

## 13 Socio-economics

### 13.1 Introduction

13.1.1 This chapter of the EIAR considers the likely significant effects on socio-economics of the Proposed Development. The specific objectives of the chapter are to:

- describe the current baseline;
- describe the assessment methodology and significance criteria used in completing the impact assessment;
- describe the potential effects, including direct, indirect and cumulative effects;
- describe the mitigation measures proposed to address the likely significant effects;
- assess the residual effects remaining following the implementation of mitigation measures.

13.1.2 The assessment has been carried out by MKA Economics Ltd. MKA Economics specialise in appraising the economic viability, socio-economic value and advising on their delivery of economic development projects. Based at the Innovation Park at the University of Stirling the company works across sectors and geographies and has been retained by Highlands and Islands Enterprise (HIE) on their Economic Impact Assessment Framework since 2013. MKA Economics has completed more than 30 socio-economic and tourism assessments of wind farms across Scotland over the last ten years. MKA Economics also appraise the economic value of projects which are seeking funding and/or planning support from the public sector.

13.1.3 The Chapter is based on the Socio-economic Appraisal Report, which is presented as a separate Technical Appendix within the Planning Statement.

### 13.2 Legislation, Policy and Guidance

#### National Planning Framework 4 (NPF4)

13.2.1 NPF4<sup>i</sup> places an increasing importance on supporting the development of new renewable energy technologies, as the overarching energy policy it states:

*“To encourage, promote and facilitate all forms of renewable energy development onshore and offshore. This includes energy generation, storage, new and replacement transmission and distribution infrastructure and emerging low-carbon and zero emissions technologies including hydrogen and carbon capture utilisation and storage (CCUS).”*

13.2.2 NPF4 has a regional focus including the ‘North East’ and has three key themes which are ‘sustainable places’, ‘liveable places’ and ‘productive places’. For the North East these themes have the following priorities:

*“To deliver sustainable places, Regional Spatial Strategies and Local Development Plans in this area should plan infrastructure and investment to support the transition from oil and gas to net zero, whilst protecting and enhancing blue and green infrastructure and decarbonising connectivity.”*

*“To deliver liveable places, Regional Spatial Strategies and Local Development Plans in this area should focus on continued regeneration and encourage more 20-minute neighbourhoods to sustain the skilled workforce and improve local liveability.”*

*“To deliver productive places, Regional Spatial Strategies and Local Development Plans in this area should support continued economic diversification and innovation.”*

13.2.3 NPF4 is clear in its desire to rebalance the North East of Scotland economy to plan infrastructure and investment to support the transition from oil and gas to net zero whilst protecting and enhancing blue and green infrastructure and decarbonising connectivity.

13.2.4 NPF4 mirrors the aim of National Strategy for Economic Transformation<sup>ii</sup> to focus on green growth to foster economic wellbeing and prosperity and this assessment will directly focus on this aspect and present an independent assessment of the economic development role which the Proposed Development will bring to the area.

13.2.5 NPF4 is founded on sustainable economic growth principles and is guided by the National Strategy for Economic Transformation which confirms that the planning system should proactively support development that contributes to sustainable economic growth and to create sustainable places.

#### Scotland’s National Strategy for Economic Transformation

13.2.6 Scotland's National Strategy for Economic Transformation<sup>iii</sup> published in March 2022 sets out an approach to delivering sustainable growth in Scotland. The vision of the Strategy aspires to make Scotland stand out as:

*“an international benchmark for how an economy can transform itself, de-carbonise and rebuild natural capital whilst creating more, well-paid and secure jobs and developing new markets based on renewable sources of energy and low carbon technology.”*

13.2.7 In addition, the Strategy also states that:

*“The Lloyds Banking Group and Oxford Economics Green Growth Index<sup>iv</sup> ranks Scotland as the number one region in the UK for green growth potential and opportunity. This reflects Scotland’s existing green industrial base which supports a growing number of green jobs and innovation activity, the take-up of relevant skills and training and the development and use of renewable energy infrastructure.”*

*Overall, this demonstrates that the purpose of the Proposed Development reflects the vision and strategic approach of Scotland’s recently published National Strategy for Economic Transformation.”*

### Onshore wind policy statement 2022

- 13.2.8 The Onshore Wind Policy Statement wind policy statement 2022<sup>v</sup> sets out an ambition to deploy 20 GW of installed onshore wind capacity by 2030. Chapter 4 states that:

*“The Scottish Government remains committed to the principles of a just transition to a net zero economy, and that means ensuring that communities across Scotland feel the benefits of this transition. Community benefit and shared ownership can be transformational for the communities who host renewable developments, and we must ensure that industry continue to deliver on these expectations.”*

### Quantifying the Economic Benefits of Onshore Wind to the UK

- 13.2.9 Research published in 2019 by RenewableUK<sup>vi</sup> has shown that:

*“If more new onshore wind projects were to go ahead to help the UK to reach net zero emissions, consumers would save money on their electricity bills in the decades ahead, and thousands of jobs would be created.”*

- 13.2.10 Deploying 22GW of onshore wind (across the UK) by 2035 generates additional economic benefits including:

- Onshore wind is the cheapest source of new generation and could reduce electricity costs to the consumer by up to 7% compared to natural gas (with carbon costs) in 2035, saving the average household £50 per year.
- The sector could nearly triple employment, supporting 31,000 jobs by 2035 with 14,000 directly employed in the industry.
- Onshore wind jobs are projected throughout the UK, lifting productivity (GVA per worker) in local authorities that need it most, particularly in Scotland, Wales and Northern Ireland.
- The UK supply chain could capture £360m of the global onshore wind market by 2035, a rapidly growing market which is expected to increase by 4-fold from today.

- 13.2.11 The report also states that:

*“Onshore wind employment is likely to be located in local authorities most in need of high-paying, high-productivity jobs.”*

### Onshore Wind Vision and Sector Deal for Scotland

- 13.2.12 Scottish Renewables is leading a conversation between the renewable energy industry and The Scottish Government in relation to the establishment of a Vision and Sector Deal for onshore wind for Scotland<sup>vii</sup>. The resultant Onshore Wind Sector Deal was officially signed on 21st September 2023.

- 13.2.13 As part of the agreed Onshore Wind Sector Deal, the Scottish Government is committed to the following:

- supporting the enhancement of the current skills and training provision by further and higher education and other training providers to focus on delivering the needs of the wind industry and to position Scotland as a world leader in material circularity;
- ensuring that onshore wind in Scotland will continue to collaborate with local communities, building on good practices to enhance its existing ‘good neighbour’ approach through engagement at all stages of the project life cycle, offering impactful community benefits and practical routes to shared ownership;
- utilising NPF4 (Policy 1), which makes clear that, when considering all development proposals, significant weight will be given to the global climate and nature rises. New onshore wind projects in Scotland will enhance biodiversity and optimise land use and environmental benefits;
- reducing the time it takes to determine Section 36 applications for onshore wind projects by increasing skills and resources and by streamlining approaches to scoping Environmental Impact Assessment Reports (EIARs) by using template formats and associated guidance;
- through detailed pipeline analysis we will develop evidence to support a more strategic approach to delivering the investment in our electricity network and to inform a coordinated approach to the transportation of wind turbine components across Scotland’s road network. We will support improvements to the network connections process helping to ensure that onshore wind capacity can connect and operate effectively; and
- taking action to enable a fair, consistent and transparent aviation process, delivering enduring cooperative coexistence between onshore wind deployment and safe aviation operations.

### Just Transition

- 13.2.14 On 7<sup>th</sup> September 2021 the Scottish Government provided an initial response to the final report of the Just Transition Commission<sup>viii</sup>. It sets out a long-term vision for

the just transition and provides details on the National Just Transition Planning Framework. The Just Transition has been published alongside the economic strategy. The ministerial foreword states that:

*“A just transition means:*

- *Skills training and education that helps to secure good, high value jobs in green industries like low-carbon manufacturing, renewables, and tech;*
- *Job security for those in industries that will play the biggest part in the transition - at every level - from those working in petrol stations to those on oil platforms.*
- *Homes that are energy efficient and help to reduce fuel poverty.*
- *Building infrastructure, transport and communities that support our efforts to decarbonise, to enhance biodiversity and which are resilient in the face of the impact of climate change that we are already feeling.*
- *Making sure the costs do not burden those least able to pay and the benefits of our transition are felt regardless of where you live, who you are and what you do.”*

13.2.15 It further states that

*“As the birthplace of the Industrial Revolution, we see it as only right that Scotland is at the forefront of the green revolution. We have a once in a lifetime opportunity to make changes that will be good for our people, our communities, our economy and our planet.”*

13.2.16 Specifically related to renewable energy, the vision for a fairer, greener 2045 includes all energy needs being met by renewable sources.

### **Scottish Government Good Practice Principles for Community Benefit of Onshore Renewable Development**

13.2.17 Community benefit is usually a direct payment to a defined community, linked to the power output of the wind farm, i.e., an annual fee per MW of installed capacity of the wind turbines. The Scottish Government's most recent guidance, Good Practice Principles for Community Benefits from Onshore Renewable Energy Development<sup>ix</sup>, continues to recommend community benefit of the value equivalent to £5,000 per MW at a national level.

13.2.18 The Good Practice Principles for Community Benefits from Onshore Renewable Energy Development emphasises that:

*“Community benefits from projects developed to date are making a real - and in some cases, transformational - difference at a local level.”*

13.2.19 It provides examples of the types of projects supported by community benefit payments, including refurbishments of village halls, start-up grants for small businesses and bursaries for further education.

13.2.20 In accordance with the Good Practice Principles for Community Benefits, the Applicant will contribute £5,000 per MW of installed capacity of the wind turbines to a 'Community of Interest for Community Benefit', i.e., those Community Council areas defined following consultation which will receive community benefit funding from the Proposed Development. These areas will generally be either directly affected by the Proposed Development (the Site lies within the area) or are immediately adjacent to such areas and may be indirectly affected by the Proposed Development, particularly during construction.

### **Aberdeen City and Shire Economic Strategy**

13.2.21 A partnership of Aberdeenshire Council, Aberdeen City Council and ONE published a new Regional Economic Strategy in 2015<sup>x</sup>. This was developed at a challenging time for the economy of the North East of Scotland. The downturn in the oil and gas sector due to a downward trend in oil prices and cost pressures, the backdrop of cuts in public sector expenditure and recovery from the wider economic downturn provided the strategic context for the strategy.

13.2.22 A key element of the strategy is to invest in an infrastructure that caters for the needs of a high performing international city region economy and a growing rural hinterland - roads with capacity to cope with the demands of business; extensive air and sea links, digital connectivity to develop competitive business, and a competitive and accessible public transport system.

13.2.23 Although there is a focus on the hugely important oil and gas sector, the strategy seeks to capitalise on the region's existing strengths and support a broadening of the economy across other industries - within the energy sector itself, tourism, food, drink, fisheries and agriculture, creative industries and life sciences.

13.2.24 A refresh of the Renewable Economic Strategy was developed in response to the Covid-19 pandemic in 2020<sup>xi</sup>, this had a renewed focus on a 'green recovery', and for the North East to become a region with an integrated energy cluster that is a global leader in the development of energy transition and net zero carbon solutions.

### **Tourism Policy Context**

13.2.25 In terms of relevant tourism policy, the Scottish Tourism Alliance developed The National Tourism Strategy 2030<sup>xii</sup> which confirms the importance of tourism to Scotland's economy and emphasises the resilience of the tourism industry since the start of the Covid-19 pandemic in 2020.

- 13.2.26 However, the strategy cautions that Scotland must remain competitive, by developing and changing its products and marketing in order to improve the quality of the customer experience and increase sales.
- 13.2.27 The vision is *“Together we will grow the value and positively enhance the benefits of tourism across Scotland by delivering the very best for our visitors, our businesses, our people, our communities and our environment.”*
- 13.2.28 VisitScotland<sup>xiii</sup> understands and supports the drive for renewable energy and recognises the economic potential of Scotland's vast resource, including the opportunities for wind farm development.
- 13.2.29 VisitScotland's Position Statement of Wind Farms states that there is a mutually supportive relationship between renewable energy developments and sustainable tourism.
- 13.2.30 VisitScotland is aware that some groups are concerned by the potential impact of wind farm developments on tourism; however, their own position statement states that independent research; *“...suggests that wind farms have a limited impact on visitors' decisions to holiday in Scotland.”*
- 13.2.31 The Scottish Parliament's Energy Committee<sup>xiv</sup> also found *“...no evidence that wind farms have a negative effect on the tourism industry.”*

#### **Scotland Outlook 2030 Responsible Tourism for a Sustainable Future**

- 13.2.32 Scotland Outlook 2030<sup>xv</sup> has been developed by Scottish Tourism Alliance, the Scottish Government, VisitScotland, Scottish Enterprise, Highlands and Islands Enterprise, and Skills Development Scotland. Over 2500 tourism leaders and stakeholders from the Scottish tourism industry have contributed to its development.
- 13.2.33 The four key priorities of Scotland Outlook 2030 are:
- Our Passionate People - We will attract, develop and retain a skilled, committed, diverse and valued workforce;
  - Our Thriving Places - We will create and develop a sustainable destination together;
  - Our Memorable Experiences - We will provide the very best, authentic and memorable experiences; and
  - Our Diverse Businesses - We will build business resilience, sustainability and profitability.

#### **Destination Aberdeen and Aberdeenshire Strategy 2018 - 2023**

- 13.2.34 The regional tourism strategy was launched in 2018<sup>xvi</sup>, and replaced the 2013 strategy when the region's economy was more reliant and dependent on the oil and gas industry, and less so on the tourism sector. Since 2013 considerable investment

was made in some major infrastructure which presented an opportunity for the tourism industry to grow in an unprecedented way. Changing trends in consumer demand have opened up new opportunities for the region. Therefore, the new strategy sets out a framework for everyone in the region's tourism sector to plan around these new opportunities, and build on the strengths as a destination. It sets the following mission:

*“Together, we will develop the visitor economy to provide a sustainable contribution to the prosperity of North East Scotland.”*

- 13.2.35 In terms of the regional tourism ambition, it sets the following:

*“We aim to grow visitor spend in Aberdeen and Aberdeenshire to £1 billion per year by 2023.”*

- 13.2.36 The strategy outlines five key principles to support this tourism growth ambition, covering, sustainable growth, leadership, governance, employment and collaboration.

## 13.3 Consultation

- 13.3.1 The Applicant sets out in the Scoping Report (August 2022) that a Socio-economic Chapter would be included in the EIAR. This will set out the socio-economic, including tourism, effects of the Proposed Development. A Scoping Response particular to Socio-economics was received by Torphins Community Council, stating that the assessment should support Aberdeenshire's objectives to develop Tourism and Active Tourism, and this should not be negatively impacted. Therefore, Aberdeenshire Council Tourism, and VisitAberdeenshire, objectives will be considered as relevant within the Socio-economic assessment.

## 13.4 Methodology

### **Scope of Assessment**

- 13.4.1 The methods applied within this assessment are based on established best practice, including methods from UK Government and industry reports.
- 13.4.2 The assessment has employed appraisal techniques consistent with environmental impact guidance published by the Institute of Environmental Management and Assessment<sup>xvii</sup>, which includes policies and practices for assessing the socio-economic effects within EIAs. It also draws on analysis and assumptions in research published by Renewable UK in 2015, Onshore Wind: Economic Impacts in 2014<sup>xviii</sup>.
- 13.4.3 NatureScot has provided guidance on assessment of effects from wind farms on recreational amenity<sup>xix</sup>. This guidance has also been used to inform the approach.

13.4.4 The methodology adopted in this assessment has involved the following key stages:

- Consideration of the relevant baseline;
- Review of the Proposed Development for potential impacts;
- Evaluation of significance;
- Identification of mitigation measures, where required; and
- Assessment of residual impacts.

13.4.5 The scale of significance described below has been used to assess the potential and residual impacts of the Proposed Development against baseline conditions. The assessment process aims to be objective and quantifies impact as far as possible; however, some impacts can only be evaluated on a qualitative basis:

- Negligible or No Effect: Either no change or no detectable change to a location, environment or sensitive receptor;
- Minor: A detectable but non-material change to a location, environment or sensitive receptor;
- Moderate: A material, but non-fundamental change to a location, environment or sensitive receptor; and
- Major: A fundamental change to a location, environment or sensitive receptor or in breach of recognised legislation, policy or standards.

13.4.6 In assessing significance, consideration is given to the national, regional and local baseline situation. The magnitude of the effect is determined in proportion to the area of effect relevant to each receptor. For the purpose of the assessment, a moderate or major effect is deemed to be 'significant' in terms of the EIA Regulations.

13.4.7 In terms of socio-economic factors, potential effects would be significant if the Proposed Development resulted in fundamental or material changes in population, structure of the local community or local economic activity.

13.4.8 The effect of the Proposed Development on tourism and recreation is closely related to public attitudes to wind farms, however, a negative opinion does not necessarily result in a material change in recreational patterns. The relevant conclusions from the most recent studies are discussed later in this Chapter.

13.4.9 The assessment has been undertaken based on the indicative generating capacity of the turbines on the Proposed Development (105.6 MW).

The spatial scope of the assessment of socio-economic effects is represented by the study areas of Aberdeenshire Council area and Scotland.

13.4.10 The spatial scope for tourism effects is the Aberdeen City and Shire, or the VisitAberdeenshire<sup>xx</sup> area, which is consistent with the VisitScotland area of

Aberdeen and Aberdeenshire<sup>xxi</sup>. Tourist attractions include permanent fixtures (e.g., visitor centres, museums, castles and trails).

13.4.11 The temporal scope of the socio-economic assessment is during the following phases:

- Construction; and
- Operation and Maintenance.

13.4.12 Effects associated with the construction phase of the Proposed Development are considered to be temporary and short-term. Effects associated with the operational phase of the Proposed Development are considered as long-term. Unless stated otherwise, tourism effects are considered based on the operational phase of the Proposed Development.

13.4.13 Construction effects are scoped out of the assessment. For the following reasons, the potential effects associated with the decommissioning phase are also not assessed further in this Chapter.

13.4.14 The Proposed Development could also have an effect on socio-economics during the decommissioning phase. Due to the relatively young age of the industry, there is a lack of data around the potential economic impact of the decommissioning phase.

13.4.15 Very few onshore wind projects to date have been fully decommissioned in the UK and, as a result, there is minimal data regarding the economic costs and impacts associated with this phase.

13.4.16 It is also difficult to predict what local economic conditions would be at the time of decommissioning (approx. 50 years from now) therefore arriving at evidence-based and accurate assumptions as recommended in guidance is not realistic.

13.4.17 There is also evidence to suggest that in the long run wind farms are more likely to be re-powered rather than decommissioned. Should full decommissioning take place the effects are likely to be short term and similar in nature but substantially lesser than construction effects.

## 13.5 Baseline

13.5.1 A desk-based review of publicly available information has been undertaken to identify the key characteristics of the local economy.

### Population

13.5.2 The Aberdeenshire Council area has a population of over 262,700 residents and witnessed an increase of 3.5% over the period 2011 to 2021 - compared to 3.4% increase at the Scottish level and an 5.9% rise at the national (Great Britain) level.

The area has witnessed a population increasing at a similar rate to the Scottish level, and slower than the Great Britain (GB) increases.

**Table 11.1: Population (2021)**

	Aberdeenshire (Numbers)	Scotland (Numbers)	Great Britain (Numbers)
All People	262,700	5,479,900	65,121,700
Males	130,500	2,672,600	31,874,600
Females	132,200	2,807,300	33,247,100

Source: ONS Population Estimates

13.5.3 In terms of the working age population, 61.1% of the regional population is of working age, compared to 63.8% and 62.9% at the Scottish and GB levels respectively. This indicates that the area has a lower proportion of people of working age, which can be seen to be an economic challenge in terms of securing future economic prosperity.

**Table 11.2: Employment and Unemployment (2021)**

	Aberdeenshire (Numbers)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
All People Aged 16-64	160,500	61.1	63.8	62.9
Males Aged 16-64	80,500	61.7	64.4	63.3
Females Aged 16-64	80,000	60.5	63.2	62.6

Source: ONS Population Estimates

#### Economic Activity

13.5.4 Table 11.3 below highlights that Aberdeenshire has a higher proportion of working age people who are economically active, when compared to the Scottish and GB levels. The regional area also has a higher proportion of self-employed people than recorded at the Scottish level.

**Table 11.3: Population aged 16 - 64 (April 2022 - March 2023)**

	Aberdeenshire (Numbers)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
All People				
Economically Active	151,200	84.1	77.4	78.4
In Employment	146,200	81.2	74.7	75.5
Employees	127,500	71.8	67.3	66.0
Self Employed	17,700	8.9	7.1	9.2
Unemployed (Model-Based)	3,500	2.4	3.5	3.6

Source: ONS Annual Population Survey

13.5.5 This suggests that although the region has fewer people of working age, those who are of working age are more economically active than recorded nationally and at the GB level. This is an economic strength and one which can help secure future economic wealth. A more detailed assessment of unemployment is set out later in this section.

#### Economic Inactivity

13.5.6 Corollary to higher economic activity rates Aberdeenshire has a lower rate of economic inactivity, as shown below.

**Table 11.4: Economic Inactivity (April 2022 - March 2023)**

	Aberdeenshire (Level)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
All People				
Total	27,300	15.9	22.6	21.6
Student	N/A	N/A	24.2	26.3
Looking After Family/Home	5,300	19.6	16.8	19.7
Temporary Sick	N/A	N/A	3.1	2.3
Long-Term Sick	6,900	25.1	31.1	26.5
Discouraged	N/A	N/A	N/A	0.3
Retired	7,800	28.7	14.2	13.3
Other	N/A	N/A	10.3	11.6
Wants A Job	6,600	24.1	19.9	18.0
Does Not Want A Job	20,700	75.9	80.1	82.0

Source: ONS Annual Population Survey

13.5.7 It is worth noting that of those economically inactive, the region has a higher proportion of people who 'want a job' (24.1%) compared to the Scottish (19.9%) and GB (18.0%) levels. This suggests there is more of a desire to find work in Aberdeenshire than recorded nationally.

#### Workless Households

13.5.8 In terms of worklessness, there are fewer households in the region, compared to the Scottish level, that are workless households. However, the rate is slightly higher than the GB rate.

**Table 11.5: Workless Households (January 2021 - December 2021)**

	Aberdeenshire	Scotland	Great Britain
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Number Of Workless Households	9,800	329,200	2,866,800
Percentage Of Households That Are Workless	12.8	18.6	14.0
Number Of Children In Workless Households	N/A	102,400	1,249,200
% Of Children Who Are In Households That Are Workless	N/A	12.0	10.2

Source: ONS Annual Population Survey

### Claimant Count Unemployment

13.5.9 The latest claimant count unemployment rate highlights that the region has a lower rate than the Scottish rate, the unemployment rate is also below the GB average.

**Table 11.6: Claimant Count by Sex (August 2023)**

	Aberdeenshire (Numbers)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
All People	2,970	1.9	3.2	3.7
Males	1,660	2.1	3.8	4.2
Females	1,315	1.6	2.5	3.2

Source: Claimant Count

13.5.10 Although regional unemployment is below the national unemployment rate, regional unemployment has remained stable at 1.9% since July 2022, following a period of falling unemployment from around 4% at the height of the pandemic. This mirrors the Scottish and GB position, where unemployment has fallen to historically low levels, however, there have been no further falls, and a view that unemployment may now start to rise as a result of the ongoing cost of living crisis.

13.5.11 In terms of unemployment by age range, the regional position is better than the Scottish situations across all age ranges.

**Table 11.7: Claimant Count by Age (August 2023)**

	Aberdeenshire (Level)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
Aged 16+	2,970	1.9	3.2	3.7
Aged 16 To 17	20	0.3	0.6	0.2
Aged 18 To 24	560	3.3	4.5	4.9
Aged 18 To 21	330	3.4	4.9	5.0
Aged 25 To 49	1,630	2.0	3.6	4.2
Aged 50+	755	1.3	2.1	2.7

Source: Claimant Count

In terms of benefit claimants by type, the area has a lower rate of claimants across all types of economic inactivity claimants.

**Table 11.8: Economic Inactivity (2016)**

	Aberdeenshire (Numbers)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
Total Claimants	12,850	7.8	13.0	11.0
By Statistical Group				
Job Seekers	1,700	1.0	1.4	1.1
ESA And Incapacity Benefits	7,040	4.3	7.8	6.1
Lone Parents	780	0.5	0.9	1.0
Carers	1,590	1.0	1.7	1.7
Others On Income Related Benefits	160	0.1	0.2	0.2
Disabled	1,200	0.7	0.9	0.8
Bereaved	370	0.2	0.2	0.2
Main Out-Of-Work Benefits†	9,680	5.8	10.2	8.4

Source: DWP benefit claimants - working age client group

13.5.12 Overall, in terms of 'main out of work benefits' Aberdeenshire has a lower proportion of claimant than recorded at the Scottish and GB levels.

### Employment by Occupation

13.5.13 **Table 11.9** highlights the type of employment at the Aberdeenshire, Scottish and GB levels. It indicates that the region has a higher proportion of managerial, administrative, skilled trades and plant and machine operative occupations than the Scottish and GB levels.

**Table 11.9: Employment by Occupation**

	Aberdeenshire (Numbers)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
Soc 2020 Major Group 1-3	62,700	43.1	49.1	51.5
1 Managers, Directors And Senior Officials	12,500	8.5	8.2	10.8
2 Professional Occupations	32,400	22.2	25.6	26.3
3 Associate Professional Occupations	17,800	12.2	15.1	14.2
Soc 2020 Major Group 4-5	39,000	26.8	18.7	18.6
4 Administrative & Secretarial Occupations	17,800	12.2	9.1	9.6
5 Skilled Trades Occupations	21,100	14.4	9.5	9.0
Soc 2020 Major Group 6-7	21,700	14.9	16.0	14.4
6 Caring, Leisure And Other Service Occupations	11,400	7.8	8.5	8.1
7 Sales And Customer Service Occs	10,300	7.1	7.5	6.3
Soc 2020 Major Group 8-9	22,000	15.2	16.1	15.4
8 Process Plant & Machine Operatives	9,200	6.3	5.1	5.8
9 Elementary Occupations	12,800	8.8	10.9	9.6

Source: ONS Annual Population Survey

13.5.14 Regionally there are fewer people employed in professional, associate professional, technical, care, leisure and service occupations and elementary occupations.

#### Jobs

13.5.15 The region has a lower proportion of full-time jobs and more part-time jobs than the GB level.

13.5.16 In terms of industry of employment, Aberdeenshire has higher rates of mining, manufacturing, construction, wholesale and retail trade, professional and scientific and education jobs than recorded at the national levels.

13.5.17 The construction sector is well represented at the Aberdeenshire level, suggesting the local area is well positioned to benefit from aspects of The Proposed Development, as shown in Table 11.10 below.

**Table 11.10: Employee Jobs (2021)**

	Aberdeenshire (Employee Jobs)	Aberdeenshire (%)	Scotland (%)	Great Britain (%)
Total Employee Jobs	100,000	-	-	-
Full-Time	66,000	66.0	66.4	68.1
Part-Time	33,000	33.0	33.6	31.9
Employee Jobs By Industry				

B : Mining And Quarrying	3,500	3.5	1.0	0.1
C : Manufacturing	13,000	13.0	7.1	7.6
D : Electricity, Gas, Steam And Air Conditioning Supply	600	0.6	0.7	0.4
E : Water Supply; Sewerage, Waste Management And Remediation Activities	800	0.8	0.8	0.7
F : Construction	9,000	9.0	6.1	4.9
G : Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	15,000	15.0	14.4	14.4
H : Transportation And Storage	4,000	4.0	4.2	5.1
I : Accommodation And Food Service Activities	6,000	6.0	7.6	7.5
J : Information And Communication	1,500	1.5	3.1	4.5
K : Financial And Insurance Activities	600	0.6	3.1	3.6
L : Real Estate Activities	1,000	1.0	1.5	1.8
M : Professional, Scientific And Technical Activities	10,000	10.0	6.5	8.9
N : Administrative And Support Service Activities	5,000	5.0	8.0	8.9
O : Public Administration And Defence; Compulsory Social Security	3,500	3.5	6.6	4.6
P : Education	9,000	9.0	8.7	8.8
Q : Human Health And Social Work Activities	10,000	10.0	15.9	13.7
R : Arts, Entertainment And Recreation	2,250	2.2	2.5	2.3
S : Other Service Activities	1,500	1.5	1.8	1.9

Source: ONS Business Register and Employment Survey

13.5.18 The region has a lower proportion of transportation, accommodation and food service, Information and Communications Technology, financial services, real estate, administrative, health, arts and entertainment and other service sector jobs than the national level. The manufacturing sector is well represented which may support the region's ability to benefit from The Proposed Development.

#### Businesses

13.5.19 In terms of the business base, Aberdeenshire has a higher proportion of micro enterprise and smaller business units (in terms of employment numbers) than

witnessed at the national (Scottish) level. The incidence of larger businesses is lower at the regional level than recorded nationally as shown in Table 11.11.

**Table 11.11: Business Count (2022)**

	Aberdeenshire (Numbers)	Aberdeenshire (%)	Scotland (Numbers)	Scotland (%)
<b>Enterprises</b>				
Micro (0 To 9)	11,895	90.8	152,470	87.8
Small (10 To 49)	1,035	7.9	17,775	10.2
Medium (50 To 249)	140	1.1	2,730	1.6
Large (250+)	25	0.2	675	0.4
Total	13,100	-	173,655	-
<b>Local Units</b>				
Micro (0 To 9)	12,910	86.4	177,455	81.2
Small (10 To 49)	1,740	11.6	33,375	15.3
Medium (50 To 249)	270	1.8	6,580	3.0
Large (250+)	30	0.2	1,060	0.5
Total	14,950	-	218,470	-

Source: Inter Departmental Business Register

### Earnings

13.5.20 In terms of earnings, both weekly wages and hourly pay, the region has higher rates than those achieved at the Scottish and GB levels as presented in Table 11.12.

**Table 11.12: Earnings (2022)**

	Aberdeenshire (Pounds)	Scotland (Pounds)	Great Britain (Pounds)
<b>Gross Weekly Pay</b>			
Full-Time Workers	709.4	640.3	642.2
Male Full-Time Workers	744.8	675.1	687.5
Female Full-Time Workers	652.8	604.7	584.5
<b>Hourly Pay - Excluding Overtime</b>			
Full-Time Workers	16.71	16.59	16.37
Male Full-Time Workers	16.28	16.91	16.97
Female Full-Time Workers	16.71	16.29	15.49

Source: ONS Annual Survey of Hours and Earnings - Resident Analysis

### Deprivation

13.5.21 The Scottish Index of Multiple Deprivation (SIMD)<sup>xxii</sup> is a standard tool for identifying areas with relatively high levels of deprivation across Scotland. SIMD 2020 is the Scottish Government's sixth edition since 2004.

13.5.22 There are 340 data zones in Aberdeenshire, representing 4.9% of the 6,976 data zones in Scotland. Within the context of the 32 Scottish Local Authorities Aberdeenshire has no data zones ranked within the 5% most deprived.

13.5.23 The lowest ranking Aberdeenshire data zone is ranked at position 569, within the 10% most deprived in Scotland, and is found in Fraserburgh (Fraserburgh Harbour and Broadsea). Aberdeenshire has nine data zones within the 20% most deprived in Scotland, representing just 0.6% of the national share. All nine of these zones can be found in Fraserburgh and Peterhead.

13.5.24 29% of Aberdeenshire's datazones fall into the 20% least deprived in Scotland. These can be found across several of Aberdeenshire's settlements however also including Fraserburgh and Peterhead. This highlights that while areas within settlements can be considered deprived it does not mean the entire settlement is. 22 of these data zones are considered in the 5% least deprived in Scotland. Aberdeenshire's highest ranking data zone can be found in Stonehaven and is ranked at position 6,959 out of 6,976.

### Tourism Baseline

13.5.25 Statistics on the volume and value of visitors to individual regions are collated from several national surveys. These include the International Passenger Survey, the Great Britain Tourism Survey and the Great Britain Day Visits Survey

13.5.26 The Covid-19 pandemic and associated travel restrictions impacted these national surveys. Before the pandemic, three year average figures were produced for individual regions. This was due to some having lower sample sizes on an annual basis. VisitScotland is currently reviewing the full year 2022 data to establish what is feasible at a regional level. It may be that some regions will require to be amalgamated to produce an indication of regional performance until more data is available. The latest regional data is for 2019.

13.5.27 In 2019, the region attracted 8% of all overnight visits and 11% of all day trips to Scotland. In terms of expenditure these shares were 5% and 9%, respectively. Suggesting that although the area is popular for overnight and day trips, the expenditure levels are lower regionally than nationally.

13.5.28 After growing substantially in 2018, overnight tourism in the region declined in 2019. Overnight trips went down to 1.3 million (-8%) and overnight spend to £317 million (-

4%). At 4.4 million, bednights decreased more significantly by 24%, indicating a drop in visitors' average length of stay.

- 13.5.29 These figures were compounded by a trend observed in 2018, with rising number of Scottish visitors and decreasing numbers of international travellers to the region. It is known that this position has continued as result of the Covid-19 pandemic, as a result of travel restrictions into 2020 and 2021. It is known that visitor numbers are recovering but there are no regional statistics available to confirm this position.
- 13.5.30 While overseas visits declined by a quarter, trips by Scottish residents rose by a third in 2019. This is reflected in the region's visitor mix, where residents of Scotland made 64% of all overnight trips, up from 45% in 2018. This massive increase in market share was also driven by a drop in English and Welsh visitors who undertook a quarter of a million trips to the region in 2019, twice less than 2018.
- 13.5.31 The decrease in international trips to the region was mostly as a result of a drop in long haul visitors. European travellers, who form the majority of overseas visitors to the region, also declines (-12%), however their spend (+1%) accounted for a quarter of all overnight spend in 2019.
- 13.5.32 The 2019 net increase in tourism expenditure was driven by a growth in domestic day tourism spend. Figures suggest it rose to £539 million (+36%) despite a 5% drop in day trips to the region. As noted, it is known that the tourism economy suffered significantly as a result of the Covid-19 pandemic, however, it is recovering, however, it remains more of a day trip destination and a destination for domestic trips.
- 13.5.33 In 2019, the region employed 21,500 tourism employees and generated £450m in GVA terms, which was down 10% on the previous year. The most popular paid and free attractions, and the distance they are from the Proposed Development is set out in Table 11.13.

**Table 11.13: Most Popular Attractions (2019)**

	Visitor Numbers	Drive Distance from Proposed Development
Free		
Duthie Park	1,007,982	24 miles
David Welch Winter Gardens	297,367	24 miles
Scottish Dolphin Centre	94,993	52 miles
Bennachie Forest	86,234	17 miles
Aberdeen Maritime Museum	78,415	25 miles
Paid		
Crathes Castle	153,217	10 miles
Brodie Castle	79,634	72 miles

Pets Corner	71,660	19 miles
Fyvie Castle	66,039	34 miles
Castle Fraser	56,822	12 miles

Source: VisitScotland

- 13.5.34 The nearest settlement is Banchory, which is around 4 miles south of the Proposed Development, and the nearest popular tourist attraction is Crathes Castle, around 10 miles from the Proposed Development.
- 13.5.35 Banchory is known as the Gateway to Royal Deeside, and is situated approximately half way along the Deeside Way. The Deeside Way is a longer distance path running from near the centre of Aberdeen, to Ballater, in the Cairngorms National Park, famous for it's Victorian Heritage and links to Balmoral Castle.
- 13.5.36 The path is suitable for walkers and cyclists with many sections suitable for horses as well and is Route 195 of the National Cycle Network which is coordinated and promoted by Sustrans.
- 13.5.37 The route follows the line of the Old Royal Deeside Railway from Aberdeen to Banchory, through woodland and farmland to Kincardine O'Neil and then rejoins the old line from Aboyne to Ballater, total distance 41 miles.
- 13.5.38 The section nearest the Proposed Development is the Drumoak to Banchory section, which is a 7 mile section and the official website for the Deeside Way notes the following attractions on this part of the route:
- Crathes
  - Royal Deeside Railway
  - Milton of Crathes Art Gallery
  - Crathes Castle
  - Banchory St Ternan Cemetery
  - Banchory
- 13.5.39 Crathes Castle is the main attraction in the local area, and is the most popular visitor attraction in Aberdeenshire, although it should be noted that Dunnottar Castle near Stonehaven is also popular but does not provide official visitor numbers to VisitScotland.
- 13.5.40 Other popular activities in the area include mountain biking, hill walking, fishing and general sightseeing by car, along the longer Deeside Tourist Route, which is promoted by VisitScotland as a 108 mile road route linking Perth with Aberdeen, and include Royal Deeside and the Cairngorms National Park. Two further local attractions are promoted by VisitScotland as part of this route, these being Go Ape at Crathes Castle and Drum Castle, which is near Drumoak. There are no other major

tourist attractions or tourism routes within the vicinity of the Proposed Development.

## 13.6 Assessment of Potential Effects

13.6.1 This section is split into two subsections: Construction and Operational and effects. As noted in the methodology section, Decommissioning has been scoped out of this section.

### Construction Effects

13.6.2 **Table 11.14** below shows the geographical and contract type distributions of investment into capital expenditure (CAPEX) during the construction phase. In total, it is estimated that approximately £117 million could be invested into the Proposed Development in CAPEX by the Applicant.

13.6.3 This conservative figure has been supplied by the Applicant. However, research completed by RenewableUK into the economic benefits of onshore wind, assumed £1.32m per MW constructed, assuming the total installed capacity is 105.6MW, which provides a figure of £140 million. For the purposes of this assessment, the assessment has utilised the figure supplied by the Applicant (£117 million). Other proxies in regard to the spatial location of impacts and the breakdown of this expenditure are based on the RenewableUK evidence.

13.6.4 The construction period is expected to last 24 months, and as such impacts are measured across this time period.

**Table 11.14: Construction Phase - Estimated Capital Expenditure (CAPEX)**

Geographical Distributions		
	%	£million
Aberdeenshire	12.0%	14.04
Scotland	36.0%	42.12
Non-Scotland	52.0%	60.84
Total	100%	117.00
Contract Type Distributions		
	%	£million
Turbine Purchase	64.4%	75.35
Balance of Plant	28.6%	33.46
Grid Connection	7.0%	8.19
Total	100.00%	117.00

13.6.5 It is estimated that around a third of investment into capital expenditure will occur within Scotland (£42.12 million) as a whole, with a third of that figure accruing to Aberdeenshire (£14.04 million).

13.6.6 The main expenditure during the construction phase is expected to be turbine purchase, with balance of plant (construction works) and grid connection making up a smaller proportion. Each of these are considered in the economic assessment, although it is noted that the grid connection will be a separate consent.

13.6.7 Combining these two different measures of distribution of CAPEX, it can be expected that a smaller level of investment overall will accrue to Aberdeenshire and Scotland. This exact amount however cannot be calculated. The rest of the CAPEX will accrue to the UK and international levels.

13.6.8 The CAPEX will produce direct socio-economic benefits to the Aberdeenshire local authority area and Scotland in terms of employment and GVA. Table 11.15 shows the predicted direct impacts for both regions. It must be noted that these two amounts cannot be summed, as the direct impacts within Aberdeenshire will form a part of the direct impacts within the whole of Scotland.

13.6.9 Employment impacts are shown in job years during the construction phase so as to better illustrate the impact during the relatively short phase of construction relative to operations and maintenance. One job year equals one year of continuous employment.

13.6.10 The contract values potentially awarded in each area would represent an increase in turnover in businesses in these areas. The Gross Value Added (GVA) impact, a measure of economic activity, was estimated using industry-specific data from the Scottish Annual Business Survey<sup>xxiii</sup>, which gives the turnover to GVA ratio for each of the industries involved.

13.6.11 Similarly, the contract values potentially awarded in each area would support employment. Turnover per employee for each of the industries involved is also given by the Scottish Annual Business Survey, which can be used to estimate the employment impact from any increase in turnover.

13.6.12 These impacts do not measure the effects created throughout the entirety of the supply chain associated with the Proposed Development, just the impacts arising from work directly associated with the Proposed Development itself.

**Table 11.15: Construction Phase Direct Impacts**

	Aberdeenshire	Scotland
Job Years	168.9	603.9
GVA (£ million)	10.6	32.5

- 13.6.13 As set out in **Table 11.15**, around 604 job years are expected to be created in Scotland during the construction phase, with approximately 169 job years created in Aberdeenshire itself.
- 13.6.14 The Proposed Development could also generate £32.5 million in GVA to Scotland, and £10.6 million to Aberdeenshire.
- 13.6.15 A large proportion of the direct benefits associated with the Proposed Development are likely to be focused around the construction phase, as this will provide the largest increase in economic activity. The operations and maintenance phase in contrast, while over a longer period of time, will involve a different type of work and therefore does not offer as many direct economic benefits to Scotland and Aberdeenshire.
- 13.6.16 These direct benefits during the construction phase could offer a significant economic opportunity for local workers, businesses, and supply chains. The extent to which these benefits are captured locally will depend on the suitability of local infrastructure and supply chains to take advantage of the construction work necessary for the Proposed Development.
- 13.6.17 The direct socio-economic impacts will give way to wider economic impacts. This is due to ‘ripple’ effects created throughout the wider supply chain of the Proposed Development and the local and national economies.
- 13.6.18 There are two separate and distinct measures of wider economic impact used, which are economic multipliers and estimates of employee spend. Both these approaches are separate, and their results should not be combined to give an impression of total impact, as there will be overlap between each measure of impact.
- 13.6.19 Nevertheless, each provides a unique perspective on the wider economic benefits on offer from the Proposed Development.
- 13.6.20 Taking first economic multipliers, they are, in a broad sense, an economic factor which when changed, causes changes in many other related economic variables. This allows for the measurement of the change in final income from any new injection of spending. For example, if a multiplier value is set at 1.5, then £100 of spending will generate £150 in the economy as a whole.
- 13.6.21 There are two different types of multipliers used. Type I multipliers are a sum of the direct and indirect effects arising from a change in output in a particular industry. The indirect effect measures the effects felt throughout the supply chain resulting from the direct effects of a change in output.
- 13.6.22 Type II multipliers are, in turn, the sum of the direct, indirect, and induced effects. The induced effect is the effect of the proportion of income re-spent on final products arising from the change in household expenditure from the direct and

indirect effects. Together, these two multipliers provide a comprehensive picture of the total wider economic impact from the Proposed Development.

- 13.6.23 There are separate multipliers available for employment and GVA impacts. The Scottish Government Input-Output Tables<sup>xxiv</sup> are used for the construction stage with reference to SIC codes 41-43 (construction) to represent the types of activities likely to be carried out during this phase. **Table 11.16** below shows the predicted wider economic impact from the construction phase using these multipliers. Multipliers are only produced at the Scottish national level, and there are no sub-national figures given for regions such as local authorities. Therefore, all discussion of wider economic impact using this method will be restricted to the Scottish national level.

**Table 11.16: Construction Phase Scotland Multiplier Impact**

	Type I	Type II	Total
Job Years	301.9	181.2	483.1
GVA (£ million)	19.5	9.7	29.2

- 13.6.24 The construction phase is predicted to generate roughly 483 job years and £29.2 million in GVA resulting from the multipliers’ effects. In relation to the direct impact, the employment multipliers represent an 80% increase on the original figure, and the GVA multipliers represent a 90% increase.
- 13.6.25 In essence, the wider economic benefit felt in Scotland nearly doubles the direct impact. This underscores the valuable economic opportunity from the Proposed Development, both for Scotland and Aberdeenshire.
- 13.6.26 This will provide valuable support to household incomes, businesses, and local supply chains. It is important to note, that the largest individual channel of impact provided will be through the Type I multiplier effect, effects felt down the supply chain. This reinforces the importance of ensuring that local business and supply chains are well poised to capture the wider economic benefits on offer from the Proposed Development.
- 13.6.27 Although the multipliers published by the Scottish Government are only representative of Scotland as a whole, it can be estimated through that half of the multiplier impact within Scotland during the construction phase will be felt within Aberdeenshire.
- 13.6.28 This assumption is in line with economic development impact best practice, and in line with HIE’s own impact guidance, in the absence of local economic multipliers in Scotland. As such, this proportion is represented in **Table 11.17**.

**Table 11.17: Construction Phase Aberdeenshire Multiplier Impact**

	Type I	Type II	Total
Job Years	42.2	25.3	67.5
GVA (£ million)	3.2	1.6	4.8

13.6.29 As set out in **Table 11.17**, assuming 50% of the multiplier impact during the construction phase, this is expected to generate a further 68 job years for Aberdeenshire, and £4.8 million in additional GVA.

13.6.30 Bringing together the direct, indirect and induced impacts, it was estimated that the construction phase of the Proposed Development could generate:

- 237 construction jobs and GVA of £15.4 million in GVA in Aberdeenshire; and
- 1,087 construction jobs and GVA of £61.7 million in GVA in Scotland.

13.6.31 Construction is likely to result in a temporary **minor beneficial and not significant** effect on the economy in Aberdeenshire, and a temporary **minor beneficial and not significant** effect on the economy in Scotland.

### Operational Effects

13.6.32 **Table 11.18** shows the anticipated investment in operational expenditure (OPEX) during the operation and maintenance phase of the Proposed Development. All impacts at this phase are represented annually.

13.6.33 The levels of OPEX have been estimated using data from the RenewableUK 2014 study, which details the average costs of onshore wind farm development in the UK. It is estimated that for every MW, £59,867 is spent annually during this phase.

13.6.34 Therefore, based on the 105.6MW capacity of the Proposed Development, the overall figure of £6.32 million can be estimated (**Table 11.18**). The geographical distribution is also provided through this study.

**Table 11.18: Annual Operation and Maintenance Phase Expenditure (OPEX)**

	Aberdeenshire	Scotland	Total
%	42	58	100
£ million	2.65	3.67	6.32

13.6.35 Unlike the construction phase, the Operations and Maintenance investment breakdown is not as detailed. This is partly due to less intensive economic activity which will take place annually compared to the construction phase and that this information is not available for the economic modelling. It is anticipated that 58% of annual OPEX will occur within Scotland and 42% with Aberdeenshire, with £3.67

million accruing to Scotland, of which £2.65 million accruing at the Aberdeenshire level.

13.6.36 The annual OPEX will produce direct economic benefit to Scotland and Aberdeenshire, in terms of employment and GVA creation.

13.6.37 As with the development and construction impacts, the contract values awarded in each of the study areas would represent an increase in turnover in those areas. The economic impact of this increase in turnover was estimated by applying turnover to GVA and turnover per employee ratios for the relevant industries.

**Table 11.19: Annual Operation and Maintenance Phase Direct Impacts**

	Aberdeenshire	Scotland
FTEs	18.7	37.0
GVA (£ million)	1.32	1.90

13.6.38 As set out in **Table 11.19**, around 37 Full-time equivalent (FTE) jobs are expected to be created annually in Scotland during the operation and maintenance phase, with around 19 FTEs being created in Aberdeenshire.

13.6.39 The Proposed Development will also generate £1.90 million in GVA annually for Scotland, and £1.32 million for Aberdeenshire. The measure of FTE jobs is used here in contrast to job years during the construction phase, as the operation and maintenance phase will occur over a much longer period of time, therefore the type of employment provided is more akin to full-time, permanent jobs.

13.6.40 As mentioned previously, these figures are lower than those expected during the construction phase. This is mostly due to operation and maintenance work being much less economically intensive than the construction phase. Modern onshore wind farms operate with a significant degree of automation, managed through remote control centres. The Proposed Development will be managed in Scotland, at the RES control centre in Glasgow and these effects are included in the Scottish level effects.

13.6.41 Therefore, this impact will mainly come from any maintenance works required, which may be sporadic, unlike construction where there is a predefined volume of economic activity which is assured to happen.

13.6.42 As such, there may also be less opportunities for local workers, businesses, and supply chains but there will be scope for local resources to be deployed for a range of activities, such as, path, fencing, landscaping and ground work contracts.

13.6.43 There may, however, be local opportunities in respect of site maintenance; including routine tasks such as maintaining site access tracks and bridges, maintaining drainage ditches and repairing gates and fences, which could be carried out by local contractors and businesses.

13.6.44 Some servicing works is assumed to be undertaken with locally based staff and also through the original equipment manufacturers (OEMs). The level of local economic opportunities would depend on the works required and the selected turbine supplier. Some of the turbine suppliers have locally based staff to do servicing works. It is worth clarifying that not all servicing and maintenance is brought into Aberdeenshire but there are locally based skilled staff to do such works.

13.6.45 As with the construction phase, there will also be wider economic impact arising from the Proposed Development, again measured by using the two separate multiplier and employee spend methods.

13.6.46 Different to the construction phase however, the SIC code 33 (repair and maintenance) is used to better reflect the nature of the wider economic impact arising from these types of activities. **Table 11.20** demonstrates the annual wider economic impact through multipliers for the operation and maintenance phase.

**Table 11.20: Annual Operation and Maintenance Phase Scotland Multiplier Impact**

	Type I	Type II	Total
FTEs	14.79	11.10	25.89
GVA (£ million)	0.57	0.38	0.95

13.6.47 The operation and maintenance phase is predicted to annually generate approximately 25 FTE jobs and £0.95 million in GVA resulting from the multipliers' effects at the Scottish level.

13.6.48 In relation to the direct impact, the employment multipliers represent a 70% increase on the original figure, and the GVA multipliers represent a 50% increase. This underscores the valuable economic opportunity anticipated from the Proposed Development, both for Scotland and Aberdeenshire.

13.6.49 This will provide valuable support to household incomes, businesses, and local supply chains. The largest individual channel of impact provided will be through the Type I multiplier effect, effects felt down the supply chain.

13.6.50 Although the economic activity, annually, at the operation and maintenance phase is less than that of the construction phase, there are tangible local opportunities.

13.6.51 For example, if contracted operation and maintenance staff are required to stay within the local area for work, local goods and services such as food and drink and accommodation will be utilised. Additionally, if there is site maintenance work being

carried out, local businesses and supply chains could have opportunities in relation to that type of work.

13.6.52 Although the multipliers published by the Scottish Government are only representative of Scotland as a whole, it can be estimated that half of the multiplier impact within Scotland during the operation and maintenance phase will be felt within Aberdeenshire. As such, this proportion is represented in **Table 11.21**.

**Table 11.21: Annual Operation and Maintenance Phase Aberdeenshire Multiplier Impact**

	Type I	Type II	Total
FTEs	3.73	2.80	6.53
GVA (£ million)	0.20	0.13	0.33

13.6.53 As shown in Table 11.21, assuming 50% of the multiplier impact during the operation and maintenance phase, this is expected to generate, in total, an additional 7 FTE jobs for Aberdeenshire, and £0.33 million in additional GVA.

13.6.54 Bringing together the direct, indirect and induced impacts, it was estimated that the operation phase of the Proposed Development could generate:

- 25 operation and maintenance jobs and GVA of £1.7 million in GVA in Aberdeenshire; and
- 63 operation and maintenance jobs and GVA of £2.9 million in GVA in Scotland.

13.6.55 The effect of operations and maintenance expenditure on the Aberdeenshire and Scottish economies was assessed as **negligible** and therefore **not significant**.

### Tourism Effects

13.6.56 There have been a number of research exercises completed regarding the opinions of tourists towards wind farms. A summary of the most relevant and highly regarded research is included in this sub-section.

13.6.57 The Economic Impacts of Wind Farms on Scottish Tourism study by Glasgow Caledonian University<sup>xxv</sup> is perhaps the most comprehensive on the impacts of wind farms on tourism in Scotland, incorporating:

- A literature review;
- An intercept survey of tourists currently in the studied areas;
- An internet survey;
- A GIS study about the effect on accommodation; and
- Economic analysis of the results.

13.6.58 The study covered the areas of Caithness and Sutherland, Perth Kinross and Stirling, Dumfries and Galloway, and the Scottish Borders.

13.6.59 The literature review, which particularly considered international studies, found that:

- There is little evidence of negative outcomes in scenic areas, as they generally don't have wind farms approved;
  - Although a significant number of individuals reported a loss of value, some thought that they enhanced the landscape;
  - In Denmark, an established wind farm market, turbines are seen as a positive impact on the landscape;
  - Hostility to wind farms decreases over time; and
  - There is no evidence to suggest serious negative economic impacts of wind farms on tourists.
- 13.6.60 The research presented findings from a number of surveys, the review of secondary research suggests that on average around 91.3% of tourists surveyed were not discouraged from visiting an area containing a wind farm, when reviewing more recent and Scottish based results the figure is nearer 95%.
- 13.6.61 Overall, the study concluded that; *"...the findings from both primary and secondary research relating to the actual and potential tourism impact of wind farms indicate that there will be neither an overall decline in the number of tourists visiting an area nor any overall financial loss in tourism-related earnings as a result of a wind farm development."*
- 13.6.62 The subsequent report from the Economy, Energy and Tourism Committee<sup>xxvi</sup> presented a number of findings, including the following points in regard to the relationship between renewable energy targets and tourism objectives:  
*"While some strongly held localised and anecdotal opinion exists, the Committee has seen no empirical evidence which demonstrates that the tourism industry in Scotland will be adversely affected by the wider deployment of renewable energy projects, particularly onshore and offshore wind."*
- 13.6.63 The report also found:  
*"Whilst care always needs to be taken in terms of the planning process and decisions on the siting of individual projects in areas popular with tourists and in our rural and wild land areas, no one has provided the Committee with evidence, as opposed to opinion."*
- 13.6.64 A 2012 report commissioned by the Scottish Government<sup>xxvii</sup> subsequently found that the findings of the Glasgow Caledonian University report were robust, and that there had been no adverse effect on tourism in the areas considered in the original report.
- 13.6.65 Since the study by Glasgow Caledonia University was produced in 2012, there has been a significant growth in both the installed capacity of onshore wind energy in Scotland and the tourism economy.
- 13.6.66 In 2008, there was 1.7 GW of installed wind energy capacity in Scotland, and by 2017, this had increased to 7.6 GW. If there were to be negative impacts for the tourism sector associated with the development of onshore wind energy, they would have become apparent in this time period; however, this is not the case.
- 13.6.67 In 2011, VisitScotland commissioned Wind Farm Consumer Research<sup>xxviii</sup> into attitudes of tourists towards wind farms, which surveyed 2,000 people in the UK and 1,000 people in Scotland, who had visited Scotland recently.
- 13.6.68 Although the majority (86-91%) were in agreement about the importance of the natural scenery and landscape, for most of the respondents (80-83%) their decision to stay in the UK for a short holiday would not be affected by the presence of a wind farm. In general, the respondents did not feel that wind farms ruined the tourism experience.
- 13.6.69 In response to criticism in 2015 that this research was now out of date, VisitScotland indicated that it planned to update the work and in a newspaper article a spokesperson said that:  
*"VisitScotland supports the drive for renewable energy and recognises the potential of Scotland's vast resource. It is well documented that the vast majority of potential visitors would not be discouraged from visiting Scotland on account of windfarm developments. Windfarms and other renewable energy projects are a part of the landscape in nearly every destination in the world."*<sup>xxix</sup>
- 13.6.70 In 2012, an inquiry was held by the Scottish Parliament's Economy, Energy and Tourism Committee into the achievability of the Scottish Government's renewable energy targets.
- 13.6.71 This included a review of some of the evidence presented above. In the final report, entitled Report on the Achievability of the Scottish Government's Renewable Energy Targets<sup>xxx</sup> the committee concluded that:  
*"Several witnesses made assertions that there would be a negative impact on Scotland's tourism industry from renewable developments. However, these assertions were contradicted by research evidence from VisitScotland and others. Whilst care always needs to be taken in terms of the planning process and decisions on the siting of individual projects in areas popular with tourists and in our more rural and remote rural areas, no witness has provided the Committee with robust, empirical evidence, as opposed to anecdotal comment and opinion, that tourism is being negatively affected by the development of renewable projects. However, given the importance of this issue, the Committee recommends that VisitScotland*

*and the Scottish Government continue to gather, and take account of, evidence from visitors to Scotland.”*

- 13.6.72 In 2014, Mountaineering Scotland, a membership body that represents Scottish hillwalkers and mountaineers, conducted a survey of its members<sup>xxxii</sup>, which found that wind farms had an adverse effect on Scottish mountaineering, with many responding that they would avoid areas with wind farms.
- 13.6.73 However, the survey has attracted criticism, including from its own members, some of whom felt that it was difficult to express positive attitudes about wind farms and that questions were biased in favour of negative opinions.
- 13.6.74 The questions were also asking about future behaviour, which may be different in practice. Furthermore, given Mountaineering Scotland's history of opposition to wind farms, it may not be considered independent, and the survey was conducted without independent oversight.
- 13.6.75 In 2016, Mountaineering Scotland conducted another survey (Mountaineering Scotland, 2016) of its members, which aimed to address some of the issues raised by the previous survey such as asking about current behaviour, and asking more neutral questions about wind farms.
- 13.6.76 As with the earlier study, however, it also lacked independent oversight, and therefore, may not be representative of broader groups of hill walkers or tourists more widely. There is also no reason to expect the survey results to be representative of tourists more generally.
- 13.6.77 When asked about the impact of wind farms on plans to walk and climb, the majority of respondents (75%) answered that wind farms have no effect on their plans, although some expressed that they may decrease their enjoyment.
- 13.6.78 Some (22%) responded that they go as often, but avoid areas with wind farms, while 1% go to the mountains less. However, 2% of respondents said they go to the mountains more often and like to see wind farms.
- 13.6.79 This suggests that the development of wind farms in Scotland has an overall positive impact on the number of people who participate in hill walking; however, it may change which parts of the country that recreational walkers utilise.
- 13.6.80 A more recent, and regular, piece of research is issued quarterly by the Department for Business, Energy and Industrial Strategy (BEIS), in their 'Public Attitudes Tracker'<sup>xxxiii</sup>.
- 13.6.81 In December 2022, this reported that support for renewable energy remained steady at 85%. Levels of support have remained between 74% and 85% since the question was first asked in March 2012.

- 13.6.82 Opposition to renewable energy remained at its lowest point across the tracker at 1%, having previously fluctuated between 2% and 5% between March 2012 and June 2020. The current levels are the highest they have been in terms of support for renewables and the lowest opposing renewables since the survey commenced in 2012.
- 13.6.83 BiGGAR Economics published recent research<sup>xxxiii</sup> into the relationship between the onshore wind and tourism sectors in Scotland. This study was undertaken to find empirical evidence of a relationship between the development of onshore wind farms and the tourism sector in Scotland.
- 13.6.84 Their analysis of 44 wind farm case studies in Scotland found no evidence of a link between wind farm development and trends in tourism employment. The analysis of trends at the local authority area found no relationship between the growth in the number of wind turbines and the level of tourism-related employment.
- 13.6.85 Overall, the secondary research completed to date confirms that the tourism sector is not adversely affected by onshore wind farms. In fact, the tourism sector has continued to grow across Scotland as more wind farms have been developed.
- 13.6.86 The effect on tourism is therefore assessed as being **negligible** and therefore **not significant** at both the regional and national levels.

## 13.7 Mitigation

- 13.7.1 No mitigation measures have been considered for the Proposed Development as there are no significant adverse effects anticipated.

## 13.8 Assessment of Residual Effects

- 13.8.1 There are no significant adverse effects anticipated for the Proposed Development.
- 13.8.2 There are potential minor or negligible beneficial effects in relation to the development, construction and operation phases of the Proposed Development, both in employment and GVA terms in the context of local and national economies.
- 13.8.3 There are potential beneficial effects in relation to the operation phase of the Proposed Development, both in employment and GVA terms in the context of local and national economies, in the context of the cumulative sites.

## 13.9 Assessment of Cumulative Effects

- 13.9.1 The cumulative effects of the construction phase of the Proposed Development along with the cumulative sites would generate additional construction related spend, employment and GVA.

- 13.9.2 This scale of wind farm activity in the area suggests there is a substantial economic opportunity in terms of cumulative investment and resultant employment impacts as local capacity to take up the opportunities grow. The other wind farms in the area include Meikle Carew, Mid Hill and Fetteresso. The exact value of the effects of these other wind farms is not known, however, the socio-economic effects will go beyond those presented in the report suggesting the socio-economic effects, at construction and operational stage, will be far greater than those estimated for the Proposed Development.
- 13.9.3 The addition of the Proposed Development will positively contribute to this and could result in increased beneficial effects in terms of job creation and opportunities for local businesses. It is anticipated that when considering the schemes cumulatively, construction is likely to result in a temporary **moderate beneficial and not significant** effect on the economy in Aberdeenshire, and a temporary **moderate beneficial and not significant** effect on the economy in Scotland.
- 13.9.4 The cumulative effects of the operation phase of the Proposed Development along with cumulative sites would generate additional operation related spend, employment and GVA.
- 13.9.5 This scale of wind farm activity in the area suggests there is a substantial economic opportunity in terms of cumulative investment and resultant employment impacts as local capacity to take up the opportunities grow.
- 13.9.6 The addition of the Proposed Development will positively contribute to this and could result in increased beneficial effects in terms of job creation and opportunities for local businesses. It is anticipated that when considering the schemes cumulatively, operation is likely to result in a **minor beneficial and not significant** effect on the economy in Aberdeenshire, and a **minor beneficial and not significant** effect on the economy in Scotland.
- 13.9.7 In terms of cumulative effects on tourism, the results are not expected to change and the effects remain negligible at the regional and national levels.

## 13.10 Wider Economic Effects

- 13.10.1 It is anticipated that the Proposed Development will have wider beneficial effects that are not possible to quantify at this stage. Nevertheless, these would be expected to have positive effects on the local and national economies including:
- Local supply chain opportunities: economic multiplier effects have not been included in the economic assessment due to the difficulty in accurately

- ascertaining their nature at the local and regional levels. The Applicant will host 'Meet the Buyer' events and suitably qualified local firms invited to bid for different aspects of construction, such as foundation laying and electrical works. Construction materials are normally sourced locally (i.e. within Aberdeenshire) and local transport and plant hire companies used wherever possible.
- Forming links with local businesses: There are civil engineering contractors adjacent to the site in the form of Miller Plant and McIntosh Plant. The latter has experience and capability in heavy haulage. Its yard might also be large enough to store equipment/parts. The southern approach to site presented as an option in the Transport chapter has been included in case the contractor can transport the turbine components and wins the work. There are quarries in the area including Breedon Aggregates on the Dunecht Estate which is an option for sourcing stone from if required. The site is on the Dunecht Estate which is a large landholding with local employment which the Proposed Development has the potential to help support through the property rental.
  - Worker expenditure: However, it is worth noting Renewable UK research<sup>xxxiv</sup> which estimated that the expenditure of workers who visit the local area benefit the accommodation and food service sector to the value of around £7,500 per MW constructed. This would suggest, based on a 105.6 MW Proposed Development, that further financial benefits of £792k would accrue at the regional level, largely benefiting regional tourism businesses. The wider 'knock-on' impacts can in turn support the supply chain of other activities such as the spending habits of retail operations and accommodation providers;
  - Pre-development benefits: as the development of the Proposed Development is underway in a planning sense, there have already been notable financial and economic effects. To date there has been almost £900k in development expenditure, all UK and predominately Scotland, and this is forecast to increase to £950k to submission, which includes for example, almost £25k spent by the Applicant in Aberdeenshire on accommodation, subsistence, local newspapers/publishers to date.
  - Income effects: the economic analysis has focused on the GVA effects of generated employment as this is the 'real' impact on the economy. However, it is worth noting that new employment will generate additional wages and salaries, much of which will be spent in the UK;
  - Exchequer effects: the analysis has not attempted to estimate the additional exchequer effects as result of taxes borne (Corporation Tax, Employer National Insurance and Irrecoverable VAT) and taxes collected (Income Tax, Employee National Insurance and non-domestic business rates). These are additional

financial benefits which will support the regional and national economies. It is estimated that local Business Rates alone will be greater than £1 million per annum;

- Effects on land owners: there will be a financial transaction to the land owners (Dunecht Estates) which may support diversification and/or other spending in the local, regional and national economy; and
- Community benefit funds: The intended community benefit package for the Proposed Development includes a community benefit fund and an opportunity for the local community to invest in the Proposed Development once operational. Income streams from this community benefits package could provide long term revenue to support local community initiatives. Depending on the initiatives and projects brought forward by the local community these could provide positive benefits to the local economy, local facilities and the general quality of life for local residents. The Applicant commits to a community benefit fund of up to £5,000 per MW per annum, index linked throughout the operational period of the Proposed Development. Based on the 105.6 MW capacity and an operational period of 50 years this is equivalent to at least £26.4M of community investment. As part of this offering, the Applicant is consulting on a unique Local Electricity Discount Scheme (LEDS) which offers an annual discount to the electricity bills of those properties closest to the Proposed Development.
- Shared ownership: The Applicant is also considering the development of a model for community shared ownership, offering the community the opportunity to invest up to 10% in the Proposed Development. Feedback was sought from the public on this offer at the last round of public exhibitions in June 2023. It will be developed and details for it expected to be presented to the relevant community councils post-submission.
- Community investment programme: A Dunecht Estate Masterplan, Figure 13.1 has been produced to showcase the developments/benefits within and outside the Site associated with the Proposed Development during operation. The temporary enabling works compound at the site entrance will become permanent public car parking. The upgraded and new access tracks for the Hill of Fare Wind Farm will provide improved non-vehicular public access across the site. The Cultural Heritage Trail will improve non-vehicular access between the Scheduled Monuments and to the Hill of Fare and provide improved visitor experience through information boards about the assets as detailed in Chapter 7. Through practices detailed in Chapter 8 and the Biodiversity Enhancement & Management Plan (BEMP) and Chapter 14, the Masterplan highlights the areas of habitat enhancement and forestry replanting envisaged. Land rental income from the Hill of Fare Wind Farm will open opportunity for Dunecht Estate to renovate the

shooting lodge on Site making it an off-grid shelter for visitors to rest and discover more about the Estate. There are locations elsewhere on the Dunecht Estate where EV Chargers could be developed through the Community Benefits Package including the abandoned fuel station in the centre of Echt. The Masterplan identifies the location of known contractors local to the Site that have been recognised for potential to supply aggregates, materials, plant & machinery, storage and heavy haulage during construction.

- Addressing feedback from the community consultation: The Applicant has completed a series of community consultation events, and a Pre-Application Consultation (PAC) Report has been developed. There were a considerable amount of community views raised in regards to proposals for recreational enhancements, views on local energy discount (LEDs) and shared ownership and community investment ideas in relation to education, skills, transport and community infrastructure. These views are presented in the PAC, and they will add considerable weight to the quantifiable effects presented in this assessment.

### 13.11 Summary

- 13.11.1 The socio-economic impact during construction of the Proposed Development was assessed as minor beneficial in Aberdeenshire, and minor beneficial in Scotland. The annual economic impacts related to operation were assessed as negligible beneficial for both study areas. All effects have been assessed as not significant.
- 13.11.2 Surveys of the public's attitudes to wind farms provide no clear evidence that the presence of wind farms in an area has a negative impact on local tourism. Tourists using the local core paths and local tourist attractions may have a particular sensitivity to visual effects; however, access to tourist facilities will be unaffected. Hence, even where significant visual effects are predicted, negative effects of the operational phase of the Proposed Development are predicted not to have a significant effect on tourism receptors in accordance with the EIA Regulations.
- 13.11.3 **Table 11.22** provides a Summary and Statement of Significance for Socio-economic, and Tourism.

#### Table 11.22: Summary of Residual Effects

Likely Significant Effect	Mitigation	Means of Implementation	Residual Effect
Construction: Socio-economic - Minor / Moderate Beneficial	N/A	N/A	Construction: Socio-economic - Minor / Moderate Beneficial
Construction: Tourism - Negligible	N/A	N/A	Construction: Tourism - Negligible
Operation: Socio-economic: Negligible / Minor Beneficial	N/A	N/A	Operation: Socio-economic: Negligible / Minor Beneficial
Operation: Tourism - Negligible	N/A	N/A	Operation: Tourism - Negligible

## 13.12 References

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- <sup>ii</sup> <https://www.gov.scot/publications/scotlands-national-strategy-economic-transformation/>
- <sup>iii</sup> <https://www.gov.scot/publications/scotlands-national-strategy-economic-transformation/>
- <sup>iv</sup> <https://www.lloydsbankinggroup.com/assets/pdfs/who-we-are/green-economy/uk-green-growth-index.pdf>
- <sup>v</sup> <https://www.gov.scot/publications/onshore-wind-policy-statement-2022/pages/6/#:~:text=Sets%20out%20our%20ambition%20to,an%20onshore%20wind%20sector%20deal.>
- <sup>vi</sup> <https://www.renewableuk.com/news/news.asp?id=458483&hhSearchTerms=%22economic+and+benefits%22>
- <sup>vii</sup> <https://www.scottishrenewables.com/news/1150-onshore-wind-vision-and-development-of-offshore-supply-chain-announced-in-programme-for-government>
- <sup>viii</sup> <https://www.gov.scot/publications/transition-fairer-greener-scotland/documents/>
- <sup>ix</sup> <https://www.gov.scot/publications/scottish-government-good-practice-principles-community-benefits-onshore-renewable-energy-developments/>
- <sup>x</sup> <https://aberdeenshire.gov.uk/media/19416/regional-economic-strategy.pdf>
- <sup>xi</sup> <https://aberdeenshire.gov.uk/media/25961/res-action-plan-covid19-iscfinal-4.pdf>
- <sup>xii</sup> <https://scottishtourismalliance.co.uk/scotland-outlook-2030-overview/>
- <sup>xiii</sup> <https://www.visitscotland.org/binaries/content/assets/dot-org/pdf/policies/visitscotland-position-statement--wind-farms--oct-2014.pdf>
- <sup>xiv</sup> <http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/57013.aspx>
- <sup>xv</sup> <https://scottishtourismalliance.co.uk/scotland-outlook-2030-overview/>
- <sup>xvi</sup> <https://www.visitabdn.com/assets/Destination-Strategy/Aberdeen-and-Aberdeenshire-Destination-Strategy-2018.pdf>
- <sup>xvii</sup> <https://www.iema.net/>
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- <sup>xix</sup> <https://www.nature.scot/doc/handbook-environmental-impact-assessment-guidance-competent-authorities-consultees-and-others>
- <sup>xx</sup> <https://www.visitabdn.com/>
- <sup>xxi</sup> <https://www.visitscotland.org/research-insights/regions/aberdeen-aberdeenshire>
- <sup>xxii</sup> <https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/>
- <sup>xxiii</sup> <https://www.gov.scot/publications/scottish-annual-business-statistics-2021/>
- <sup>xxiv</sup> <https://www.gov.scot/publications/input-output-latest/>
- <sup>xxv</sup> <https://www.gov.scot/publications/economic-impacts-wind-farms-scottish-tourism/pages/4/>
- <sup>xxvi</sup> <http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/57013.aspx>
- <sup>xxvii</sup> [https://www.climatexchange.org.uk/media/1686/the\\_impact\\_of\\_windfarms\\_on\\_scottish\\_tourism.pdf](https://www.climatexchange.org.uk/media/1686/the_impact_of_windfarms_on_scottish_tourism.pdf)
- <sup>xxviii</sup> VisitScotland (2011). Wind Farm Consumer Research
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