities to enhance opportunities;
- act as an enabler: use information on local suppliers to ensure primary contractors prioritise local opportunities;
- provide timely information: adopt an iterative communication process with businesses, allowing them time to adapt and respond to opportunities.
- communicate technical requirements early: this allows local businesses time to upskill or form consortia where necessary; and
- demonstrate local content in planning: where feasible, include a clear commitment to local content in planning submissions and perform post-project audits.

While these principles are broadly applicable, developers can amplify their local economic impact by implementing more targeted actions, depending on whether the interventions are short- or long-term.

Some of these initiatives can be integrated quickly, delivering immediate benefits to the local content of the Proposed Development. Others require more time and engagement across a wider range of stakeholders, but they offer the potential for substantial future benefits.

3.3.2 Maximising Economic Benefits in the Short Term

In the short term, the focus should be on areas with the greatest potential for regional content, particularly within construction and installation contracts. Key actions include:

- prioritising regional and Scottish content during the Tier 1 tendering process;
- collaborating with Tier 1 suppliers to open opportunities for new entrants in the sector, especially businesses with experience in other industries that could transition to these contracts;
- developing an online portal to advertise all contracts associated with the Proposed Development; and
- engaging local communities to identify job opportunities that could be filled by local workers during the construction phase.

3.3.3 Maximising Economic Benefits in the Long Term

In the long term, efforts should focus on building a local supply chain in areas where current capacity is limited within the local area, and Scotland as a whole. Gathering data can help establish a baseline, enabling future projects to set higher targets for local content. Key long-term actions include:

- integrating Scottish content requirements into the Tier 1 tender process, encouraging suppliers to estimate the proportion of Scotland-based content. While this need not be a scored element, it can promote early-stage consideration of local content;

- formalising reporting requirements for Tier 1 suppliers to track their use of local and Scottish content;
- requiring Tier 1 contractors to support local skills development through initiatives such as apprenticeships; and
- evaluating the effectiveness of both developer and Tier 1 contractor engagements to inform and improve future projects.

3.4 Economic Impact: Ambition Scenario

Implementing these recommendations is expected to result in an increase in contracts awarded to businesses within the regional and Scottish economies. This would increase the proportion of the economic benefits that would be retained within these economies.

The economic impact analysis of the ambition scenario follows an identical modelling process as the core scenario, but with a greater proportion of the development and construction expenditure apportioned to the regional and Scottish economies.

Estimates based on the same method indicate that under the ambition scenario, the development and construction of the Proposed Development could generate £16.7 million in direct GVA within the combined study area of Angus and Dundee City, £62.5 million in Scotland, and £102.3 million across the UK.

Table 3-6: Ambition Scenario – Direct GVA by Contract Category (£m)

		Combined Angus and Dundee City	Scotland	UK
Development		1.6	6.4	7.8
Substation	Manufacturing	-	-	15.0
	Construction	8.4	33.7	33.7
	Installation	6.7	22.3	45.7
Total Direct GVA		**16.7**	**62.5**	**102.3**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

Similarly, under the ambition scenario it was estimated that the development and construction of the Proposed Development could support 163 direct years of employment in the combined study area of Angus and Dundee City, 600 direct years of employment in Scotland, and 983 direct years of employment across the UK.

Table 3-7: Ambition Scenario – Direct Employment by contract Category (Years of Employment)

		Combined Angus and Dundee City	Scotland	UK
Development		18	71	91
Substation	Manufacturing	-	-	142
	Construction	67	269	269
	Installation	78	259	480
Total Direct Employment		**163**	**600**	**983**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

It was estimated under the ambition scenario that the GVA impact associated with the multiplier effects could generate £3.8 million GVA in the combined study area of Angus and Dundee City, £43.9 million GVA in Scotland, and £162.3 million GVA across the UK.

Table 3-8: Ambition Scenario – Multiplier GVA (£m)

	Combined Angus and Dundee City	Scotland	UK
Indirect GVA	2.2	26.2	87.4
Induced GVA	1.6	17.7	75.0
Total Multiplier GVA	**3.8**	**43.9**	**162.3**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

It was estimated under the ambition scenario the employment impact associated with the multiplier effects could support 39 years of employment in the combined study area of Angus and Dundee City, 433 years of employment in Scotland, and 1,573 years of employment across the UK.

Table 3-9: Ambition Scenario – Multiplier Employment (Years of Employment)

	Combined Angus and Dundee City	Scotland	UK
Indirect Employment	23	260	844
Induced Employment	16	173	730
Total Multiplier Employment	**39**	**433**	**1,573**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

The combined direct, indirect, and induced impacts under the ambition scenario of the development and construction of the Proposed Development are estimated to generate a total of £20.5 million GVA and 202 years of employment in the combined study area of Angus and Dundee City, £106.4 million GVA and 1,033 years of employment in Scotland, and £264.6 million GVA and 2,556 years of employment across the UK.

Table 3-10: Ambition Scenario – Total GVA (£m) and Employment Impact (Years of Employment)

	Combined Angus and Dundee City	Scotland	UK
Total GVA	**20.5**	**106.4**	**264.6**
Total Employment	**202**	**1,033**	**2,556**

Source: BiGGAR Economics Analysis. Totals may not sum due to rounding.

4. Impact in Context

The Proposed Development will generate economic opportunities across Angus and Dundee City, and has the opportunity to drive progress towards the strategic priorities of the region.

4.1 Key Socio-Economic Indicators

4.1.1 Study Areas

This section considers the socio-economic structure of the following study areas:

- Combined Angus and Dundee City; and
- Scotland

4.1.2 Population Estimates

In 2022, the combined population across Angus and Dundee City (263,800), accounted for 4.8% of Scotland's total population (5,479,900).

The working-age population (aged 16 to 64) accounted for 63.2% of the total population in the region, slightly lower than the proportion across Scotland as a whole (63.8%).

In the same year, 20.7%, of the population across Angus and Dundee City was over the age of 65, exceeding the national average of 19.6%.

Table 4-1: Population Estimates

	Combined Angus and Dundee City	Scotland
Total	**263,800**	**5,479,900**
0-15	16.0%	16.6%
16-64	63.2%	63.8%
65+	20.7%	19.6%

Source: ONS (2023), Population Estimates – Local authority based by five-year age band.

4.1.3 Population Projections

National Records of Scotland provide population projections at the local authority and Scottish geographic levels. While information is not available at the electoral ward level, current population estimates and future trends at the local authority level can be used to form a view of more localised trends.

Over the period of 2022 to 2043, the population of Angus and Dundee City is expected to decrease by 1.6%, a decline of approximately 4,200 people. In contrast, the population of Scotland is projected to increase by 1.7%, to approximately 5.6 million.

Over the same period, the share of the working-age population across Angus and Dundee City is projected to fall by 2.2 percentage points (equivalent to a reduction of approximately 8,300 people), while the share of those aged 65+ is projected to rise from 3.7 percentage points.

Scotland is predicted to follow a similar trend, with the share of the working-age population projected to decrease by 3.5 percentage points, and the share of those aged 65+ projected to rise by 5.3 percentage points.

These demographic trends suggest that a declining working-age population will have to support an increasingly ageing population, and it is therefore crucial for Angus and Dundee City to attract and retain working-age individuals.

Table 4-2: Population Projections, 2022-2043

	Combined Angus and Dundee City		Scotland	
	2022	2043	2022	2043
Total	**263,800**	**259,600**	**5,479,900**	**5,574,800**
0-15	16.0%	14.6%	16.6%	14.8%
16-64	63.2%	61.1%	63.8%	60.3%
65+	20.7%	24.4%	19.6%	24.9%

Source: ONS (2023), Population Estimates – Local authority based by five-year age band; National Records of Scotland (2020), Population Projections for Scottish Areas (2018-based).

4.1.4 Industrial Structure

As illustrated in Table 4-3, in 2022 the highest proportion of employment in Angus and Dundee City was in human health and social work activities, accounting for 20.8% of total employment in the region. Employment in this sector was significantly higher than in Scotland as a whole (15.1%).

Of those working in Angus and Dundee City, 5.0% were employed in the construction industry, compared to 5.6% across Scotland. This sector is one of the primary areas of opportunity for contracts associated with the construction phase of the Proposed Development.

The electricity, gas, steam and air conditioning sector, which may support some of the installation works, employs a slightly lower proportion of the population in Angus and Dundee City (0.3%) compared to Scotland as a whole (0.7%).

The share of employment in the professional, scientific and technical activities sector, usually associated with project development activity, is also lower in Angus and Dundee City (5.1%) compared to the Scottish average (7.4%).

Table 4-3: Industrial Structure, 2022

	Combined Angus and Dundee City	Scotland
Human health and social work activities	20.8%	15.1%
Wholesale and retail trade	14.0%	12.8%
Education	10.0%	8.4%
Accommodation and food service activities	9.7%	8.2%
Manufacturing	7.0%	6.6%
Public administration and defence	5.2%	6.2%
Professional, scientific and technical activities	5.1%	7.4%
Construction	5.0%	5.6%
Administrative and support service activities	4.6%	7.8%
Agriculture, forestry and fishing	4.3%	3.4%
Information and communication	3.4%	3.1%
Transportation and storage	3.1%	4.0%
Arts, entertainment and recreation	3.1%	2.9%
Other service activities	1.7%	1.7%
Real estate activities	1.2%	1.4%
Financial and insurance activities	0.9%	3.1%
Water supply activities	0.7%	0.7%
Electricity, gas, steam and air conditioning supply	0.3%	0.7%
Mining and quarrying	0.1%	1.0%
Total Employment	**118,000**	**2,622,000**

Source: ONS (2023), Business Register and Employment Survey, 2022.

4.1.5 Economic Activity

In Angus and Dundee City, the unemployment rate was 7.8%, significantly higher than the Scottish average of 3.4%. Additionally, the economic activity rate was 72.3%, 5.6 percentage points lower than the Scottish average (77.9%).

Table 4-4 also shows that the median annual gross wage in 2022 for residents in Angus and Dundee City was £27,165, compared to the national average of £27,683.

Table 4-4: Labour Market Indicators, 2022

	Combined Angus and Dundee City	Scotland
Economically Active (%)	72.3%	77.9%
Unemployment Rate (%)	7.8%	3.4%
Median Annual Gross Wage (resident analysis)	£27,165	£27,683

Source: ONS (2024), Annual Population Survey Oct 2022-Sept 2023; ONS (2024), Annual Survey of Hours and Earnings – resident analysis (data for 2022).

4.1.6 Education

Across Angus and Dundee City, 51.4% of people have achieved at least a National Vocational Qualification Level 4 (NVQ4) qualification, equivalent to a higher education certificate. This is higher than the share of people in Scotland (50.0%) with a higher education certificate.

The proportion of people who have achieved no qualifications across Angus and Dundee City (5.6%) is lower than across Scotland as a whole (7.8%).

Table 4-5: Qualification Levels, 2022

	Combined Angus and Dundee City	Scotland
NVQ4+	51.4%	50.0%
NVQ3+	66.5%	64.8%
NVQ2+	79.4%	79.6%
NVQ1+	88.9%	86.4%
Other Qualifications	5.6%	5.8%
No Qualifications	5.6%	7.8%

Source: ONS (2023), Annual Population Survey Jan 2022 – Dec 2022.

4.1.7 Scottish Index of Multiple Deprivation

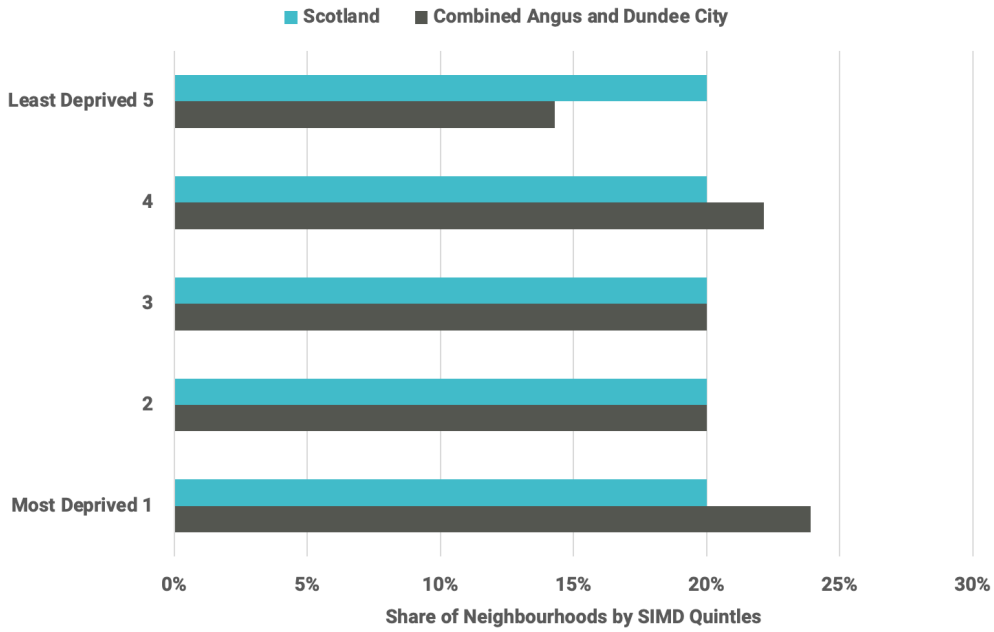
The Scottish Index of Multiple Deprivation (SIMD) is a relative measure of deprivation which ranks small areas across seven dimensions: income, employment, education, health, access to services, crime and housing. These areas can be ranked based on which quintile (fifth of the distribution) they belong to, with a small area in the first quintile being in the 20% most deprived areas in Scotland.

As shown in Figure 4-1, Angus and Dundee City are made up of 343 small areas, of which 24% are in the most deprived quintile, and 14% are in the least deprived quintile. Most of the small areas in Angus and Dundee City are clustered in the

middle of the distribution, with 20% being in both the second and the third quintiles, and 22% in the fourth.

By generating economic activity and social benefits, the Proposed Development holds the potential to contribute to more inclusive and equitable growth across the region.

Figure 4-1: SIMD Distribution of Study Areas



Source: Scottish Government (2020), Scottish Index of Multiple Deprivation 2020.

4.1.8 Fuel Poverty

Scottish legislation defines a household as being in fuel poverty when more than 10% (or 20% for extreme fuel poverty) of income is required to pay for heating[5]. As illustrated in Table 4-6, fuel poverty statistics have been segregated by local authority due to the notable differences between Angus and Dundee City. A combined rate is also provided to offer a broader context of the surrounding areas.

Whilst the latest available data has been used, it is likely, given the rise in energy prices beginning in 2022, that there has been a further increase in the number of households that are in fuel poverty.

The proportion of people living in fuel poverty is 22% in Angus and 31% in Dundee City, giving a combined rate of 27%. This is above the Scottish average of 25%.

In Angus, 10% of households are experiencing extreme fuel poverty, while the rate in Dundee City is 15%. This results in a combined rate of 13%, which is comparable to the national average of 12%.

[5] Scottish Government (2021). Home Energy and Fuel Poverty.

Residents aged 65 and older are particularly vulnerable to fuel poverty, as they are more likely to be living on a fixed income, spending long periods of time at home, and living in substandard housing. Given that the population demographics of the region show that this age group is overrepresented and is projected to increase over the next two decades, fuel poverty is likely to be an ongoing issue for Angus and Dundee City.

Table 4-6: Fuel Poverty, 2019

	Angus	Dundee City	Combined Angus and Dundee City	Scotland
Fuel Poverty	22%	31%	27%	25%
Extreme Fuel Poverty	10%	15%	13%	12%

Source: Scottish Government (2021), Scottish House Condition Survey: Local Authority Analysis 2019.

4.1.9 Community Wealth Building

Both segregated and combined community wealth building indicators have been provided in Table 4-7 to provide a more comprehensive overview of the regions in which the Proposed Development is located.

Angus and Dundee City have a lower combined number of social enterprises, at 9 per 10,000 of the population, compared with 11 per 10,000 Scotland-wide. This shows that the region is in need of more locally owned businesses with a social purpose to help retain wealth locally.

Although data is not available for Dundee City, with respect to land ownership, only 0.02%[6] is owned by the community in Angus. Whilst this is comparable to many other local authorities, this is low for a rural area and could limit the potential for wealth to be retained in the community.

The gender pay gap varies considerably across the region, with Angus reporting a gap of 16.0% and Dundee City showing a negative gap of -4.1%. Additionally, 19.3% of employees in Angus earn below the real living wage, a figure notably higher than the 9.4% in Dundee City and the Scottish average of 10.1%. These statistics illustrate that there may be limited opportunities for fair employment in the region, particularly in Angus.

Furthermore, of those living in Angus, only 9.4% feel that they have an influence over local decisions, compared to 14.6% in Dundee City, and 17.8% of people across Scotland who feel this way[7].

[6] Community Ownership in Scotland 2022, Scottish Government (2022) - https://www.gov.scot/publications/community-ownership-in-scotland-2022/documents/

[7] Wellbeing Economy Monitor: Excel Tool – Updated July 2023 - https://www.gov.scot/publications/wellbeing-economy-toolkit-supporting-place-based-economic-strategy-policy-development/documents/

Whilst this data doesn't fully cover the CWB pillars, it does suggest that there is an opportunity to develop CWB in conjunction with local anchors institutions across Angus and Dundee City.

Table 4-7: Community Wealth Building Indicators

	Angus	Dundee City	Combined Angus and Dundee City	Scotland
Social enterprises per 10,000 of the population (2021)	10	9	9	11
Community land ownership (2022)	0.02%	-	0.02%*	2.73% (0.13% excl. Outer Hebrides)
Gender pay gap (2023)	16.0%	-4.1%	4.7%	8.7%
Employees earning below the real living wage % (2023)	19.3%	9.4%	13.8%	10.1%
Influence over local decisions (2022)	9.4%	14.6%	12.3%	17.8%

Source: Community Ownership in Scotland 2022, Scottish Government (2022); Wellbeing Economy Monitor: Excel Tool

By addressing each of the five CWB pillars through initiatives such as prioritising local procurement and investing in skills development, SSEN Transmission can help to maximise the economic benefits of the Proposed Development and retain long-lasting wealth within local communities.

4.1.10 Wellbeing

One way of gauging the social welfare of a local area is through calculating the Wellbeing-Adjusted Life Years, known as WELLBYs. WELLBYs are calculated by multiplying life expectancy of an area by its average self-reported life satisfaction on a 0 to 10 scale[8]. WELLBYs can be compared and contrasted across Scotland and the UK.

Underpinning this approach is the 2021 World Happiness Report, Layard and Oparina[9], which makes the case that people want to experience lives that are both long and happy. With that in mind, they advocate that a society should aim to maximise the number of WELLBYs across their population both now and in the

[8] BiGGAR Economics (2023). Toward a Wellbeing Economy: The Distribution of Wellbeing in the UK.
[9] Layard, R. and Oparina, E (March 2021)., Living Long and Living Well: The WELLBY Approach, Chapter 8 of World Happiness Report 2021 (Sustainable Development Solutions Network).

future. That is, maximising a combination of both life expectancy and self-reported wellbeing.

As shown in Table 4-8, the combined life expectancy for Angus and Dundee City is 78.2 years, greater than the Scottish average of 78.9 years. The region reports a combined life satisfaction score of 7.4, which is the same as the national average. This gives Angus and Dundee City, an overall WELLBY score of 580, which is lower than the Scottish average of 587.

Table 4-8: WELLBYs

	Angus	Dundee City	Combined Angus and Dundee City	Scotland
Life expectancy (years)	80.4	76.6	78.2	78.9
Life satisfaction	7.5	7.3	7.4	7.4
WELLBYs	605	560	580	587

Source: BiGGAR Economics (2023). Toward a Wellbeing Economy: The Distribution of Wellbeing in the UK. Totals may not sum due to rounding.

Self-reported life satisfaction, and consequently WELLBY scores, are dependent upon a variety of factors, including local economic conditions, community vitality and involvement, as well as culture and the natural environment.

Given that the combined WELLBY score of Angus and Dundee City is lower than the average across Scotland, it is important to consider indicators of wellbeing across both local authorities, as illustrated by Table 4-9.

For example, suicide rates across Angus and Dundee City (16.5 per 100,000 people) are higher than the national average (13.9 per 100,000), as well as feelings of loneliness (28% versus the national average of 23%). Both of these measurements are notably higher in Dundee City, reported at 20.8 per 100,000 and 34%, respectively. Access to green space and physical activity levels also underperform across Angus and Dundee City when compared to Scotland as a whole. As such, improvements to wellbeing within this region are important.

However, other indicators of wellbeing across Angus and Dundee City are more favourable. For example, the proportion of people who consider themselves as having good or very good health across Angus and Dundee City is 73%, which is comparable to the Scottish average of 72%. Additionally, at a rate of 4.4 tonnes of CO2 per capita, greenhouse gas emissions are significantly lower in Dundee City compared to the Scottish average of 7.4 tonnes of CO2 per capita.

More generally, with respect to the National Performance Framework, Scotland's wellbeing framework, Angus exhibits a strong wellbeing performance on poverty and

community outcomes, whilst Dundee City performs strongly on fair work and business, culture, and environment.

Table 4-9: Wellbeing Indicators

	Angus	Dundee City	Combined Angus and Dundee City	Scotland
Mental health (WEMWBS, 2018-2022)	50.2	48.3	49.1	48.9
Suicide rates per 100,000 (2022)	11.0	20.8	16.5	13.9
Good or very good health (2018-2022)	72%	73%	73%	72%
Feelings of loneliness some or most of the time (2022)	19%	34%	28%	23%
Within a 5-minute walk of a green or blue space (2022)	68%	57%	62%	70%
Children living in low-income families (2022)	20.6%	24.5%	22.8%	20.8%
Low or no qualifications (2022)	8.2%	7.3%	7.7%	9.9%
Very low physical activity levels (2018-2022)	24%	23%	23%	20%
Greenhouse gas emissions (tonnes of CO2 per capita, 2021)	10.9	4.4	7.2	7.4

Source: Community Ownership in Scotland 2022, Scottish Government (2022); Wellbeing Economy Monitor: Excel Tool, Public Health Scotland, Scottish Health Survey.

4.2 UK Strategic Context

This section outlines the primary strategies that support the UK government's energy ambitions as well as its broader socio-economic objectives. These include:

- Build Back Better: Our Plan to Growth;
- Net Zero Strategy: Build Back Greener; and
- Strategy and Policy Statement for Energy Policy in Great Britain.

Overall, the Proposed Development will support a considerable number of the key priority areas of these national strategies, including:

- supporting the delivery of a just transition;
- enabling Net Zero infrastructure;
- supporting the security of domestic energy production;
- improving the long-term sustainability of the UK's energy systems; and
- enhancing inclusive growth across the regions of the UK.

4.2.1 Build Back Better: Our Plan to Growth

In 2021, the UK government introduced its "Build Back Better" economic growth plan, replacing the previous industrial strategy. This new plan reflects the evolving economic environment and aims to create growth in both new and emerging industries, as well as in established sectors across the UK. The plan is built on three key pillars of investment – infrastructure, skills, and innovation. The strategy notes that all growth generated must be inclusive and equal and aims to:

- level up the whole of the UK;
- support the transition to Net Zero; and
- support vision for Global Britian.

The strategy highlights opportunities in achieving Net Zero for economic growth and job creation across the country. Additionally, the UK industrial base provides a strong foundation for securing new market opportunities arising from the transition to Net Zero.

4.2.2 Net Zero Strategy: Build Back Greener

Following the recommendations made by the UK Climate Change Committee in 2019, the UK Government legislated a Net Zero emissions target for 2050. The UK's Net Zero Strategy[10] sets out policies and proposals for decarbonising all sectors of the UK economy to meet this target.

The strategy consistently emphasises that achieving carbon neutrality across various sectors requires the electrification of economic activity. Whilst this is not true for all industries, the strategy highlights that the supply of electricity will need to increase considerably by 2050 to match demand, with an increasing share from renewables.

The strategy acknowledges that increasing electricity generation will rely on transforming the infrastructure needed to deliver them, including building out a flexible grid. By supporting the electrification of the energy system, the Proposed Development will play a strategic role in providing the transmission infrastructure necessary for the UK to transition to Net Zero.

[10] UK Government (2021) Net Zero Strategy: Build Back Greener.

4.2.3 Strategy and Policy Statement for Energy Policy in Great Britain

In 2024, the UK Government published the Strategy and Policy Statement for Energy Policy in Great Britain. This statement complements key publications, including the Net Zero Strategy[11], British Energy Security Strategy[12], and the Transmission Acceleration Plan[13]. It aims to provide guidance to the energy sector on the actions and decisions needed to achieve the government's policy goals, emphasising areas where a strategic shift in the energy industry is expected.

The statement outlines a series of priorities aimed at achieving three key objectives of Great Britain's energy policy. These priorities are organised under the following headings:

- enabling clean energy and Net Zero infrastructure;
- ensuring energy security and protecting consumers; and
- ensuring the energy system is fit for the future.

The strategy acknowledges that, in order to enable clean energy deployment and meet the demands of a decarbonised energy system, a network infrastructure needs to be built at scale and pace. Additionally, it prioritises building reliable and sustainable network infrastructure that is effectively connected to broader markets.

4.3 Scotland's Strategic Context

The Proposed Development will support several national strategies, including:

- Scotland's National Performance Framework;
- Programme for Government 2024-25: Serving Scotland;
- Scotland's National Strategy for Economic Transformation (NSET);
- National Planning Framework (NPF) 4;
- Green Industrial Strategy 2024; and
- Tourism Strategy: Scotland's Outlook 2030.

Overall, the Proposed Development will support a considerable number of the key priority areas of these national strategies, particularly Scotland's focus of improving sustainability and the transition to Net Zero by:

- enabling the increased generation, transmission and utilisation of renewable electricity throughout Scotland and the rest of the UK;
- investing in essential infrastructure;
- generating economic benefit in the form of GVA and job creation;
- supporting wider skills development;
- aiding population attraction and retention through job opportunities;
- developing and utilising the local businesses and supply chain; and

[11] Department for Energy Security and Net Zero (2021) Net Zero Strategy: Build Back Greener.
[12] Department for Energy Security and Net Zero (2022) British Energy Security Strategy.
[13] Department for Energy Security and Net Zero (2023) The Transmission Acceleration Plan.

- enhancing inclusive growth in communities.

4.3.1 Scotland's National Performance Framework

The National Performance Framework[14] sits at the top of the policy hierarchy in Scotland, with all other policies and strategies designed to meet its purpose and outcomes. The purpose of the National Performance Framework is "to focus on creating a more successful country with opportunities for all of Scotland to flourish through increased wellbeing, and sustainable and inclusive economic growth".

The National Performance Framework is designed to give a more rounded view of economic performance and progress towards achieving sustainable and inclusive economic growth and well-being across Scotland and aims to:

- create a more successful country;
- give opportunities to all people living in Scotland;
- increase the well-being of people living in Scotland;
- create sustainable and inclusive growth; and
- reduce inequalities and give equal importance to economic, environmental and social progress.

The National Performance Framework sets out 11 outcomes, underpinned by 81 indicators, that combine to give a better picture of how the country is progressing towards these goals. As well as Gross Domestic Product (GDP) and employment measures, the Framework's outcomes reflect the desired fabric of communities and culture, education, the environment, health and well-being and measures to help tackle poverty. It is these indicators on which the Scottish Government focuses its activities and spending to help meet the national outcomes.

The 11 national outcomes are that people:

- **children and young people**: grow up loved, safe and respected so that they realise their full potential;
- **communities**: live in communities that are inclusive, empowered, resilient and safe;
- **culture**: are creative and their vibrant and diverse cultures are expressed and enjoyed widely;
- **economy**: have a globally competitive, entrepreneurial, inclusive and sustainable economy;
- **education**: are well educated, skilled and able to contribute to society;
- **environment**: value, enjoy, protect and enhance their environment;
- **fair work and business**: have thriving and innovative businesses, with quality jobs and fair work for everyone;
- **health**: are healthy and active;
- **human rights**: respect, protect and fulfil human rights and live free from discrimination;

[14] Scottish Government (2023), Scotland's National Performance Framework.

- **international**: are open, connected and make a positive contribution internationally; and
- **poverty**: tackle poverty by sharing opportunities, wealth and power more equally.

4.3.2 Programme for Government 2024-25: Serving Scotland

Published in September 2024, the Programme for Government[15] sets out the Scottish Government's commitments with the purpose of improving people's lives by focusing on four clear priorities, including:

- eradicating child poverty;
- growing the economy;
- tackling the climate emergency; and
- ensuring high quality and sustainable public services.

The programme outlines key initiatives under each of the four priorities, several with relevance to the Proposed Development. In particular, the Scottish Government highlights the economic opportunities associated with the path to Net Zero, and the importance of creating the right enabling environment to support businesses which generate jobs and wealth for communities.

4.3.3 Scotland's National Strategy for Economic Transition

In March 2022, the Scottish Government published the National Strategy for Economic Transformation[16] (NSET), which set out its ambition for Scotland's economy over the next decade. The Scottish Government's vision is to create a wellbeing economy where society thrives across economic, social and environment dimensions, and delivers prosperity for all Scotland's people and places.

To deliver its vision, the strategy outlines six initiatives, including:

- establishing Scotland as a world-class entrepreneurial nation;
- strengthening Scotland's position in new markets and industries, generating new, well-paid jobs from a just transition to Net Zero;
- making Scotland's businesses, industries, regions, communities and public services more productive and innovative;
- ensuring that people have the skills they need to meet the demands of the economy, and that employers invest in their skilled employees;
- reorienting the economy towards wellbeing and fair work; and
- creating a culture of delivery.

The strategy highlights Scotland's significant energy potential and its expanding green industrial base. Whilst these characteristics provide a strong foundation for securing new market opportunities arising from the transition to Net Zero, the strategy recognises the need for continued investment and support to maximise the benefits associated with these opportunities.

[15] Scottish Government (2024), Programme for Government 2024-25: Serving Scotland.
[16] Scottish Government (2022), Scotland's National Strategy for Economic Transformation.

4.3.4 National Planning Framework (NPF) 4

The Fourth National Planning Framework (NPF4) [17] is Scotland's national spatial strategy, setting out the principles to be applied to planning decisions, regional priorities and national developments.

The first of six spatial principles to be applied is a just transition that ensures the transition to Net Zero is fair and inclusive, as is rural revitalisation, supporting sustainable development in rural areas. Applying these and other principles is intended to support the planning and delivery of sustainable places, where emissions reduce, and biodiversity is restored and better connected.

As part of the Policy 11(a), all forms of renewable technologies will be supported. This is subject to the test outlined in Policy 11(c), which states that: "development proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities".

Policy 11(e) also sets out a number of impacts that should be addressed during project design and mitigation. That list does not include tourism. Whilst not required by NPF4, Chapter 5 of this report considers whether there could be any implications for tourism since it is an important contributor to the local economy.

4.3.5 Green Industrial Strategy

The Green Industrial Strategy[18], published by the Scottish Government in September 2024, aims to help Scotland realise the economic benefits of the global transition to Net Zero. The strategy highlights Scotland's strengths and opportunities during the transition and outlines six key enabling factors that the Scottish Government and partners will do to foster a positive environment for investment and growth. These include:

- supporting investment, ensuring an investment-friendly ecosystem;
- investing in strong research and development foundations;
- supporting the development of a skilled workforce;
- helping supply chain businesses to seize opportunities;
- delivering an agile planning and consenting system; and
- delivering required housing and enabling infrastructure.

The strategy provides a clear direction and focus, highlighting the importance of prioritising resources and investment. The strategy also emphasises the need for coordinated policies to create the right environment and working collaboratively with partners to maximise economic benefit from the opportunities created by the transition to Net Zero.

[17] Scottish Government (2023), National Planning Framework 4.
[18] Scottish Government (2024), Green Industrial Strategy.

4.3.6 Tourism Strategy: Scotland's Outlook 2030

A collaborative network of industry experts created Scotland's Outlook 2030[19], which is focused on creating a world-leading tourism sector in Scotland that is sustainable in the long-term.

The strategy is focused on four key priorities: people, places, businesses and experiences. The strategy recognises the effects on tourism of climate change, technological advancements, Brexit and changing consumer behaviour and highlights the need for collaboration between government, communities, and the public and private sectors.

There are six conditions that the strategy has highlighted as being crucial for success:

- using technological advancements and information to understand changes and trends in tourist behaviours;
- ensuring policies are in place that support the vision;
- enabling investment opportunities into Scotland's tourism market;
- improving transport and digital infrastructure;
- greater collaboration between businesses in the industry; and
- positioning Scotland as a great place to live and visit locally and globally.

A main commitment of the strategy is to address the effects of energy demand associated with tourism and make the sector commit fully to Scotland's ambition of becoming a net-zero society by 2045.

The Proposed Development will look to minimise any negative impact on tourism and recreation within the local area, which is assessed within this report.

4.4 Regional Strategic Context

In addition to supporting the national objectives and economic strategies, the Proposed Development will also contribute to the economic aims of stakeholders within Angus and Dundee City.

4.4.1 Tay Cities Region Economic Strategy 2019-2039

In 2017, Angus Council, Dundee City Council, Perth and Kinross Council, and Fife Council, published the Tay Cities Region Economy Strategy 2019-2039[20], setting out a long-term plan for East Central Scotland. The strategy highlights the socio-economic challenges facing the region, and the opportunities associated with the growth of the energy sector.

Recognising that the region faces challenges around high unemployment and low wages, the overarching ambition of the strategy is to increase the number of businesses and create higher-paying jobs across the Tay Cities Region. An important

[19] Scottish Tourism Alliance (2020), Scotland Outlook 2030.
[20] Tay Cities (2019), Tay Cities Region Economic Strategy 2019-2039.

aspect of achieving this ambition is to support investment in key infrastructure, helping to generate long term sustainable jobs in advanced manufacturing and the growing industry of renewable energy. The Proposed Development will contribute to these objectives, by generating economic opportunities for the region and supporting well-paid jobs.

4.5 Corporate Strategic Context

Advanced under Ofgem's Accelerated Strategic Transmission Investment (ASTI) framework, SSEN Transmission's 'Pathway to 2030' programme will enhance electricity transmission infrastructure across northern Scotland by 2030, contributing to Scotland and the UK's Net Zero ambitions.

4.5.1 Accelerated Strategic Transmission Investment (ASTI) Framework

In 2022, Ofgem introduced a new regulatory framework, Accelerated Strategic Transmission Investment (ASTI), to streamline the regulatory process for Transmission Owners, such as SSEN Transmission, to support the accelerated delivery of transmission projects.

The ASTI framework provides a new process with a reduced number of regulatory assessment stages for Transmission Owners and earlier access to funding to support the delivery of necessary onshore transmission projects required to meet the UK Government's 2030 renewable electricity generation ambitions.

Ofgem has identified an initial list of projects to be progressed under the ASTI framework, including SSEN Transmission's Pathway to 2030 Programme.

4.5.2 Pathway to 2030 Programme

SSEN Transmission is investing over £20 billion, under their Pathway to 2030 programme, to contribute to the delivery of several projects designed to develop and upgrade overhead lines, substations, and subsea links, to meet the 2030 offshore wind connection dates.

The East Coast 400kV Phase 2 Projects, of which the Proposed Development is a part of, is among the projects under the Pathway to 2030 programme and will contribute to the delivery of Scotland and the UK's Net Zero targets for 2030.

4.5.3 Community Wealth Building (CWB)

CWB is an internationally recognised approach designed to keep wealth circulating locally to ensure more inclusive, resilient, and sustainable local economic development. Acting as a framework for activity, CWB is based on five interlinked pillars:[21]:

- plural ownership of the economy;
- ensuring financial power works for local places;

[21] See Centre for Local Economic Strategies - https://cles.org.uk/community-wealth-building/how-to-build-community-wealth/

- fair employment and just labour markets;
- progressive procurement of goods and services; and
- socially productive use of land and property.

SSEN Transmission is committed to investing in the energy transition in a way which contributes to society by adding value, supporting jobs and maximises net economic benefits in the areas in which it operates. To embed this framework, SSEN Transmission is in the process of publishing a 'Statement of Intent' that incorporates initiatives aligned with the five pillars of CWB, demonstrating a commitment to fostering resilient local economies, reducing inequality, and promoting sustainable development.

4.6 Conclusions on Impact in Context

The Proposed Development represents critical investment in Scotland's grid infrastructure, facilitating the transmission of clean energy and contributing to delivering SSEN Transmission's corporate strategy, Pathway to 2030. In this way, the Proposed Development aligns with Scotland's national energy strategy and the UK's Net Zero agenda.

At a regional level, the Proposed Development could help to address key strategic priorities for Angus and Dundee City by creating high-quality employment opportunities, diversifying the region's economic base and generating spend in the local economy. Key stakeholders emphasise the need for such opportunities to address challenges in the region, including high unemployment levels and low wages.

To maximise economic benefits and ensure long-lasting wealth within local communities, SSEN Transmission could contribute to CWB, under their statement of intent, through initiatives such as prioritising local procurement, investing in skill development and increasing the contracts awarded to businesses within the regional and Scottish economies.

5. Tourism Assessment

The impact of the Proposed Development on tourism and recreation has been assessed as negligible.

5.1 Local Tourism Context

5.1.1 Sustainable Tourism GVA and Employment

In its 2015 economic strategy[22], the Scottish Government identified sustainable tourism as one of six key growth sectors where Scotland has a comparative advantage.

In 2021, the sustainable tourism sector in Angus and Dundee City was estimated to generate £106.8 million GVA, accounting for 3.2% of Scotland's total tourism sector value (£3.4 billion GVA), despite the region representing 5% of Scotland's population (Table 4-1).

Table 5-1: Sustainable Tourism: Employment and GVA, 2021

	Combined Angus and Dundee City	Scotland
GVA (£m)	106.8	3365.8
Employment	9000	209,000

Source: Scottish Government (2023), Growth Sector Database.

5.1.2 Visitors

In 2023, Angus and Dundee City, attracted 0.5 million domestic overnight visitors, who spent an average of £196 per visit, amounting to £99 million. This accounted for 3% of the total spend in Scotland from domestic overnight visits in 2023.

As illustrated in Table 5-2, the region also drew approximately 86,000 international visitors, contributing £53 million in spending to the region and accounting for 2% of all international visits to Scotland.

[22] Scottish Government (2015), Scotland's Economic Strategy.

Table 5-2: Visits and Visitor Spending, 2023

	Combined Angus and Dundee City	Scotland
		Visitor Numbers (million)
Domestic Overnight Visitors	0.5	12.4
International Overnight Visitors	0.1	4.0
		Spend (£ million)
Domestic Overnight Visitors	99	3,189
International Overnight Visitors	53	3,593

Source: Kantar (2024), Great Britain Survey 2022/2023. Kantar (2023), Great Britain Day Visitor Survey. International Passenger Survey (2023), Great Britain Tourism Survey, 2023.

5.1.3 Regional Attractions

The most visited attractions in Angus and Dundee City, are shown in Table 5-3. Of these attractions, seven are located within 15 km of the Proposed Development.

Table 5-3: Top Attractions in Angus and Dundee City

Attraction	Annual Visitors	Distance to Site (km)
Camperdown Wildlife Centre	80,740	8
V&A Dundee	621,123	8
Verdant Works	20,510	8
HMS Unicorn	15,000	8
Dundee Museum of Transport	14,489	8
Discovery Point	86,141	9
Dundee Science Centre	69,955	9
Arbroath Abbey	13,801	24
House of Dun	10,342	34
Montrose Basin Wildlife Centre	12,898	35

Source: Visit Scotland (2021), Insight Department: Dundee and Angus Factsheet 2019. Visit Scotland (2021), Insight Department: Perth and Kinross Factsheet 2019. Visit Scotland (2021), Insight Department: Fife Factsheet 2019.

Another key driver of tourism in the Local Area is Glamis Castle, a site located approximately 8km from the Proposed Development, in the heart of Angus. As listed by Trip Advisor (2024) as a must-see sight in Angus, the Castle is renowned for its rich history and is an important tourism asset to the region.

5.2 Local Tourism Assets

Since tourism is an important contributor to the regional economy, this report considers all tourism assets located within 15km of the Proposed Development. This includes:

- local tourist attractions;
- local accommodation providers; and
- recreational trails and core paths.

5.2.1 Local Tourist Attractions

Through online research on the Visit Scotland portal and Google Maps, approximately 70 visitor attractions within 15km from the Proposed Development were identified. These are set out in Appendix B: Local Tourist Attractions, alongside their distance from the Proposed Development.

Of the attractions identified, only one is located less than 5km of the Proposed Development. The farm, Balnuith Alpacas, located 1km from the Proposed Development, offers the opportunity to visit and walk several animals, including alpacas, llamas, and pygmy goats.

Approximately two-thirds of these visitor attractions are located in Dundee City (4-10km from the site), of which there are a large variety of attractions, many of which are indoors. These attractions include theatres, museums and galleries, as well as facilities offering experiences such as rock climbing, go karting and trampolining. Among these, the V&A Dundee, Discovery Point, and Dundee Science Centre are relatively popular in the area.

Several local attractions were also identified along the coast from Dundee City towards Carnoustie. Attractions of this kind are largely associated with the coastal landscape, including beaches, and outdoor activities including several golf courses.

Outwith Dundee City, clusters of local attractions can be found in nearby areas, including Glamis (8-10km from the site), Monikie (8-10km from the site), and Forfar (13-15km from the site). The main sources of tourism in these areas include castles, country parks, distilleries, fruit picking and golf clubs.

5.2.2 Local Accommodation Providers

Through online research on the VisitScotland portal and Google Maps, 107 accommodation providers were identified in the area surrounding the Proposed Development.

Self-catering providers, accounting for 48% of all accommodation providers identified within 15km of the Proposed Development, have a widespread presence in both rural settlements and Dundee City itself.

Approximately two-thirds of all hotels identified within 15km of the Proposed Development are located in the city centre of Dundee, whilst the remainder can be

found in more rural locations. Meanwhile, the B&Bs identified are predominately located in either Dundee City, Broughty Ferry or Forfar.

Given their nature, the holiday parks are predominantly located in rural areas, with some clustering around Tayport and Monifieth.

Table 5-4: Local Accommodation Providers

Type of Accommodation Provider	Total
Self-Catering	51
B&Bs	11
Hotels	31
Holiday Parks / Hostels	14
Total	**107**

Source: Visit Scotland (2024), Accommodation Fife, Dundee and Angus, and Perth and Kinross. Google Maps.

5.2.3 Recreational Trails and Core Paths

Several trails were identified on Walkhighlands (2024) within 15km of the Proposed Development. These are shown in Table 5-5, alongside a brief description and their distance from the site.

Given the topography surrounding the Proposed Development is characterised by its relatively hilly landscape, several of the recreational trails are designed for hill walking and hiking. In addition to these hill walks, several other trails follow the Tay estuary in Fife and the coastline between Dundee and Arbroath. The remaining trails feature local attractions and country parks.

Table 5-5: Recreational Trails

	Description	Distance to Site (km)
Sidlaws: Craigowl and Auchterhouse hill	7.5km trail summitting three Sidlaw hills.	3
Camperdown, Templeton & Clatto, Dundee	9.5km around the country park, Camperdown.	6
Dundee Law from Discovery Point	5.25km route summitting Dundee Law.	7
Kinpurney Hill and Monument, Newtyle	5.5km walk following a stream before summitting Kinpurney Hill.	9
Angus Coast: Broughty Ferry to Carnoustie	13km coastline walk from Broughty Ferry to Carnoustie.	10
Monikie Country Park, near Carnoustie	3.25km circuit around Monikie Country Park and reservoirs.	10
Fife Coastal Path 11: Newport-on-Tay to Newburgh	Final section of the Fife Coastal Path, a 183km route linking from the Forth to the Tay.	11
Crombie Country Park, near Carnoustie	4.25 km trail around woodland in Crombie Country Park.	12
Balmashanner Hill, Forfar	4km hillwalk summitting Balmashanner Hill.	12
Forfar Loch circuit, Forfar	4km circuit around Forfar Loch, with opportunity to see birdlife.	12
Lundie Craigs circuit, Sidlaws	8km hillwalk summitting Lundie Craig.	12
Tay Bridge & Balmerino, from Wormit	8.5km circular route along the Tay Estuary.	13
Balmerino and Thornton circuit	5.25km woodland walk overlooking the Firth of Tay and passing the ruins of Balmerino Abbey.	14
Carnoustie Links, Carnoustie	6.5km coastal trail.	15

Source: Walkhighlands (2024).

There were also approximately 200 core paths[23] identified within 15 km of the Proposed Development, across Fife, Angus, Dundee City, and Perth and Kinross.

[23] Scottish Government Spatial Data (2024). Core Paths - Scotland

5.3 Impact on Recreation and Tourism

The assessment considers whether the Proposed Development would affect any of the tourism assets identified, accounting for any significant effects identified in the following chapters:

- Airborne Noise and Vibration;
- Traffic and Transport; and
- Landscape and Visual Assessment.

5.3.1 Local Attractions

As outlined in the baseline assessment, there is a diverse range of attractions within 15 km of the Proposed Development, encompassing both the city of Dundee and its surrounding rural areas.

The motivation to visit the nearest tourist attraction to the Proposed Development, Balnuith Alpacas, is likely to be associated with an interest in animals. As a result, the Proposed Development is not expected to affect the motivations to visit this attraction.

The motivation to visit the identified city-centre attractions, many of which are indoor activities such as go-karting and trampolining, is likely driven by the specific experiences they offer. Other attractions including museums, galleries, and historical landmarks, are expected to appeal to those with an interest in history and culture. Therefore, the Proposed Development is not anticipated to affect the motivation to visit these attractions.

Beyond Dundee City, the primary attractions driving tourism include distilleries, castles, country parks, and golf clubs. Visitors are typically motivated to explore these sites due to the activities they offer or their connection to Scottish history and culture. As a result, the Proposed Development is not expected to affect the motivations to visit these attractions.

The assessment of tourism impacts on local tourist attractions was carried out in consideration of the assessment of impacts as outlined in the abovementioned chapters. There were no significant effects on local attractions identified.

5.3.2 Local Accommodation Providers

There are a variety of accommodation providers within 15 km of the Proposed Development, including self-catering, B&Bs, hotels, holiday parks and hostels, located in both Dundee City and its surrounding rural areas.

For accommodation providers located in Dundee City, the primary motivation for guests to choose these providers is their desire to stay within the city itself and to be nearby key attractions, such as the V&A, which welcomes over 600,000 annual visitors. As a result, the Proposed Development is not expected to affect the motivations to visit these accommodation providers.

The motivation to stay in accommodation providers in more rural areas is similarly likely to be driven by their proximity to local attractions and access to the walking trails and outdoor activities in the region. Therefore, the Proposed Development is not expected to affect the motivation to visit these accommodation providers.

The assessment of tourism impacts on local accommodation providers was carried out in consideration of the assessment of impacts as outlined in the abovementioned chapters. There were no significant effects on accommodation providers identified.

5.3.3 Recreational Trails and Core Paths

Several recreation trails within 15km of the Proposed Development were identified, many of which were designed for hill walking and hiking, whilst others followed the coastline. Given that the motivation to use these trails is likely to be associated with an interest in hiking, or to visit nearby attractions, it is not expected the Proposed Development will impact the motivation to use the trails.

There are also several core paths in the area. These core paths tend to be used by local residents or are part of the recreational trails described above. As a result, the Proposed Development is unlikely to have an impact on activity along them.

The assessment of tourism impacts on recreational trails and core paths was carried out in consideration of the assessment of impacts as outlined in the abovementioned chapters. There were no significant effects on recreational trails and core paths identified.

5.4 Summary of Local Tourism Impact

Given that a large proportion of tourism assets are located in Dundee itself, the motivation for visitors is likely to be associated with the city itself and key attractions in the region. Beyond Dundee City, visitors are typically motivated to visit these areas due to their connection to Scottish history and culture or to engage in outdoor activities. As a result, the Proposed Development is not expected to affect the motivations to visit the identified tourism assets.

Accounting for any significant effects identified in the Airborne Noise and Vibration, Traffic and Transport, and Landscape and Visual Assessment chapters, the impact on recreational amenities has been assessed as negligible.

6. Appendix A: Methodology

An Input-Output economic model was developed to estimate the economic impact of the Proposed Development.

6.1 Metrics of Assessment and Study Areas

The following of economic impact have been considered:

- **Gross Value Added (GVA)**: a measure of economic activity expressed as the difference between an organisation's turnover and its non-staff operational expenditure; and
- **Years of Employment**: a measure of employment used in the context of jobs associated with construction activity and lasting over a short period of time, or to express cumulative employment impacts over a project's lifespan.

The economic impacts have been presented at the regional, Scottish, and the UK level.

6.2 Types of Impact

There are three types of economic impact associated with development and construction of the Proposed Development:

- **Direct impact:** this is the direct impact associated with Tier 1 suppliers, including from employing and paying staff, and generating profits. The direct impact is estimated by dividing the expenditure on a contract by the turnover/GVA and turnover/employee ratios for the relevant sectors to estimate the direct GVA and employment impacts;
- **Indirect impact:** this is the impact associated with spending in the supply chain of Tier 1 suppliers. This is captured by applying Type 1 economic multipliers to the direct economic impacts; and
- **Induced impact:** this is the impact associated with staff spending their wages in the wider economy and is captured by subtracting Type 1 multipliers from Type 2 multipliers and applying this to the direct impact.

6.3 Methodology

6.3.1 Approach to Modelling Economic Impacts

The approach followed throughout the economic impact assessment is shown in the figure below. The analysis involved estimating levels of expenditure by contract and study area, and then considering GVA and employment impacts (including indirect and induced effects).

The economic analysis is based on high-level cost estimates provided by SSEN Transmission, and where necessary, detailed assumptions were made regarding how this expenditure might be distributed across different categories. For each category, assumptions were made about the proportion of contracts that could be secured in each area, along with the relevant sectors for each contract. These estimates were informed by SSEN Transmission's experience with similar projects and BiGGAR Economics' understanding of UK supply chains and expertise in the sector.

Figure 6-1: Economic Impact Methodology

6.4 Economic Impact Modelling

The first step in conducting the economic analysis was to make assumptions regarding the capacity of businesses to secure contracts and to assign each contract to the appropriate Standard Industrial Classification (SIC) sector. This allowed for the calculation of the direct GVA, and direct years of employment supported by the Proposed Development. These estimates were derived by applying sector specific turnover per job and turnover per GVA ratios from the UK Annual Business Survey[24], as illustrated in the figure below.

Figure 6-2: Direct GVA Calculation

The economic activity generated by the Proposed Development extends beyond the direct contributions of awarded contracts to the turnover of recipient businesses. Contract-related spending also stimulates activity within the supply chain of businesses involved in the development and construction phases (indirect impacts). Furthermore, employees working on the Proposed Development contribute to the economy through their personal spending (induced impacts).

Indirect impacts were estimated by applying Type 1 GVA and employment multipliers, as sourced from UK Input Output Tables[25] to the direct GVA and employment supported by development and construction contracts. Similarly, induced impacts were estimated by applying Type 1 and Type 2 GVA and employment multipliers to the direct GVA and employment supported. This is demonstrated in the figures below.

Figure 6-3: Indirect GVA Calculation

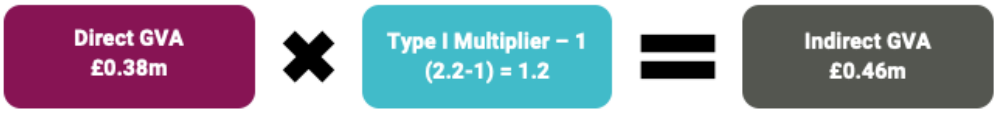
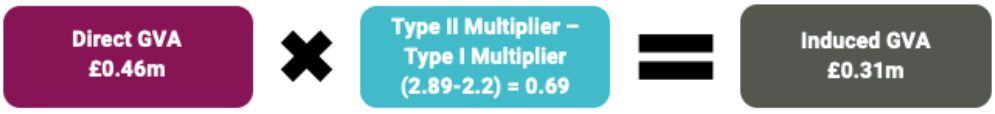


Figure 6-4: Induced GVA Calculation



[24] UK Government (2024), UK Annual Business Survey 2022.
[25] ONS (2024), UK Input-Output Supply and Use Tables 2022.

The total economic impact associated with the Proposed Development is calculated by the sum of direct, indirect and induced impact, as demonstrated in the figure below.

Figure 6-5: Total GVA

7. Appendix B: Local Tourist Attractions

Table 7-1: Local Tourist Attractions

Attraction	Distance to Site (km)
Balnuith Alpacas	<1
Ryze Dundee - Xtreme Air Sports	5
Caird Park Golf Club	6
Ballumbie Castle Golf Club	6
MòR Beers	6
Newton Farm Holidays & Tours	6
DISC: Dundee International Sports Centre	7
The Fun Factory	7
Dundee Ice Arena	7
Camperdown Wildlife Centre	7
Baxter Park	7
Camperdown Country Park	7
Dundee Law	7
Dundee Museum of Transport	8
Ancrum Outdoor Centre	8
Dundee Community Craft	8
Verdant Works Museum	8
Olympia	8
Avertical World Climbing & Bouldering Centre	8
TeamSport Go Karting Dundee (formerly ScotKart)	8
The McManus: Dundee's Art Gallery & Museum	8
Laser Combat Dundee (FKA Combat City Dundee)	8
HMS Unicorn	8
TeamSport Go Karting Dundee (formerly ScotKart)	8
Dawson Park	8
Auchterhouse Country Sports	8
Wild Shore Dundee	8
The McManus Collections Unit	8

Mills Observatory	8
Gallery Q Dundee	8
St. Mary's Tower	8
Caird Hall	8
Dundee Science Centre	9
Discovery Walk Historical Walk	9
V&A Dundee	9
Discovery Point and RRS Discovery	9
Whitehall Theatre	9
Gin Bothy Experience	9
D'Arcy Thompson Zoology Museum - University of Dundee	9
Dundee Contemporary Arts	9
Affleck Castle	9
Monikie Country Park	10
Salmo Fly Fishing Scotland	10
Broughty Castle Museum	10
SaltDog Marine	10
Glamis Castle	10
Broughty Ferry Beach	10
Barnhill Rock Garden	10
TATHA Gallery	11
Piperdam Golf Course	11
Grange & Broughty Golf Club	11
Ashludie Golf Course Starter Hut	11
Monifieth Golf Club	12
Angus Alchemy	12
Scotscraig Golf Club	12
Monifieth Golf Links	12
Crombie Country Park	12
Paddle Active	12
Ledyatt Loch Trout Fishery	12
Forfar Meffan Museum	13
Barry Mill	13
Meigle Museum	13

Tentsmuir National Nature Reserve	14
Ledcrieff Loch Trout Fishery	14
Strathmore Woollen Co.	14
Raspberry Fields Exclusive	14
Drumoig Golf Course	14
Wormit Trout Fishery	14
Panmure Golf Club	14
Forfar Golf Club	14

Source: Google Maps (2024). Visit Scotland (2024).

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