

MORAY WEST OFFSHORE WINDFARM



Onshore Transmission Infrastructure Environmental Impact Assessment (EIA)

Moray Offshore Windfarm (West) Limited

Chapter 12

Socio-economics, Tourism and Recreation



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Acronyms	
Acronym	Expanded Term
BEIS	Department for Business, Energy and Industrial Strategy
bn	Billion
NCN	National Cycle Network
OnTI	Onshore transmission infrastructure
FTE	Full Time Equivalent
GVA	Gross Value Added
HDD	Horizontal directional drilling
ILO	International Labour Organisation
IPROW	Institute of Public Rights of Way and Access Management
LQ	Location Quotient
m	Million
NPF3	National Planning Framework 3
N-RIP	National Renewables Infrastructure Plan
O&M	Operation and maintenance
ONS	Office for National Statistics
OS	Ordnance survey
OWIG	Offshore Wind Industry Group
SIC	Standard Industrial Classification
SNH	Scottish Natural Heritage
SPP	Scottish Planning Policy
WAP	Working age population

Glossary of Terms	
Term	Definition
Direct Economic Impact	Increases in economic output and/or employment generated by The Applicant/operator of the project as a result of the project going ahead, plus increases in economic output and employment among suppliers who provide goods and services directly to the project.
Direct Gross Value Added	The contribution of individual businesses, industries or sectors to the economy as a result of the direct expenditure associated with the proposed development.
Economic Activity Rate	The proportion of an area's working age population who are either in employment or actively seeking work. This includes self-employed people and part time workers.

Glossary of Terms	
Term	Definition
Full Time Equivalent (FTE)	A unit for measuring employment which indicates the workload associated with each post. One FTE is the equivalent of a full-time post. An FTE of 0.5 indicates that a post is half time.
Gross Value Added (GVA)	The value to the economy of activity generated through construction and O&M of the scheme. GVA is effectively a measure of the additional profits generated in businesses benefiting from the activity plus additional salaries that are paid to their employees.
Indirect Economic Impact	As suppliers to the project increase output to meet the additional demand for their goods and services associated with the project, there will also be a corresponding increase in demand on their own suppliers and down their supply chains - the resulting increase in economic output and employment is termed the "indirect effect".
Induced Economic Impact	An injection of additional expenditure that will recirculate throughout the economy as a result of direct economic impacts and indirect economic impacts.
Induced Gross Value Added	The value to the economy that is realised as a result of the additional expenditure that will recirculate throughout the economy as a result of direct economic impacts and indirect economic impacts.
Location Quotient	Location quotient is a measure of industry employment concentration in a given area relative to the national level (the value for the UK equals one, so a value of greater than one represents a higher than average industry concentration).
Person Years	A unit of measurement used to capture temporary employment impact. One person year is the equivalent of one Full Time Equivalent post, but may in practice be made up of a number of temporary posts which sum to a person year.
Working Age Population	People aged 16 to 64.
Core Paths	Paths identified in the Core Paths Plan to provide a reasonable network for local, non-motorized, access.
Existing paths	Synonymous with 'public right of way'.
Great Trails	Long distance routes for walkers, cyclists or horse riders.
National Cycle Network	A national network of cycling and walking routes.
Onshore Transmission Infrastructure	The cables, joint bays, substation etc. necessary to transmit generated power to the electricity grid.

Glossary of Terms	
Term	Definition
Public right of way	Routes used by the public for at least 20 years to connect public places along defined routes.

12 Socio-economics, Tourism and Recreation

12.1 Introduction

12.1.1.1 This Chapter considers the likely significant effects on socio-economics, tourism and recreation associated with the construction, operation and maintenance and decommissioning of the Moray West Onshore Transmission Infrastructure (OnTI). The specific objectives of this Chapter are to:

- Identify the relevant planning legislation and policy relevant to socio-economics, tourism and recreation;
- Detail the consultation relevant to socio-economics, tourism and recreation that has informed this assessment;
- Describe the socio-economic, tourism and recreational 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 any likely significant effects; and
- Assess the residual effects remaining following the implementation of mitigation.

12.1.1.2 The assessment has been carried out by Neil Evans and Karina Csopik, of Regeneris Consulting Ltd and Mike Furness on behalf of Regeneris Consulting Ltd. Neil Evans has a Bachelor of Science and Master's degree in Economics with over 25 years' experience in economic development and regeneration, including appraisals, business cases and economic impact assessments for major infrastructure investments. Karina Csopik also has a Bachelor of Science and a Master's degree in Economics, with three years of experience in economic development. Both authors have good knowledge of the relevant economic appraisal guidance from UK Government, including Green Book (HM Treasury, 2011). Mike Furness is a Full Member of the Institute of Public Rights of Way and Access Management (IPROW) of 26 years' standing.

12.1.1.3 This chapter is supported by:

- Technical Appendix 12.1 – Results of Research into Recreation Assets: and
- Technical Appendix 12.2 – Socio-economics Methodology.

12.2 Approach to Assessment

12.2.1.1 The assessment of socio-economic and tourism impacts has been carried out using an approach which is consistent with the methods and principals for economic impact assessment of expenditure effects and appraisal as set out in HM Treasury's Green Book (2011).

12.2.1.2 There are no published Environmental Assessment techniques or good practice methods relating specifically to outdoor access impact assessment. However, Scottish Natural Heritage (SNH) has published an Environmental Assessment Handbook (SNH, 2018), Appendix 5 of which provides guidance on outdoor access impact assessment. This guidance has informed the approach where appropriate.

12.2.2 Relevant Terminology

12.2.2.1 The following terms have specific meanings with respect to the consideration of socio-economics, tourism and recreation:

- **Direct economic impact** - increases in economic output and / or employment generated by the applicant / operator of the project as a result of the project going ahead, plus increases in economic output and employment among suppliers who provide goods and services directly to the project.

- **Indirect economic impact** - as suppliers to the project increase output to meet the additional demand for their goods and services associated with the project, there will also be a corresponding increase in demand on their own suppliers and down their supply chains - the resulting increase in economic output and employment is termed the “indirect effect”.
- **Gross Value Added** - the value to the economy of activity generated through construction and operation and maintenance (O&M) of the scheme. Gross Value Added (GVA) is effectively a measure of the additional profits generated in businesses benefiting from the activity plus additional salaries that are paid to their employees.
- **Tourism Volume** – a measure of tourism capturing the volume of trips taken, nights away, visitor numbers.
- **Tourism Value** – expenditure of tourism visitors.
- **Core paths** – The Land Reform (Scotland) Act 2003 gave every access authority the duty to prepare a plan for a network of ‘core paths’ that would provide reasonable access for the public throughout their area.
- **Great Trails** – Scotland’s Great Trails are 29 nationally promoted, long-distance routes for walkers, cyclists or riders.
- **National Cycle Network (NCN)** – This is a 14,000 mile network of cycling and walking routes linking cities, towns and villages throughout the UK by means of signed and promoted traffic-free routes or quiet roads. The network has been developed by the charity Sustrans in cooperation with local highway authorities and landowners.
- **Public rights of way** – These are routes that have been used by the public for at least 20 years, that connect public places and follow a defined route.
- **Existing paths** – Core Paths Plans often refer to public rights of way that are not part of the core paths network as ‘existing paths’. The term is therefore synonymous with ‘public rights of way’.

12.2.3 Planning Policy and Legislative Context

- 12.2.3.1 One of the core values of the Scottish Planning Policy (SPP) (Scottish Government, 2014a) is for it to play a key role in facilitating sustainable economic growth, particularly the creation of new jobs and the strengthening of economic capacity and resilience within communities. The Scottish Government’s vision is to achieve sustainable, distributable and fair growth without compromise on the quality of environment, place and life, with emphasis on reduced emissions.
- 12.2.3.2 Within the document, there are four planning outcomes which support the vision, three of which are of direct relevance to this chapter:
- **Outcome 1:** A successful, sustainable place - Supporting sustainable economic growth and regeneration, and the creation of well-designed, sustainable places. Sustainable development is widely encompassing including infrastructure that focuses on economic benefits but more importantly, to this chapter, those developments which support climate change mitigation and adaptation.
 - **Outcome 2:** A low carbon place – reducing our carbon emissions and adapting to climate change.
 - **Outcome 3:** A natural, resilient place – helping to protect and enhance natural and cultural assets, and facilitating their sustainable use.
- 12.2.3.3 One of the National Planning Framework 3 (NPF3; Scottish Government, 2014b) aims is to support the diversification of the energy sector specifically through support for electricity grid

enhancement to facilitate increased renewable energy generation. NPF3 states it wants to “see planning enabling development of onshore links to support offshore renewable energy developments”. The spatial strategy aims to reduce greenhouse gas emission and assist in adapting to climate change. This is in line with the Climate Change Act (Scotland) 2009 which states Scotland’s endeavors to reduce emissions by 42% by 2020 and 80% by 2050.

12.2.3.4 The key piece of legislation relevant to outdoor access and recreation is the Land Reform (Scotland) Act, 2003). Part 1 of the Act established statutory access rights to most land and inland water, subject to these rights being exercised responsibly, and also introduced very specific duties and powers for local authorities and national park authorities for upholding access rights and for planning and managing access. This Act has been effective since 9 February 2005.

12.2.3.5 Planning policies and economic development strategies relating to both Moray and Aberdeenshire have been considered in Table 12.2.1 below.

Table 12.2.1: Summary of Relevant Planning Policies and Strategies	
Policy Document	Policy
Moray Local Development Plan (Moray Council, 2015).	The Plan outlines Sustainable Economic Growth as one of its Primary Priorities, identifying sustainable economic growth and high value employment as main objectives. It outlines its commitment to supporting renewable energy generation through a diverse range of technologies and all scales of development.
	<p>T7 Safeguarding and promotion of walking, cycling, and equestrian networks: Development proposals that would have an unacceptable impact on access rights, core paths, rights of way, long distance routes and other access routes that cannot be adequately mitigated will not be permitted. Where a proposal will affect any of these, proposals must:</p> <ul style="list-style-type: none"> • Incorporate the route within the site layout and the route’s amenity values must be maintained or enhanced; or • Provide alternative access that is no less attractive and is safe and convenient for the public to use.
Moray Economic Strategy (Moray Community Planning Partnership, 2012)	The Strategy sets out the vision for Elgin to become a “strong and vibrant economic hub for Moray Region”, attracting investment and people. The core targets within the strategy are the creation of 5,000 high quality jobs with a focus on engineering, science and technology sectors; increasing average earnings above regional and Scottish averages by an emphasis on higher value activities; and growing the population by attracting new residents to the local authority.
Tourism in Moray: The Strategy for Tourism Development in Moray (Highlands and Islands Enterprise, 2012)	The vision for 2025 is for Moray to be “known nationally and internationally as an exceptionally attractive destination for leisure and business visitors”. The Strategy aims to maximise economic and cultural benefits of tourism for Moray, including doubling economic value, doubling tourism workforce, and increasing occupancy rates for accommodation providers.
Aberdeenshire Local Development Plan (Aberdeenshire Council, 2017).	The Plan’s strategic aims are to increase and diversify the economy while supporting sustainable development. The plan envisions Aberdeenshire as an “attractive, prosperous and sustainable, and which is an excellent place to live, visit and do business. The plan balances economic growth with the urgent challenges of sustainable development and climate change.”

Table 12.2.1: Summary of Relevant Planning Policies and Strategies	
Policy Document	Policy
Regional Economic Strategy: Securing the future of the North East Economy (Aberdeen City Council, Aberdeenshire Council, ONE Opportunity North East 2015)	<p>The strategy provides a vision for the future of the North East of Scotland's economy. It aims to develop activity in important sectors, such as diversifying oil and gas and tapping into renewable energy generation. Tourism is also an important part of the economy and the strategy supports its growth.</p> <ul style="list-style-type: none"> • The strategy outlines four programmes which underpin its vision, including a focus on actions which help to secure local economic benefit of renewable energy and supporting infrastructure projects: Major investment in infrastructure, including renewable energy. • Innovation, including maximization of new technologies and growing clusters in the energy sector. • Inclusive economic growth and investment in the workforce. • Internationalisation and support for companies in key sectors to benefit from exporting and investment opportunities.
Aberdeenshire Economic Development Strategy 2011-2016 (Aberdeenshire Council, 2012)	The Strategy outlines the strategic objectives which focus on making a positive impact on the local and regional economy. These include making Aberdeenshire a location of choice for renewable energy businesses, promoting it as a location for tourism, as well as a place to live and work.
Aberdeen City and Shire Tourism Partnership Strategy 2013-2020 (Aberdeen Council, 2013)	The Strategy aims to grow visitor numbers by maximising national and international leisure and business visits to Aberdeen City and Shire. The objective is to make the area a "sustainable destination of choice". The Strategy has set out a target to increase visitor spend from £340 million (m) in 2013 to £440 - £510 m by 2020.
Walking and Cycling Action Plan (Aberdeenshire Council, 2009). (This document is described as a 'daughter' document to the Aberdeenshire Local Transport Strategy).	<p>Objective 4: To encourage and facilitate walking and cycling as leisure and tourist activities to provide benefits to health and the local economy.</p> <p>Walking policies:</p> <ul style="list-style-type: none"> • WP5 - The Council will, through the Core Paths Plan, seek to identify, develop and enhance the region's strategic paths network. • WP8 - The Council will ensure that footpaths are maintained to appropriate standards and where possible enhanced. <p>Cycling policies:</p> <ul style="list-style-type: none"> • CP5 - The Council will seek to identify, develop and enhance the region's strategic cycling network for on and off road cycle routes. • CP8 - The Council will ensure that the cycle paths and routes are maintained to appropriate standards and where possible enhanced.
Aberdeenshire Core Paths Plan (Aberdeenshire Council, 2015).	The Land Reform (Scotland) Act 2003 placed various new duties on local authorities, one of which was to prepare a Core Paths Plan. The Aberdeenshire Core Paths Plan has been formally adopted and maps of the core paths are available to view (https://www.aberdeenshire.gov.uk/paths-and-outdoor-access/core-paths-plan/general-information/). Although the Core Paths Plan is not a supplementary document to the LDP, there is reference to the Core Path Plan and protection of core paths within a few of the LDP policies.
Moray Core Paths Plan (Moray Council, 2011).	As noted above, the requirement for a Core Paths Plan was placed on local authorities as part of the Land Reform Act 2003. This was formally adopted by Moray Council in 2011. The relevant policies to this assessment are:

Table 12.2.1: Summary of Relevant Planning Policies and Strategies

Policy Document	Policy
	<p>Policy 1 – Network development: The Council will (<i>continue to</i>) pursue development opportunities through partnership working to create improved Statutory Moray Core Paths and the wider Moray Paths Network identified on the Moray Core Paths Plan maps. All core paths where practical should be fully accessible to walkers, horse riders, cyclists and less able users and a development programme will be (<i>continue to outline</i>) prepared outlining required improvements.</p> <p>Policy 6 – Resources for development, management and promotion of Moray Core Paths and the wider Moray Paths Network: The Moray Council will (<i>continue to</i>) explore all opportunities to secure resources for development, management and promotion of Moray Core Paths and the wider Moray Paths Network. This approach will be based on the following measures: ... Seeking Developer Contributions through the statutory planning system to finance path improvements where there is a relevant direct impact from development which requires mitigation.</p> <p>As stated earlier within this table, the Moray Council LDP, Policy T7: Safeguarding and Promotion of Walking, Cycling and Equestrian Networks links directly to core paths and demonstrates the connection between the LDP and Core Paths Plan and the importance of these paths in terms of access and protection from development.</p> <p>The Moray Core Paths Plan is currently under review. Proposed changes to the relevant policies are included above as italic text in parentheses.</p>
Moray Local Transport Strategy (Moray Council, 2011).	Objective S10: Support access to the countryside and wellbeing initiatives.
Aberdeenshire Local Transport Strategy (Aberdeenshire Council, 2012).	<p>Whilst of less direct relevance to this assessment, we have noted a number of policies for completeness:</p> <p>A1: Deliver all outstanding walking related actions in the current Walking & Cycling Action Plan;</p> <p>A8: Deliver all outstanding cycling related actions in the current Walking & Cycling Action Plan;</p> <p>A14: Produce a series of maps with short and long-distance walking routes across Aberdeenshire;</p> <p>A15: Produce a series of maps with short distance cycling routes across Aberdeenshire; and</p> <p>A16: Disseminate maps with long distance cycling routes across Aberdeenshire.</p>

Economic Development Policy

12.2.3.6 Table 12.2.2 provides a summary of economic development policy in Scotland focused on the development of the renewable energy sector and offshore wind in particular.

Table 12.2.2: Summary of Economic Development Policy

Policy Document	Overview
Scottish Energy Strategy: The future of energy in Scotland (Scottish Government, 2017)	The vision set out in the strategy is one that places emphasis on the development of renewable energy to secure socio-economic benefits for Scotland. A strong low carbon economy – sharing the benefits across our communities, reducing social inequalities, and creating a vibrant climate for innovation, investment and high value jobs. A key part of the vision is

Table 12.2.2: Summary of Economic Development Policy	
Policy Document	Overview
	<p>inclusive growth which is to be delivered from secure, reliable, and affordable energy.</p> <p>Specifically, to offshore wind, there is a commitment to continue to grow and support the sector in Scotland, creating opportunities for manufacturers and the supply chain.</p>
A Low Carbon Economic Strategy for Scotland (Scottish Government, 2011)	<p>Similar to the Scottish Energy Strategy, the 2011 Low Carbon Economic Strategy aims to deliver on the promises made in the Climate Change Act (Scotland) 2009. It further echoes the sentiment, found in the literature policy review, to attain sustainable growth and a transition to a low carbon Scotland.</p> <p>Offshore wind is highlighted as an area of strong potential to attract large investment and create jobs. To enable the sector, the government will aim to reduce barriers, change regulation, outline route maps, advocate innovation and market the sector.</p>
National Renewables Infrastructure Plan (N-RIP) 1 - 2 (Scottish Enterprise & Highlands and Islands Enterprise, 2013)	<p>N-RIP aims to develop an actionable framework to deliver on the growing offshore renewables sector. The first report (Scottish Enterprise & Highlands and Islands Enterprise, 2013a) maps out the existing and potential locations of renewable infrastructure, highlighting spatial areas of expertise. The document recognises the “critical dependency” on upgrading transmission capacity to enable the development of offshore wind renewables and carrying power to the grid.</p> <p>The second plan (Scottish Enterprise & Highlands and Islands Enterprise, 2013b) builds on this and explores an investment plan to deliver on the first phase, involving local community, enterprise and planning authority engagement, investment propositions and identification of funding streams.</p>
Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022 (Scottish Government, 2011)	<p>The report outlines actions that can be taken to achieve greenhouse gas emission targets as set out in the Climate Change Act (Legislation.gov.uk, 2009). It draws together existing policies and interventions that exist and those that will continue to drive Scotland to its carbon reduction target.</p> <p>The potential economic benefits are huge, ranging from motorist and farmer savings to energy exports:</p> <ul style="list-style-type: none"> - In 2008-09, Scotland’s low carbon market was worth around £8.8 billion (bn) and is forecast to rise to around £12 bn by 2015-16; - Jobs in the low carbon sector in Scotland could grow by 4% a year to 2020, rising from around 70,000 to 130,000, over 5% of the Scottish workforce. <p>From a social and community perspective, a low carbon society will improve quality of life, reduce pollution and improve air and water quality, lower fuel poverty, and improve health outcomes and lifestyles.</p>
Scotland’s Offshore Wind Route Map (Offshore Wind Industry Group, 2013)	<p>The offshore wind industry group’s (OWIG) aim, in partnership with the government, national representative bodies and enterprises, is to develop the offshore wind industry to its full economic potential. Since the publication of the 2010 road map, significant progress has been made on infrastructure investment and innovation. However, there are concerns that progress has been impeded because of unclear sector-wide signals from the UK government and uncertainty surrounding key policies such as on electricity market reform.</p>

Table 12.2.2: Summary of Economic Development Policy

Policy Document	Overview
Oil and Gas 'Seize the Opportunity' Guides – Offshore Wind (Scottish Enterprise, 2016)	The guides aim is to encourage diversification within the oil and gas industry to the offshore wind sector. Both industries share a lot in common. Many of the infrastructures and resources used in oil and gas are similar to that used in offshore wind, whilst the skills developed are also transferrable.

12.2.4 Scope of Assessment

12.2.4.1 The chapter examines the range of likely socio-economic, tourism and outdoor recreation effects arising from the three phases of the development, namely construction, O&M and decommissioning. The assessment considers the potential for both adverse and beneficial effects. This chapter has considered:

- The baseline socio-economic, tourism and recreation position within the study areas for key receptors;
- The potential scale of socio-economic, tourism and recreation effects arising from the Moray West onshore transmission infrastructure (OnTI) within the relevant study areas; and
- Potential measures to mitigate any identified adverse significant effects and other measures to help maximise the socio-economic benefits.

12.2.4.2 The main types of socio-economic, tourism and recreation effects which are considered in the assessment include:

- Direct, indirect and induced wealth creation during construction as measured through GVA;
- Direct, indirect and induced employment creation during construction;
- Short-term path / route closures and diversions, and the effects on user access and enjoyment; and
- Any effect on tourism volume and value during construction as a consequence of effects on users of paths and routes.

12.2.4.3 The following effects have been scoped out of the assessment:

- Change in demand for housing and local public services associated with influx of labour. The construction of the OnTI has the potential to draw in workers from outside the Local Study Area depending on the geographical distribution of the supply chain and location of construction activity. The Local Study Area has the capacity to meet the temporary requirement for accommodation and the demand for public services which the construction of the OnTI will generate and hence the effect has been scoped out. However, the economic benefit associated with this influx of workers and their expenditure in local hotels, restaurants and shops has been assessed through the employment and GVA receptors.
- Effects associated with operation and maintenance of Moray West OnTI. The operation and maintenance activity associated with OnTI will be very modest in economic terms and in relation to scale of the local economy. As such, the O&M activity is not expected to support any significant impacts on employment, GVA or tourism.
- Decommissioning effects. Whilst the consent for development will be in perpetuity, the scoping opinion requires that the assessment considers decommissioning. It is considered that there is a strong likelihood that the assets will be retained and absorbed into the National Grid once the windfarm reaches the end of its design life. However, if decommissioned, it is likely that all underground equipment and onshore substation foundations will remain in-situ,

with above ground equipment at the onshore substation site cleared and the area reinstated. A Decommissioning Plan will detail the exact approach to decommissioning close to OnTI's end of life if the asset is not retained. The effects associated with OnTI decommissioning activity are currently too distant in the future to be predicted accurately and are subject to uncertainty. The effects are therefore scoped out at this stage.

Consultation

- 12.2.4.4 Table 12.2.3 summarises the issues raised that are relevant to socio-economics, tourism and recreation, which have been identified during consultation activities undertaken to date and also indicates how these issues have been addressed within this EIA Report.
- 12.2.4.5 No specific consultation has been carried out other than that associated with the formal Scoping exercise. Additional communication has been limited to special interest group representatives where desk studies have shown there to be significant specific recreational interests and where it was considered that those representatives may be able to help quantify levels of activity. The results of these enquiries and the information provided are considered in the discussion below.
- 12.2.4.6 It is assumed that all other consultees were content with the proposals contained in the Scoping Report.

Table 12.2.3: Consultation			
Date	Consultee	Issue Raised	Moray West Approach
August 2017 (Scoping Opinion)	Aberdeenshire Council	We agree that operational effects of the cable and landfall can be scoped out along with housing demand associated with labour.	No action required – refer to Section 12.2.4.3.
August 2017 (Scoping Opinion)	Aberdeenshire Council	With regard to recreation, although it is difficult to quantify as it is informal, Sandend beach is very well used by walkers, surfers, kayaks, SUPs and families. If the cable landfall is likely to be there then consideration will have to be given to this use and mitigation or management identified. It is understood that both Moray Canoe and Kayak Club and Deveron Canoe Club use this beach for surf kayaking and they may be able to provide more detail on the level of use of the beach.	Levels of the recreational use of Sandend Bay are set out within Technical Appendix 12.1: Results of Research into Recreation Assets and Section 12.3 Baseline Conditions. The effects of the OnTI on watersports activity and other recreational activities have been assessed within Section: 12.5 Assessment of Potential Effects. They are also assessed within Chapter 15: Socioeconomics, Tourism and Recreation of the Offshore EIA Report.
August 2017 (Scoping Opinion)	Moray Council	The proposed approach and scope looks acceptable.	Noted. The approach applied is set out within Section 12.2.5 and a full assessment is presented in accordance with the Scoping Report in Section 12.5 Assessment of Potential Effects.

Table 12.2.3: Consultation

Date	Consultee	Issue Raised	Moray West Approach
January 2018	Deveron Paddlers	The engagement was a data gathering exercise to inform the recreation baseline.	The information gathered is set out within Technical Appendix 12.1: Results of Research into Recreation Assets and Section 12.3 Baseline Conditions.
January 2018	SUDS Surf School (by phone)	The engagement was a data gathering exercise to inform the recreation baseline. Information was provided on the use of Sandend Bay by the school and surf community. Concerns were identified about noise and visual impact of cable installation, and potential effects of infrastructure on surf conditions. A desire was stated for the cable to be buried and for any jointing bays to be beyond the beach. The western end of the beach is considered most sensitive and any works should be kept to the eastern side.	The information gathered is set out within Technical Appendix 12.1: Results of Research into Recreation Assets and Section 12.3 Baseline Conditions.

12.2.5 Data Gathering

Study Area

Socio-economics and Tourism

12.2.5.1 Two study areas have been identified for socio-economic and tourism analysis of Moray West OnTI. The Local Study Area is defined as the two local authorities of Moray and Aberdeenshire. The local authority areas have been chosen to reflect the scale of economic activity and tourism volume and value, and therefore the impacts which Moray West OnTI could have. In addition, the assessment of tourism effects has also considered the effects in a smaller area within the Local Study Area which more closely reflects the area around the Planning Application Boundary (PAB) and the hence the location of construction activity and the construction sites. This area can be considered as approximately a 2km area around the PAB.

12.2.5.2 The second chosen study area is Scotland, which should reflect the wider supply chain capabilities from Moray West OnTI, and therefore GVA and employment impacts that are likely to materialise.

Recreation

12.2.5.3 The study area for outdoor recreation and access was confined to the PAB within which the cables will be sited and as shown on Figures 12.2.1 and 12.2.2. The study area also extends slightly into the Moray Firth to include the inshore waters adjacent to the PAB.

Desk Study / Field Survey

Socio-economics and Tourism

12.2.5.4 The socio-economic and visitor economy analysis has been informed by an overview of the key social and economic indicators within the study areas.

12.2.5.5 The key sources of data used to assess the baseline environment include relevant national datasets from the Office of National Statistics (ONS) providing data on population, labour market and employment base conditions at the national and local levels.

12.2.5.6 The analysis draws on the most up to date sources of data available at the time of writing for all key socio-economic indicators, although the year that the data relates to varies according to the release calendar for each dataset. The baseline year will therefore vary slightly across the indicators considered in the baseline. The data is considered as the best available representation of the baseline conditions for the purposes of the impact assessment. The baseline year for all indicators is referenced throughout the chapter but is also included in Table 12.2.4.

Table 12.2.4: Summary of Key Socio-economic and Tourism Data Sources			
Economic Indicator	Source	Year	Author
Population	ONS Mid-year population estimates	2017	ONS
Employment and economic activity	ONS Annual Population Survey	2017	ONS
Unemployment	ONS Annual Population Survey	2017	ONS
Job Seeker's Allowance	ONS Claimant Count	2017	ONS
Qualifications of residents	ONS Annual Population Survey	2017	ONS
Occupations of residents	ONS Annual Population Survey	2017	ONS
Sectoral and size band structure of the business base	ONS UK Business Counts	2016	ONS
Sectoral and size band structure of the employment base	ONS Business Register and Employment Survey	2016	ONS
Trends in GVA of main industrial sectors	ONS Regional GVA estimates	2016	ONS
Workplace and residence based earnings	ONS Annual Survey of Hours and Earnings	2017	ONS
Tourism volume and value	GB Day visitor Survey and GB Tourist Survey	2017	Visit Britain
Tourism volume and value	Tourism in Scotland's Regions	2017	Visit Scotland

Recreation

12.2.5.7 This chapter covers the disturbance that might occur to the informal, inshore and onshore recreation resources that might be affected by the onshore transmission infrastructure. This includes resources such as public rights of way (including 'core paths' and 'Great Trails'), unenclosed and uncultivated land to which the public has access, inshore waters and inland water bodies and other items of public resort, such as viewing points and picnic spots. Formal facilities which operate on a 'pay to play' basis are not considered under this chapter as these are facilities with defined owners or managers and will be subject to individual negotiations prior to any disruption to access.

12.2.5.8 The research for this chapter has been desk-based, supplemented by information collection from key stakeholders. Research began with a detailed review of the Ordnance Survey (OS) Explorer Sheets that cover the area; OS Sheets 424 and 425. This review generated a baseline list of potential areas and features of interest which were then the subject of on-line

investigation. To mop up any features of interest that would not be apparent from the OS maps, such as events, the internet searches included a number of generic phrases such as 'walking / horseriding / cycling in Moray / Aberdeenshire' and 'visitor attractions near Cullen / Portsoy / Keith'.

12.2.5.9 No ground-based field survey has been conducted; however, the complete corridor has been examined using Google's 'Street View' and satellite imagery.

12.2.6 *Aspects Studied*

12.2.6.1 The desk study covered the following potential recreational aspects:

- Public rights of way, including:
 - 'Great Trails'
 - Core paths
 - Other rights of way
 - Cycleways
 - Promoted horse-riding routes
 - Promoted walking routes
- Area based access, including:
 - National, Regional and Country Parks
 - Woodland access
 - Commons
 - Inland water bodies
- Coastal access – Within the PAB and the adjacent inland waters, including the following coastal activities:
 - Bathing
 - Surfing
 - Wind-surfing
 - Stand-up paddle boarding
 - Surf kayaking
 - Sea kayaking
 - Sailing
 - Angling
 - Wildlife watching
- Events:
 - Walking Festival
 - Sandend Grom Competition surfing competition.
- Settlements along the route.

12.2.6.2 The full results of the search, together with assigned sensitivities, are tabulated in Technical Appendix 12.1: Results of Research into Recreation Assets.

12.2.7 Evaluation of Effects

12.2.7.1 The criteria for determining the significance of effects is a two-stage process that involves defining the sensitivity of the receptors and the magnitude of the impacts. This section describes the criteria applied in this chapter:

- **Socio-economics:** the economic impacts have been estimated for determining magnitude (i.e. the number of jobs which construction activity is expected to support) was calculated using an approach which is based on estimates of the expenditure and hence increase in demand which is spent in the study areas. The sourcing assumptions were discussed and agreed between the consultant and the developer based on previous experience of similar developments and the nature of the local economic business base. This approach is consistent with methods for economic impact assessment set out in HM Treasury Green Book (HM Treasury, 2011). In order to judge the overall magnitude (i.e. low, moderate, high), the scale of these impacts is then put in the context of the size and nature of the local economy.
- **Recreation:** there is no standard method for determining the significance of effects upon outdoor recreation receptors and this shortfall has been recognised in Appendix 5 of SNH's Environmental Assessment Handbook (SNH, 2018). Appendix 5 gives SNH's views on aspects that should be considered with respect to assessment of impact upon outdoor recreation and this chapter has been compiled with those views in mind. The approach followed to determine the significance of impacts on recreation has been to: Determine the sensitivity of each receptor according to defined standards that set the sensitivity in a policy and / or geographical context; Determine the likely magnitude of impact of proposals upon receptors according to stated definitions; and to combine sensitivity and magnitude in a matrix to define the level of significance in EIA terms.
- **Tourism:** similarly with tourism, there are no agreed methods for assessment of tourism effects. Impacts on tourism may not be readily quantifiable and so for the purposes of the assessment, impacts are predicted using descriptive methods. The assessment of tourism receptors draws on the results of the recreation assessment and its implications for tourism.

Sensitivity of Receptor

12.2.7.2 The sensitivities of the receptors are defined by both their potential vulnerability or benefit to an impact from Moray West OnTI, their recoverability and value or importance of the receptor.

12.2.7.3 The method for determining the sensitivity of each of the receptors takes account of the importance attached to each receptor in local and national policy, together with professional judgement relating to the scale of socio-economic, tourism and recreation challenges.

12.2.7.4 The definitions of terms relating to the socio-economic receptors are detailed in Table 12.2.5.

Table 12.2.5: Sensitivity Criteria – Socio-economics	
Sensitivity	Definition Used in this Chapter
High	The receptor is identified as a policy priority (as a result of economic potential and / or need) and / or there is evidence of major socioeconomic challenges or underperformance and vulnerability for the receptor in the impact area.
Moderate	The receptor is not identified as a policy priority (as a result of economic potential and / or need) but there is evidence of some socioeconomic challenges or underperformance and vulnerability for the receptor in the impact area.
Low	The receptor is not identified as a policy priority (as a result of economic potential and / or need) and / or

Table 12.2.5: Sensitivity Criteria – Socio-economics

Sensitivity	Definition Used in this Chapter
	there is evidence that the receptor is resilient and no particular weaknesses or challenges for the receptor in the impact area.

12.2.7.5 The definitions of terms relating to the tourism receptors are detailed in Table 12.2.6.

Table 12.2.6: Sensitivity Criteria – Tourism

Sensitivity	Definition Used in this Chapter
High	Tourism is identified as the high ranking policy priority in the Local Study Area (as a result of economic potential and / or need) and / or high levels of tourism activity in comparison to the GB average either across the Local Study Area as a whole or in particular local areas which are particularly relevant in impact terms due to proximity to the development.
Moderate	Tourism is not identified as a policy priority (as a result of economic potential and / or need) but there are moderate levels of tourism employment in comparison to the GB average present either across the Local Study Area as a whole or in particular local areas which are particularly relevant in impact terms due to proximity to the development.
Low	Tourism is not identified as a policy priority (as a result of economic potential and / or need) and very low levels of tourism activity and employment in comparison to the GB average present either across the Local Study Area as a whole or in particular local areas which are particularly relevant in impact terms due to proximity to the development.

12.2.7.6 The definitions of terms relating to the recreation receptors are detailed in Table 12.2.7.

Table 12.2.7: Sensitivity Criteria – Recreation

Sensitivity	Definition Used in this Chapter
High	The receptor is identified as a policy priority or is of national or regional significance, with no alternatives available within the region.
Moderate	The receptor is not identified as a policy priority or is of only local significance and there are some alternatives available within the region.
Low	The receptor is not identified as a policy priority or is of only local significance and there are plentiful alternatives available locally.

Magnitude of Impact

12.2.7.7 The magnitude of impact is defined by a series of factors including the spatial extent of any interaction, the likelihood, duration, frequency and reversibility of a potential impact. The definitions of the levels of magnitude used in this assessment in respect of the receptors are described in Table 12.2.6.

12.2.7.8 Further quantitative definitions of magnitude are included in Technical Appendix 12.2: Socio-economic Methodology. Due to the nature of socio-economic impacts, it is not always possible to define magnitude in a wholly quantitative way. The assessment considers the direct and indirect economic impacts measured against baseline measures in the areas in which these impacts are likely to occur. The assessment considers the historic baseline performance of the receptors where relevant (for example, historic employment growth in relevant sectors is taken into account when assessing the magnitude of impact). The assessment of magnitude therefore requires an element of professional judgement to conclude the assessment considering the several elements which are taken into account. For this reason the magnitude definitions provided in this chapter are in qualitative terms.

Table 12.2.8: Magnitude Criteria	
Magnitude of Impact	Definition Used in this Chapter
High	<p>Large change to baseline socio-economic conditions in terms of absolute and / or percentage change.</p> <p>Permanent loss of visitor appeal and activity with lasting effect on the success of the destination or area and the associated economic value.</p> <p>For recreation, the OnTI would cause a substantial change (30 - 100%) to existing patterns and levels of use of recreational resources for a significant period of time (several months to years) and only poor-quality alternatives are available. For example, if a strategically important route is closed for several months during the peak season and the only alternative provision is alongside a busy road with restricted accessibility.</p>
Moderate	<p>Moderate change in baseline socio-economic conditions which is noticeable in terms of absolute and / or percentage change.</p> <p>Measurable change in visitor appeal and activity and the associated economic value, with some lasting effect on the success of the tourism destination or area.</p> <p>For recreation, the OnTI would cause a modest change (10 - 30%) to existing patterns and levels of use of recreation resources or larger changes for a limited period of time (a few months only). For example, there may be a temporary reduction in levels of use and displacement to alternative resources, particularly amongst users for whom the resource is only marginally preferable to others available to them.</p>
Low	<p>Minor shift away from baseline which would be noticeable in terms of absolute and / or percentage change in baseline conditions for socio-economics.</p> <p>Minor but noticeable temporary change in visitor appeal, activity or economic value.</p> <p>For recreation, the Moray West OnTI would cause a slight (< 10%) or short-term (< one month) change to existing patterns and levels of use of recreation resources, with a slight reduction in overall numbers and a low level of displacement.</p>
Negligible	<p>Very slight change from baseline condition for socio-economics and tourism. In addition, for tourism, the change is temporary.</p> <p>For recreation, very slight changes in levels or patterns of use are expected.</p>

Significance of Effect

12.2.7.9 The significance of the effect upon socio-economic, tourism and recreation receptors is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The particular method employed for this assessment is presented in Table 12.2.9. It should be noted that the significance can be positive or negative, that is, proposals may have beneficial impacts upon a receptor as well as adverse impacts.

12.2.7.10 For the purposes of this assessment, any effects with a significance level of minor or less have been concluded to be not significant in terms of the EIA Regulations.

Table 12.2.9: Determining Significance of Effects			
Magnitude of Impact	Sensitivity of Receptor		
	Low	Moderate	High
Negligible	Negligible / Minor	Minor	Minor / Moderate
Low	Minor	Minor / Moderate	Moderate
Moderate	Minor / Moderate	Moderate	Moderate / Major
High	Moderate	Moderate / Major	Major

12.3 Baseline Conditions

12.3.1.1 Baseline conditions are presented in turn for socio-economics, tourism and recreation.

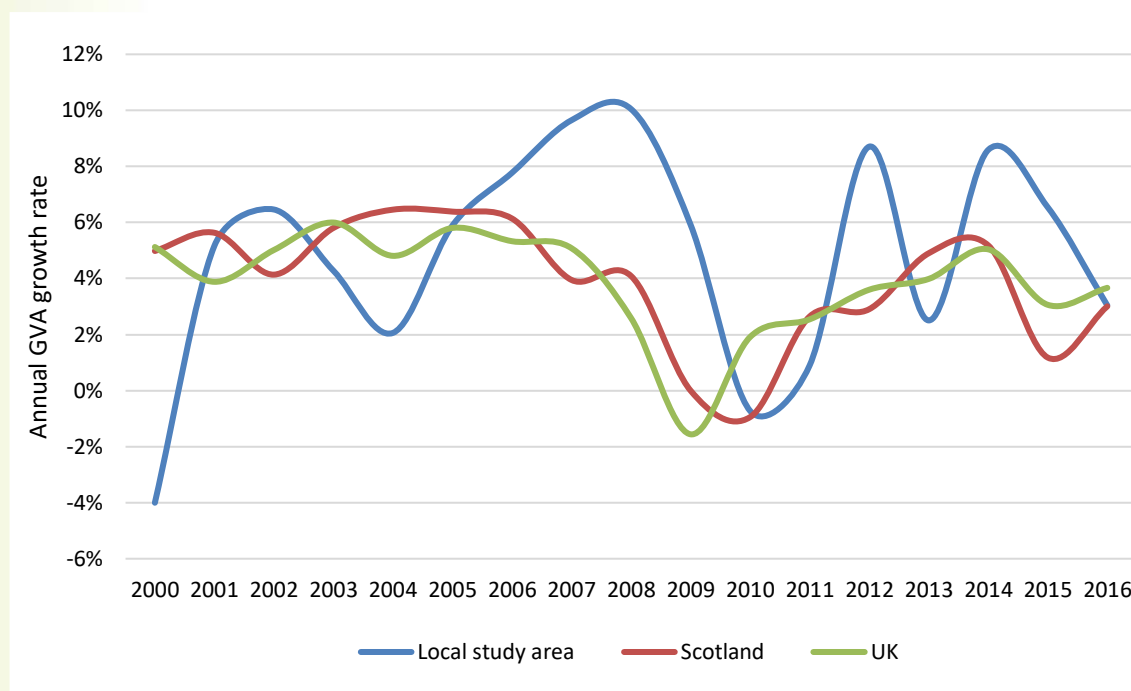
12.3.2 Socio-economics

12.3.2.1 The socio-economic baseline sets out the economic performance in Scotland and in the Local Study Area. The baseline provides the context for quantitative economic impact assessment of the employment and GVA receptors.

Economic Performance

12.3.2.2 Scotland annually contributes over £127 bn in GVA to the UK economy, of which over £9 bn is contributed by the local authority areas of Moray and Aberdeenshire (ONS, 2016). The Local Study Area has been less affected by the economic downturn in 2008-09 compared to Scotland and the UK, and has experienced greater peaks of growth in 2012 and 2014 than Scotland and the UK (see Graph 12.3.1).

12.3.2.3 In the recent years, the GVA growth rate in the Local Study Area has slowed down between 2014 and 2016 (the latest year for which GVA data is available), growing at 3% compared to 9% in 2014. Given the declining oil price, this can be attributed in a large part to the slowdown in the oil and gas sector activity in Aberdeen and the impacts this has through supply chains and local expenditure effects in the local and wider economy.



Graph 12.3.1: Annual GVA Growth Rates, 2000-2016

Source: ONS (2016), 'Regional GVA (income approach) at current basic prices'.

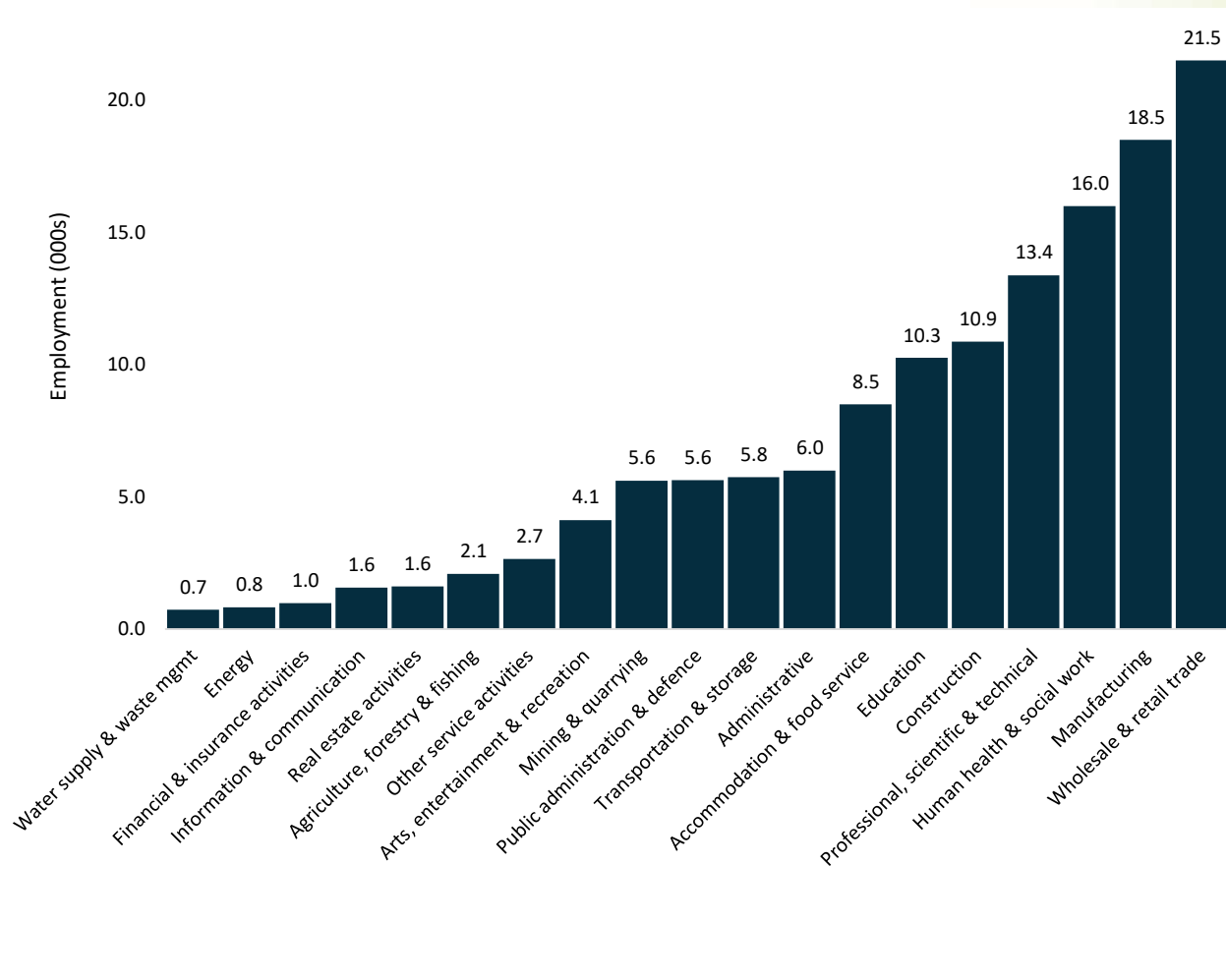
12.3.2.4 A comparison of GVA per head (Table 12.3.1) shows the Local Study Area is more productive than the Scotland average. This is driven by Aberdeenshire (£27,687), where the GVA per head is higher than both Scotland (£23,685) and the UK (£25,601) (ONS, 2016).

	Total GVA (£ million)	GVA per Head
Local Study Area *	£9,223	£24,156
Aberdeenshire	£7,253	£27,687
Moray	£1,970	£20,624
Scotland	£127,260	£23,685
United Kingdom	£1,666,342	£25,601

Source: ONS (2016), 'Regional GVA (income approach) at current basic prices'. *The GVA per head for the Local Study Area is calculated as the average GVA per head of the four local authorities in the area.

Economic Sectors

12.3.2.5 Scotland has around 2.6 m employees and a further 105,000 self-employed people (ONS, 2017). Around 136,500 employees are based in the Local Study Area, of which Aberdeenshire accounts for almost three quarters (74%) (ONS, 2017). The sectoral distribution of employment shows that while wholesale and retail is the largest sector overall, it is closely followed by manufacturing which employs 18,500 workers across Aberdeenshire and Moray (Graph 12.3.2). The professional, scientific and technical sector is also substantial (13,400 employees), linked to servicing the oil and gas sector in Aberdeenshire.

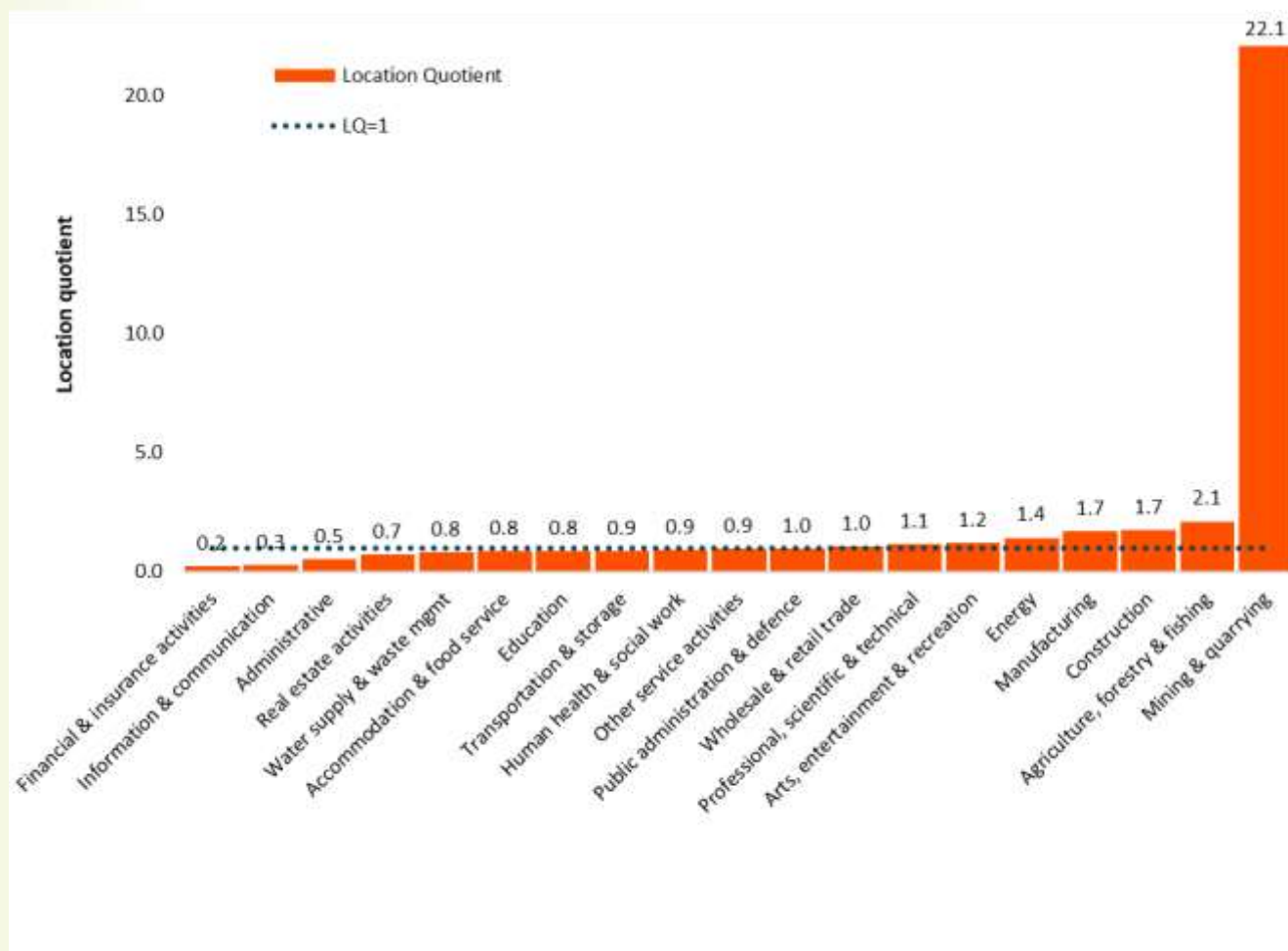


Graph 12.3.2: Distribution of employment in the Local Study Area by sector, 2015.

Source: ONS (2016) Business Register and Employment Survey.

12.3.2.6 Analysis of sector concentrations shows the dominance of mining and quarrying as measured by a Location Quotient¹ (LQ). With a value of LQ=22, the sector is 22 times more concentrated compared to the UK, while employing 5,600 people. This sector includes the oil and gas exploration and extraction activities prevalent in Aberdeenshire (see Graph 12.3.3). Related to this is the concentration in construction (mainly civil engineering activities) and manufacturing sector (which will include significant activities linked to supply chain activities for the oil and gas sector). Both construction and manufacturing have an LQ of 1.7 overall.

¹ Location quotient is a measure of industry employment concentration in a given area relative to the national level (the value for the UK equals one, so a value of greater than one represents a higher than average industry concentration).



Graph 12.3.3: Employment concentrations in the Local Study Area by sector, 2015.

Source: ONS (2016) Business Register and Employment Survey.

12.3.2.7 A more detailed analysis of employment concentrations in the local study area reveals more specialisations in the energy sector (ONS, 2016):

- Crude petroleum extraction and supporting activities have LQs of 59.6 and 47.1 respectively in the Local Study Area, employing 2,600 people. The Local Study Area accounts for around 1 in 7 employees in these sub-sectors in the UK.
- Manufacturing of special purpose machinery (LQ=3.8) and building of ships and boats (LQ=2.6), as well as leasing machinery (LQ=2.9) also show a clustering of activity with potential supply chain capabilities relevant to offshore wind.
- Architectural and engineering services (LQ=3.4) and development of building projects (1.9) are also notable concentrations as they cover design, installation, technical and building activities which will be relevant during OnTI construction.

Supply Chain Potential

12.3.2.8 The construction and operation of the OnTI for the offshore wind farm will provide a number of opportunities for businesses in Scotland and the Local Study Area. This includes sectors which could directly supply services as well as those benefiting indirectly through peripheral activities. The analysis uses 3-digit Standard Industrial Classification (SIC) codes to map supply chain activities to the sectors related to offshore wind. The resulting SIC code definitions are used to identify employment and concentrations in the relevant sectors.

- 12.3.2.9 The sectors included in the supply chain analysis include activities relevant to onshore elements of the construction as well as some offshore works. As there might be some overlap between parts of the transmission infrastructure coming ashore, the chapter set out analysis relevant to both types of works to give a sense of overall scale of the supply chain potential.
- 12.3.2.10 The analysis shows there are over 22,000 FTEs employed in sectors related to offshore wind (see Table 12.3.2). Professional services account for the largest share of this, while there are also sizeable construction and transportation-related sub-sectors. Based on the presence of energy activities in the area, it is reasonable to expect transferable capabilities within these sectors which can be applied to offshore wind.
- 12.3.2.11 The prominence of the oil and gas sector in Aberdeenshire presents opportunities for businesses in the sector to diversify into renewables, especially given long term ambitions of decarbonisation. With a fall in oil prices over the last three years, activity in the oil and gas sector has declined as it has become less commercially viable to extract oil and gas (in part explained by global economic factors, but also the supply of economically extractable supplies in the North Sea diminishing). The report for Scottish Enterprise (2015) highlights nine areas with greatest potential for diversification, among which are opportunities related to construction of transmission infrastructure: substation structures, array cables, cable installation, support services, as well as project management and maintenance services more generally. With the growth of the offshore wind sector and its increasing price competitiveness², the incentive to shift towards renewables is growing for companies with related expertise, especially given the current surplus in skills. The oil and gas heritage therefore presents a lot of potential for diversifying into the renewable supply chain in the Local Study Area and Scotland.

² The latest results of government auction saw Contracts for Difference being awarded to offshore wind projects with strike prices almost halving to £57.50.

Table 12.3.2: Employment in Sectors with Potential Supply Chain Opportunities for Offshore Wind, 2016			
Sector	Great Britain FTEs (000s)	Local Study Area FTEs	Local Study Area LQ vs Great Britain
Manufacturing:			
Fabricated metal products	288	2,178	1.6
Motors, generators, transformers etc.	23.1	43	0.4
Wiring and wiring devices	13.0	0	-
General purpose machinery	48.4	333	1.5
Construction sectors:			
Building of ships and boats	31.5	388	2.7
Other civil engineering projects	134.0	1,120	1.8
Transport sectors:			
Freight transport by road	248.5	1,350	1.2
Sea and coastal freight water transport	5.3	28	1.1
Support activities for transportation	213.0	1,150	1.2
Professional services:			
Management consultancies	443.3	1,548	0.8
Architectural, engineering consultancy	435.3	6,948	3.4
Other professional, scientific and technical	121.0	608	1.1
Accommodation and food services:			
Accommodation	360.9	2,500	2.0
Food and beverage services	1,194.8	3,810	0.8
TOTAL	3,560	21,940	-

Source: ONS (2016), 'Business Register and Employment Survey'.

12.3.2.12 Table 12.3.3 shows how the FTE employment has performed across the key supply chain sectors (which are outlined in Table 12.3.3) in the Local Study Area and Scotland. The FTE employment in the supply chain in the Local Study Area has grown on average by 980 FTE jobs in these sectors over the seven years, equivalent to a 6% annual average growth rate. This growth rate is much higher than Scotland, with an average 2% growth rate and the absolute number of FTE jobs growing on average by 4,440 between 2009 and 2015.³ However, the decline in the oil and gas sector will have impacted upon the level and growth of employment. Whilst up to date employment data is not currently available, the analysis of unemployment confirms this pattern.

Table 12.3.3: FTE Employment in Key Supply Chain Sectors, 2009-2015						
	Local Study Area			Scotland		
	FTE employment	Annual Change	Annual % change	FTE employment	Annual Change	Annual % change
2009	16,200			258,600		
2010	15,700	-500	-3%	251,600	-7,000	-3%
2011	17,500	1,800	11%	246,800	-4,800	-2%
2012	17,700	200	1%	246,800	0	0%
2013	20,500	2,800	16%	271,800	25,000	10%
2014	21,100	600	3%	276,300	4,500	2%
2015	22,600	1,500	7%	285,200	8,900	3%
Average annual change (2009-2015)		980	6%		4,400	2%

Source: ONS (2009-2016), 'Business Register and Employment Survey'

Population Structure

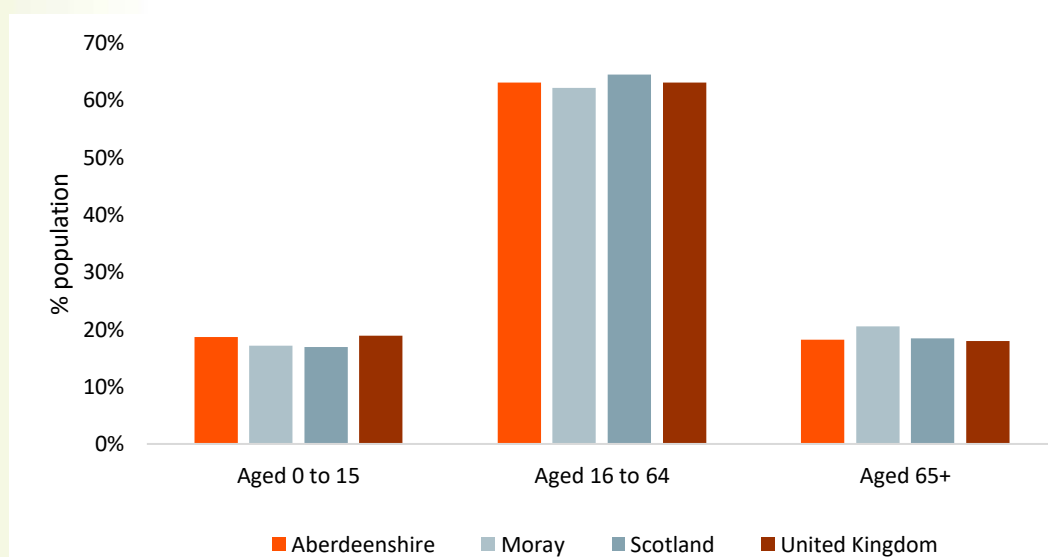
12.3.2.13 The Local Study Area has a population of 358,000 people, of whom 63% are working-age. Aberdeenshire accounts for the majority of the population in the Local Study Area, with 262,000 residents compared to 96,000 in Moray (see Table 12.3.4). The population has remained fairly stable across Scotland and the local authorities comprising the Local Study Area, increasing overall by 3% in Scotland and 4% in the Local Study Area between 2010 and 2016 (ONS, 2017). The proportion of working-age residents in the Local Study Area is two percentage points below the Scotland average, although on par with the rest of the UK.

³ Please note: ONS has made methodological changes to the Business Register and Employment Survey in the 2016 release, which makes the 2016 data not directly comparable to previous years. For this reason, the historic analysis focuses on the period between 2009 and 2015 to provide an accurate representation of employment trends.

Table 12.3.4: Total and Working Age Population, 2016			
	Total Population (000s)	Working Age Population (WAP) (000s)	WAP as a % of total
Local Study Area	358	225	63%
Aberdeenshire	262	166	63%
Moray	96	60	62%
Scotland	5,405	3,490	65%
United Kingdom	65,648	41,444	63%

Source: ONS (2017), 'Mid-Year Population Estimates'.

12.3.2.14 As shown in Graph 12.3.4, the composition of population by age does not show significant variation between the local and national performance. Moray has the higher proportion of people over 65, and correspondingly a lower share of working-age residents. On the whole, the population structures are comparable with national indicators.



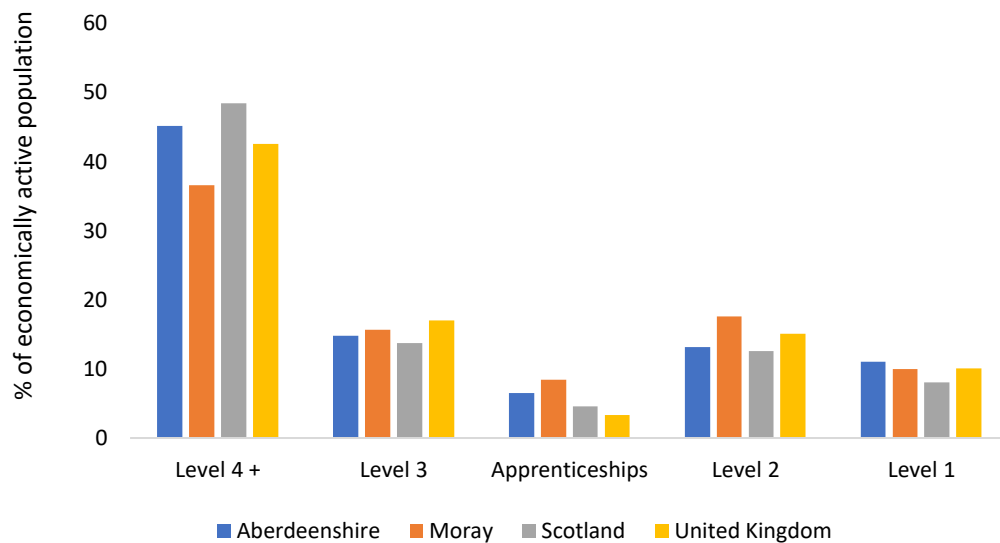
Graph 12.3.4: Composition of the population in the Local Study Area, Scotland and UK by age, 2016.

Source: ONS (2017), 'Mid-Year Population Estimates'.

Labour Market

Qualifications and Skills

12.3.2.15 The qualifications profile of residents is presented in Graph 12.3.5. It shows that both local authorities within the Local Study Area underperform in terms of higher level skills compared to Scotland (43% on average in the Local Study Area compared to 47% in Scotland). There is also substantial variation between Moray and Aberdeenshire: Moray has the lowest share of high level skills out of all comparators (37%), while Aberdeenshire exceeds the UK average (45%).



Graph 12.3.5: Qualifications of working age adults by NVQ level, 2016.

Source: ONS (2017), 'Annual Population Survey'.

12.3.2.16 The occupation profile of employed workers shows Aberdeenshire has the largest share of workers in high skill occupations (34%), driving up the average for the Local Study Area to 31% (see Table 12.3.5). Moray, on the other hand, has the highest share of low skills workers.

	High Skill Occupations		Medium Skill Occupations		Low Skill Occupations	
	Number (000s)	%	Number (000s)	%	Number (000s)	%
Local Study Area	56	31	64	35	61	33
Aberdeenshire	46	34	48	35	42	30
Moray	10	23	16	35	19	42
Scotland	758	29	884	34	926	36
United Kingdom	9,691	31	10,972	35	10,680	34

Source: ONS (2017), 'Annual Population Survey'.

Labour Market Participation

12.3.2.17 Analysis of labour market participation is used to understand how much capacity there is in a labour market. In the context of Moray West, it can be used to understand how many local people could potentially be recruited during the construction and operational phase.

12.3.2.18 There are two key indicators used to understand participation.

- Economic activity rate: this measures the proportion of the working age population who are in work or unemployed but actively seeking work.
- Unemployment rate: this is the percentage of economically active people who are currently unemployed.

12.3.2.19 Data from the Annual Population Survey (2017) suggests the economic activity rate in the Local Study Area (82%) is outperforming Scotland (77%) and the UK (78%) (see Table 12.3.6). This is

especially the case in Aberdeenshire, which has historically driven up the average across the Local Study Area. The employment rate follows a similar pattern, with 77% in employment across the Local Study Area. This does not necessarily capture the extent of the employment opportunities for mobile contractor staff which existed locally in the oil and gas sector, with many of these lost due to the downturn in the sector. The employment rate for Moray is lower than Aberdeenshire and broadly similar to Scotland as a whole, reflecting the more remote nature of its labour market and fewer employment opportunities.

Table 12.3.6: Headline Performance on Key Labour Market Indicators, 2017.						
Rates presented as a proportion of Working Age Population (WAP)						
	Economically Active		In Employment		Economically Inactive	
	No (000s)	% WAP	No (000s)	% WAP	No (000s)	% WAP
Local Study Area	183	82	172	77	42	19
Aberdeenshire	138	83	130	78	29	17
Moray	45	78	42	74	13	22
Scotland	2,626	77	2,505	73	787	23
United Kingdom	31,949	78	30,395	74	9,100	22

Source: ONS (2017), 'Annual Population Survey', Apr 2016 - Mar 2017.

12.3.2.20 The analysis of the change in these labour market indicators between 2014 and 2017 highlights the fall in employment and the economically active over this period in Moray. Whilst this reflected the deterioration in local economic conditions, the challenges facing Aberdeenshire from the slow down in the oil and gas sector had not yet materialized in the headline economic data.

Table 12.3.7: Change in Headline Performance on Key Labour Market Indicators, 2014-17.						
Rates presented as a proportion of Working Age Population (WAP)						
	Economically Active		In Employment		Economically Inactive	
	No (000s)	% WAP	No (000s)	% WAP	No (000s)	% WAP
Local Study Area	2	0.1%	2.6	0.4%	0	-0.2%
Aberdeenshire	3	1.1%	3.7	1.4%	-1.5	-1.1%
Moray	-1	-2.4%	-1.1	-2.7%	1.5	2.4%
Scotland	-2.6	0%	55.4	1.7%	-0.4	0%
United Kingdom	819	1%	1,380	2.5%	-326	-1%

Source: ONS (2017), 'Annual Population Survey', Apr 2014 - Mar 2017

12.3.2.21 The International Labour Organisation (ILO)⁴ unemployment data presented in Table 12.3.8: indicates that there is capacity within the labour market in the Local Study Area. In total, there

⁴ The International Labour Organisation (ILO) measure of unemployment refers to people without a job who were able to start work in the 2 weeks following their Annual Population Survey (APS) interview and who had either looked for work in the 4 weeks prior to interview or were waiting to start a job they had already obtained (Source: ONS).

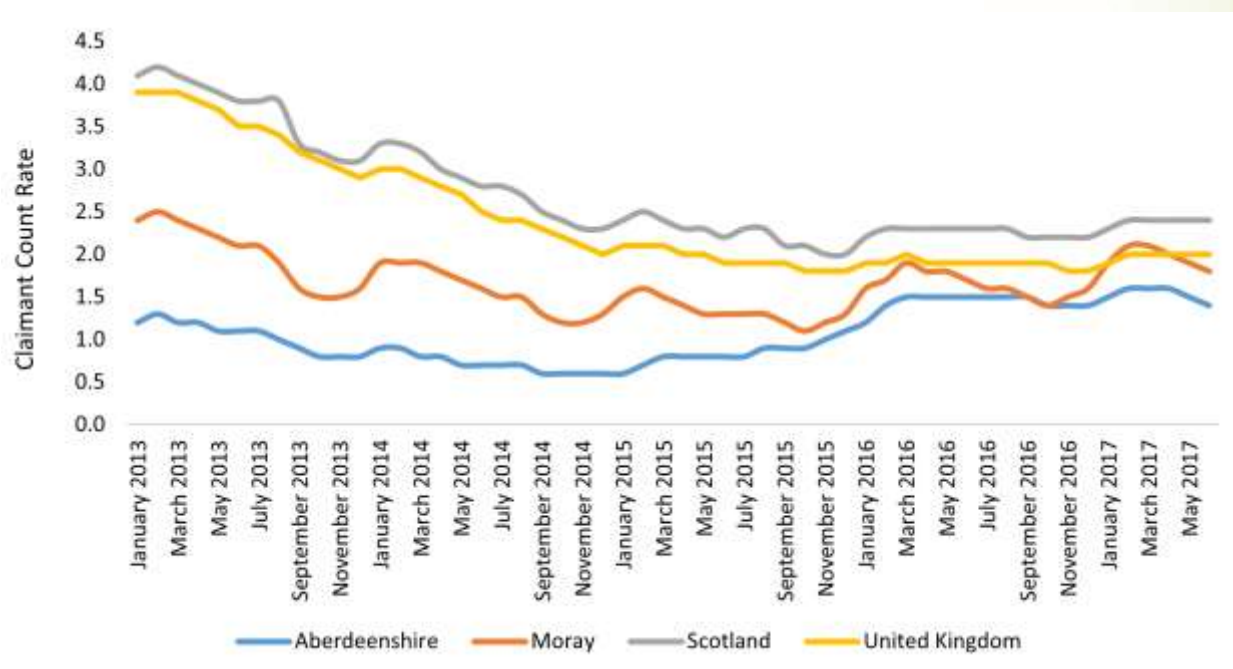
are around 11,000 unemployed residents across the Local Study Area. This represents an overall unemployment rate of 5.7% in the Local Study Area, exceeding the Scotland (4.6%) and UK average (4.9%).

Table 12.3.8: Level and Rate of Unemployment, 2016		
	Number Unemployed (000s)	% of Economically Active Population
Local Study Area	11	5.7
Aberdeenshire	8	5.8
Moray	2	5.3
Scotland	121	4.6
United Kingdom	1,554	4.9

Source: ONS (2017), 'Annual Population Survey'.

12.3.2.22 Claimant Count is the most up-to-date measure of capacity in the labour market. It includes all out of work Universal Credit claimants as well as all Job Seeker's Allowance claimants. The data shows there were 3,440 claimants in total in the Local Study Area in June 2017. Analysis over time shows the claimant count rate has converged between the Local Study Area and Scotland since the start of 2013, although Scotland still exhibits a higher claimant rate than the local authorities within the Local Study Area (see Graph 12.3.6). The claimant count rate in Aberdeenshire shows trends that are countercyclical to Moray and the rest of Scotland between January 2015 and March 2016, rising across Aberdeenshire despite a fall in comparator areas. Whilst the Scottish economy has benefited from improved economic performance, Aberdeenshire has been heavily affected by the downturn in the oil and gas sector.

12.3.2.23 The analysis shows there is potentially a limited pool of workers to draw upon locally for construction of Moray West, particularly within the Local Study Area. However, the downturn in the oil and gas sector and the related supply chains should provide additional capacity which can be drawn upon for the construction of the Moray West on and offshore infrastructure.



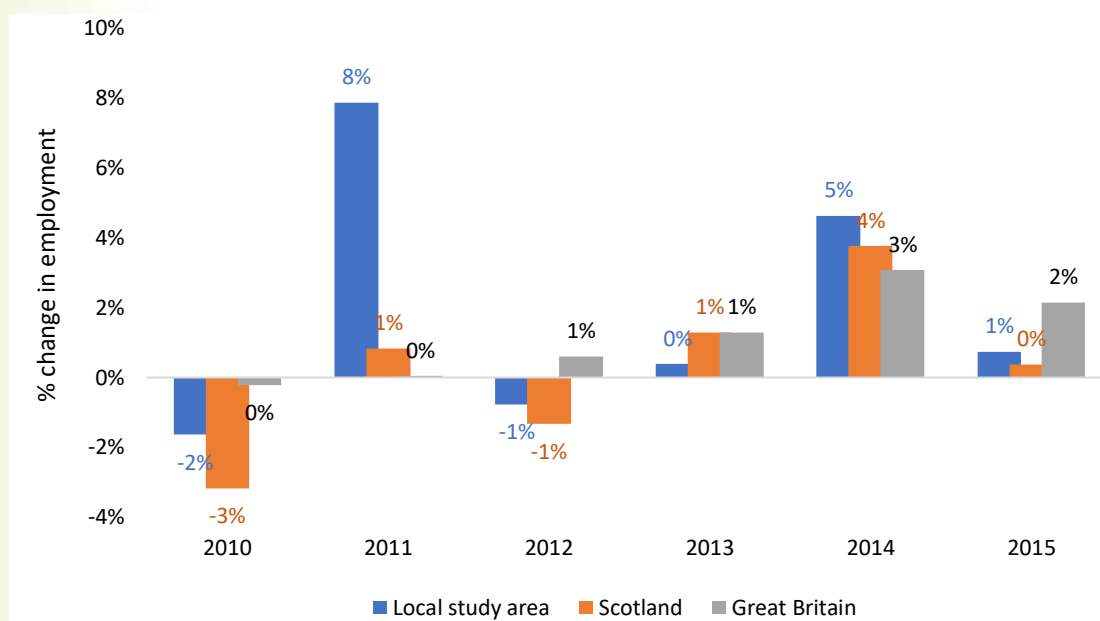
Graph 12.3.6: Claimant rate for the Aberdeenshire, Moray, Scotland and the UK.

Source: ONS (2017) Claimant Count.

Employment Trends

12.3.2.24 The Business Register and Employment Survey (BRES) provides information on recent trends in employment and is presented in Graph 12.3.7 (ONS, 2016). The number of employees in the Local Study Area has increased by 14,000 since 2009 (11%) amounting to 136,500 people. This growth has been driven by Aberdeenshire (16% growth since 2009), while Moray experienced next to no change over the same time period. Scotland and Great Britain have grown by 2% and 7% respectively since 2009.

12.3.2.25 There is a danger, however, that the lag in the data does not capture the latest employment trends, especially given the stalled activity in the oil and gas sector. Anecdotally, employment in the sector and its supply chain has suffered over the last three years. The implication is that the data analysis may be presenting an optimistic view of economic performance.



Graph 12.3.7: Employment Trends, 2009-2015.

Source: ONS (2016) Business Register and Employment Survey.

Earnings

12.3.2.26 Analysis of wage levels can serve as an indication of an imbalance between labour demand and supply. Median wages are highest for residents of Aberdeenshire, representative of the higher productivity and higher value economic activity associated with energy-related sectors. Aberdeenshire residents are likely to be employed in the oil and gas related employment with higher value wages, driving up the average and attracting more workers from outside the area. This is supported by data on commuting patterns, which shows that over 49,000 residents from Aberdeenshire commute to Aberdeen City for work (Census, 2011).

12.3.2.27 Moray, on the other hand, shows lower wage levels than all comparator areas (see Table 12.3.9). Data on commuting flows shows that residents of Moray commute to Highlands (largest net outflow) and to Aberdeenshire (second largest net outflow) the most (Census, 2011).

Table 12.3.9: Annual Median Gross Pay for Full Time Employees and Residents for the Local Study Area and other Comparator Areas, 2016

	Residence Based (£)	Workplace Based (£)
Local Study Area*	27,303	26,505
Aberdeenshire	29,918	27,903
Moray	24,687	25,106
Scotland	28,007	27,953
United Kingdom	28,213	28,213

Source: ONS (2017), 'Annual Survey of Hours and Earnings, Residence and Workplace Based'.

*Residence and Workplace based median salary for the Local Study Area are calculated as an average of the two local authority median salaries.

12.3.3 Visitor Economy

12.3.3.1 This sub-section sets out the baseline characteristics of the tourism sector in Scotland and the Local Study Area. The analysis sets out the context for the assessment of tourism receptors, outlining the scale and importance of the sector in terms of visitor volume and value, visitor profile, seasonal trends, and assets in the vicinity of the OnTI. As consistent and comprehensive tourism volume and value data was only available for the Grampian region which is a much larger area than the Local Study Area, only limited use has been made of this data in the baseline.

Tourism Volume and Value in Scotland

12.3.3.2 Tourism is an important sector for the economy in Scotland, attracting millions of visitors each year. Tourism Scotland 2020 (Scottish Tourism Alliance, 2012) is the strategy setting out the ambitions for Scotland's visitor economy. Among its key goals are growing the sector to attract £5.5 bn in overnight visitor spend in 2020 from £4.5 bn in 2011, increasing employment in the sector and total tourism turnover.

12.3.3.3 Most recent tourism volume and value analysis by Visit Scotland (2017) shows that over 14.66 million tourist visits are made to Scotland annually, generating expenditure in the Scottish economy of over £4.8 bn. Of this spend, around £1.85 bn is accounted for by overseas tourism. The sector accounted for a little less than 200,000 employees and £3.47 bn gross value added in 2014. Trends show tourism is a growing sector, as spend represents a 10.7% increase on the year before and a 12.7% increase in the volume of trips showing Scotland is moving towards achieving its targets.

12.3.3.4 The majority of tourism in Scotland is accounted for by day visits (91%) in terms of the volume trips, although overnight tourism accounts for almost half of spend (49%). This is due to a much higher spend per visit for overnight visitors, spending on average £333 per trip compared to £35 average spend by day visitors.

Visitor Profile Tourism in the Grampian and Moray Area

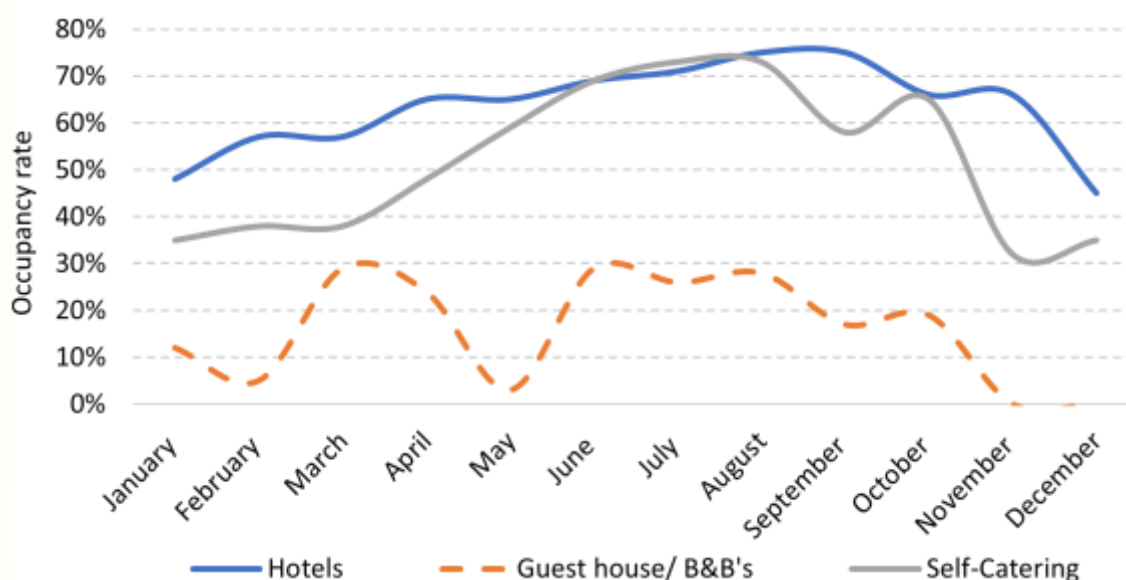
12.3.3.5 Visit Scotland's analysis of tourism in Scotland's regions identifies that the Aberdeen and Grampian region (which includes Aberdeenshire and Moray) had 1.3 m visits (9% of the Scottish total) and £397 m (8% of the Scottish total) in visitor expenditure in 2016 (Visit Scotland, 2017). Whilst tourism is an important sector locally, it represents a fairly small share of the Scottish total. The visitor economy is less than half that of the neighbouring and more well established, at least in tourism terms, Highlands and Islands region.

12.3.3.6 Overseas visitors accounts for a significant proportion of the tourism economy in the Aberdeen and Grampian area but less so than for Scotland as a whole (32% and 29% of visitor expenditure respectively). Overseas visitors to the Aberdeen and Grampian region accounted for 305,000 visits and £129 m expenditure in 2016. The largest numbers of visitors were from Germany

(53,000 visits), followed by visitors from USA (31,000) and Italy (29,000). The US market is of particular importance and growing the numbers of US visitors is a priority within the tourism strategy. This is due to the fact that US visitors spend much more money in the local economy: the average spend per trip is £839 per visit compared to a £422 average for overseas trips generally.

12.3.3.7 In terms of the reasons for visitor trips from visitors from Great Britain, business trips represent a much higher proportion of trips compared to Scotland as a whole (383,000 out of 1.03 m or 37% compared to 17% for Scotland). This will be in a large part due to the inclusion of Aberdeen city with its large economy and major oil and gas sector. While holidays account for the majority of overseas trips (136,000), there are also a large number of business visitors who come to Grampian annually (80,000 in 2016).

12.3.3.8 Seasonality in occupancy rates in hotels (Graph 12.3.8) shows the peak months for tourism in the Aberdeen and Grampian area are August and September (75% occupancy in each), while December and January are the quietest months (45% and 48% respectively).



Graph 12.3.8: Occupancy rates in Aberdeen & Grampian, 2016.

Source: Scottish Occupancy Survey, 2016.

12.3.3.9 Tourism is estimated to support 8,250 FTE jobs across the Local Study Area and 173,250 FTE jobs in Scotland (see Table 12.3.10). Employment concentrations in tourism-related sectors in the Local Study Area show particular prominence in the operation of historic sites (LQ=3.9), sports facilities (LQ=1.9), and hotel accommodation services (LQ=1.7).⁵ Unlike the tourism data presented earlier, tourism related employment data is available at a lower spatial level. A little over a quarter of total tourism employment in the local study area is in Moray (28% or 2,375 jobs). This clearly points to the modest level of tourism activity in the Moray area and also its much smaller size in terms of its economy and population.

12.3.3.10 Visit Scotland estimates that sustainable tourism contributes £166 m GVA in Aberdeenshire and £56.5 m in Moray annually out of a total £3.7 bn GVA in Scotland (2014 estimates).

⁵ ONS, Business Register & Employment Survey, 2016; SIC Codes 9103; 9311 and 5510 respectively

Table 12.3.10: Tourism Employment in Scotland and Local Study Area, 2016

	Scotland	Local Study Area	Aberdeenshire	Moray
Full-time	113,000	5,250	3,750	1,500
Part-time	120,500	6,000	4,250	1,750
FTE employment	173,250	8,250	5,875	2,375

Source: Visit Scotland (2017).

12.3.3.11 The most visited attractions in the Local Study Area are Aden Country Park in Aberdeenshire (335,000 visitors), Johnston's Cashmere Visitor Centre in Moray (190,000 visitors), and the Dunnottar Castle in Aberdeenshire (101,000 visitors). Although located within the Local Study Area, these attractions are all more than 20 miles away from the PAB. In closer proximity to the PAB, attractions include Glenglassaugh Distillery and Huntly Castle which is approximately 10 miles away from the onshore substation, although all are more modest attractions. Huntly Castle had 12,600 visitors in 2017.

12.3.3.12 Tourism activity in Moray itself is characterised by general sightseeing (for 80% of visitors) and walking (57% short walks and 49% long walks).

Tourism and Recreation in and Around the PAB

12.3.3.13 Whilst tourism occurs in the Local Study Area, tourism within the PAB is not high or significant due to it not being located in the more popular established tourist areas or containing any top attractions. No specific tourist data is available for the area close to or contained within the PAB. There are a number of hotels and caravan parks in proximity to the development. The closest is now Sandend Caravan Park which provides a range of accommodation in static caravans.

12.3.3.14 The recreational resources in the immediate area around the cable corridor are set out below.

12.3.4 Recreation

12.3.4.1 The cable corridor predominantly runs through intensively farmed arable land with occasional commercial forestry blocks. The corridor is characterised by its limited recreation resources and the generally low sensitivity of those resources, which are listed in Technical Appendix 12.1: Results of Research into Recreation Assets. There are no locations with resources classified as being of high sensitivity.

12.3.4.2 The five locations where moderate sensitivity resources have been identified are:

- Core paths: Fordyce to Sandend; Sandend to Portsoy; and KT04 near Balloch Wood;
- NCN1 west of Fordyce; and
- The Old Military Road.

12.3.4.3 Considering these locations in turn:

- The core path between Fordyce and Sandend (Figure 12.2.1) follows a public footpath for much of its length, mainly running over farm access tracks until it reaches the A98 where it leaves the PAB. In the worst-case scenario, the core path will be crossed by the cable route, with the need to provide a temporary, local diversion. The only local alternative to this link route between Fordyce and Sandend is to walk along the minor road running broadly parallel to the core path.
- The coastal core path between Sandend and Portsoy (Figure 12.2.1) follows the margin of arable fields around the coast. This route will be affected by the Onshore Landfall Area,

requiring temporary, local diversion. No other coastal routes exist between the settlements, although there is an alternative coastal path heading west from Sandend towards Cullen.

- The 'core path' referred to as KT04, runs along a single-track road that links Keith to Balloch Wood (Figure 12.2.2). Balloch Wood surrounds Meikle Balloch Hill giving opportunities for off-road cycling, horse-riding and walking. Much of this activity is predicated upon parking at a Forestry Commission car park located at the end of the single-track road (which forms part of KT04) on the western edge of the wood. Although the car park is not within the PAB, a section of KT04 which follows the single-track road between Auchoynanie Cottage and Herricks Treatment Works is crossed by the PAB (Figure 12.2.2). Installing the cables under the road will be facilitated by the provision of a parallel, temporary roadway, which can be used to access Balloch Wood and provide continuation of KT04.
- NCN1 passes approximately east-west across the PAB and through the village of Fordyce and will be crossed by the cable corridor (Figure 12.2.1). NCN1 is considered to be of moderate sensitivity as it is part of a cycle route with national importance. The route near Fordyce is on minor and single-track roads. These will be provided with temporary, parallel roadways which can also be used by cyclists following NCN1.
- The Old Military Road is not a core path but is an historic right of way of considerable cultural interest. The Road crosses the PAB to the southeast of Keith. As the road is also used as an agricultural access track, a parallel roadway will be provided while cables are laid under the road. Most of the route will be entirely unaffected. Other old military routes (also known as Wade's Roads) exist regionally.

12.3.5 Future Baseline

- 12.3.5.1 There are no known pressures for further development likely to affect recreational resources within the cable corridor and, in the absence of the proposed development, it is considered that the future baseline will not change significantly from that found currently.

12.3.6 Data Limitations

- 12.3.6.1 Data limitations are set out in turn for socio-economics, tourism and for recreation.

Socio-economic Data Limitations

- 12.3.6.2 The most up to date information available has been used in the preparation of the baseline; however, there is often a lag in publishing national datasets so some information may be slightly out of date. These data limitations will not have a material effect on the predictability of the impact assessment.
- 12.3.6.3 The overview of supply chain capabilities in the Local Study Area and Scotland was carried out using a best fit approach to map the offshore wind supply chain activities to detailed economic sectors using SIC codes. The resulting analysis helps to identify the scale of employment in the relevant sectors, however, the approach does not distinguish the employees who are already in the supply chain, nor their capacity and capability to benefit from construction of Moray West OnTl.

Tourism Data Limitations

- 12.3.6.4 The most up to date information available has been used in the preparation of the baseline characterisation, although there is often a time lag in information of 1-2 years. Most of the published data does not provide a breakdown for the Local Study Area or the PAB. These data limitations will not have a material effect on the predictability of the impact assessment considering there are no top-rated tourist attractions located within the PAB or the Local Study Area.

Recreation Data Limitations

- 12.3.6.5 For recreation, few data are available to objectively quantify levels of usage of particular resources. A Sustrans 2015 user survey on NCN1 at Cullen Viaduct provides some numbers upon which to suggest possible cyclist numbers near Fordyce. However, it would be expected that numbers cycling within Cullen would be higher than those near the small settlement of Fordyce and the estimated annual cyclist usage of 8,400 trips is probably an overestimate.
- 12.3.6.6 No surveys have been identified for beach and inshore water activity at Sandend Bay and estimates of maximum users, especially surfers and kayakers, are based upon anecdotal evidence supplied by users.
- 12.3.6.7 Similarly, no data have been found for users of Balloch Wood and levels of use have been inferred from the limited car or horse-box parking space available.

12.4 Embedded Mitigation

12.4.1.1 The working method, as set out in Chapter 2: The Proposed Development, includes a number of elements that constitute embedded mitigation with respect to recreation. These are:

- The PAB was chosen *inter alia* to, where feasible, allow for the avoidance of sensitive land uses, such as those for recreation; The working width for the actual installation of cables will generally be 30 m, restricting the need for lengthy diversions;
- To prevent road closures, a temporary road or diversion will be constructed / implemented where the cable circuits are to be installed across a recreational asset – such as where the cable crosses under core path KT04 near Balloch Wood, and at the NCN1 crossing west of Fordyce. Where a recreational asset is to be crossed using open cut techniques, traffic flow will be maintained with one lane of the road remaining open and under signal control. Once the cable circuits have been installed, all roads will be reinstated;
- During the operation and maintenance period the infrastructure is expected to be largely maintenance free with negligible impact upon recreation resources; and
- At decommissioning, it is anticipated that all underground equipment and the onshore substation foundations will remain in-situ. This will minimise any impact on recreation resources.

12.5 Assessment of Potential Effects

12.5.1.1 The assessment follows the approach set out in Chapter 5: EIA Methodology and considers the potential effects associated with the construction of OnTI on socio-economics, tourism and recreation receptors.

12.5.2 Employment and GVA Effects

12.5.2.1 The analysis of employment and GVA effects focuses on direct, indirect and induced economic effects during construction, with the detailed assessment approach set out in Technical Appendix 12.2: Socio-economic Methodology.

12.5.2.2 The assessment draws on two scenarios which have been developed for Moray West OnTI. These have been informed by the developer and based on an assessment of supply chain capabilities in the Local Study Area and Scotland. As there are many uncertainties associated with the expenditure which may occur in each of the areas, the scenarios are designed to illustrate the most likely range of expenditure and hence impacts which may arise.

12.5.2.3 A number of factors may affect the ability of the supply chain to respond to opportunities arising from the development:

- Ability of companies in the impact areas to compete for contracts;
- The capacity within businesses and the labour market to deliver the goods and services required; and

- The uncertainties associated with the future supply chain developments which may take place between now and the construction of Moray West OnTI.

12.5.2.4 To reflect these uncertainties, the scenarios are illustrative of a Low and a High view of sourcing. The Low scenario provides a conservative estimate of potential spend in each impact area, and the High scenario provides a more optimistic (but plausible) estimate.

12.5.2.5 The assumptions about the proportions of project expenditure benefiting each spatial area have been informed through discussion with the developer and an assessment of the capabilities, facilities, experience, skills, capacity and competitiveness of the supply chain. This includes manufacturers, transportation companies, professional and technical service providers and other members of the potential supply chain that are located in each of the two geographies that are considered in the assessment. This was informed by information provided by Scottish Enterprise, Highlands and Islands Enterprise, Marine Scotland, local authorities and local ports to strengthen the evidence base behind the sourcing assumptions in the Local Study Area and Scotland.

12.5.2.6 This assessment method may not capture incoming contractors from outside the local or wider study area, who come in the area to work on the development and contribute to economic benefit locally through their personal expenditure. On the basis of the available information it is difficult to estimate the extent to which this may occur in due course. However, the assessment presented below draws on evidence where this is available.

Low Scenario

12.5.2.7 Under the Low Scenario, approximately 22% of Moray West OnTI project expenditure is retained within the Local Study Area. This is expected to be the same as the expenditure which is retained within Scotland, therefore the scenarios for the Local Study Area and Scotland are the same.

12.5.2.8 The electrical components required for onshore substation are similar to those for offshore substations, although they tend to be less costly and are likely to be sourced from outside Scotland. The low scenario assumes only the enabling works associated with the installation are carried out by local suppliers (for example, earthworks, landscaping, blasting etc.).

Table 12.5.1: Low Scenario Sourcing			
Phase	Category	Local Study Area	Scotland
Onshore Transmission Infrastructure	Onshore Export Cable	25%	25%
	Onshore Substation	20%	20%
Weighted average sub-total		22%	22%

High Scenario

12.5.2.9 Under the high scenario, 47% of Moray West OnTI expenditure is expected to be retained in the Local Study Area and 62% in Scotland. Under the high scenario, a larger share of the export cable laying activities is taken up by local suppliers, for example civils and installation and building works.

Table 12.5.2: High Scenario Sourcing

Phase	Category	Local Study Area	Scotland
Onshore Transmission Infrastructure	Onshore Export Cable	60%	60%
	Onshore Substation	40%	60%
Weighted average sub-total		47%	60%

12.5.3 Other socio-economic effects

12.5.3.1 In addition to quantitative socio-economics benefits, the chapter outlines the potential benefit of renewable electricity generation on costs of renewable generation during the operation phase. This is an important benefit for the UK economy which is outlined qualitatively. However, the full assessment of this effect is covered in the Offshore EIA Report. Chapter 14: Whole Project Assessment looks at the socio-economic benefits where the OnTI is considered in association with the Moray West Offshore Wind Farm and Moray West Offshore Transmission Infrastructure (OfTI).

12.5.4 Effects on Recreation

12.5.4.1 The assessment of the effects of the OnTI on recreation is a value judgement based upon a number of factors, including the sensitivity of the receptor, published patterns of activity, evidence of use and professional experience. The following factors are considered to be particularly influential:

- The profile of the resource (is it a nationally, regionally or locally recognised resource);
- Estimated levels of use;
- The availability of alternative resources that could provide an acceptable substitute to those affected by the OnTI;
- The proportion of the overall resource affected (for example, a short, local diversion will generally have limited impact on the enjoyment of a longer recreational route);
- Temporary or permanent nature of the impact; and
- The relative quality of the resource following reinstatement.

12.5.5 Effects on Tourism

12.5.5.1 The assessment of the tourism activity builds on the assessment on the recreation receptor. The assessment therefore focuses on the following factors which could influence the effects of the Moray West OnTI on tourism:

- The physical location of the onshore infrastructure in relation to the tourism activity. This will influence the extent to which the infrastructure is perceptible and the way it is experienced or perceived by visitors;
- The nature of the local tourism offer and its particular attractions and assets, and linked to this the characteristics of visitors; and
- The physical factors associated with the construction activities of the Moray West OnTI which might impact on recreation and tourism resources. This includes an assessment of any noise effects and physical interruptions to recreational activities that the development may cause.

12.5.6 Potential Construction Effects

12.5.6.1 The impacts resulting from the construction of Moray West OnTI have been assessed on socio-economic, tourism and recreation receptors identified within the Local Study Area and Scotland

study area. A discussion of the likely significance of each effect resulting from each impact is presented below.

Moray West OnTI Construction Activities Leading to an Effect on Employment

12.5.6.2 The assessment of this receptor focuses on the potential impacts of the construction phase on direct and indirect employment in the construction supply chain in each impact area.

Magnitude

12.5.6.3 Table 12.5.3 sets out the estimated levels of direct, indirect and induced employment that the construction of the Moray West OnTI could support across the Local Study Area and Scotland.

Table 12.5.3: Magnitude of OnTI Construction Employment Impact					
		Local Study Area		Scotland	
Indicator	Impact Type	Low Scenario	High Scenario	Low Scenario	High Scenario
Person years of employment	Direct	120	260	120	360
	Indirect +Induced	30	60	160	470
	Total	150	320	290	820
Annual FTEs (during an assumed 2-year construction period)	Direct	60	130	60	180
	Indirect +Induced	20	30	80	230
	Total	80	160	140	410

Source: Socio-economic impact calculations by Regeneris Consulting, 2017. Totals may not sum due to rounding.

12.5.6.4 The estimated employment impact in the Local Study Area ranges from 80 FTEs to 160 FTEs annually in the scenarios:

- Direct employment impact of 60 and 130 FTE jobs is equivalent to an uplift of 0.3% and 0.7% respectively in direct employment in the Local Study Area.
- The combined direct, indirect and induced employment impact represents an uplift of 0.1% of total FTE employment in the local impact area under both scenarios.

12.5.6.5 The magnitude of impact in the Local Study Area is **negligible** in EIA terms in both scenarios on the basis of the EIA assessment method. However, it is important to note that it nevertheless supports valuable localized economic benefit in a number of ways. First, through the construction employment which will provide job opportunities for local residents in and near to the PAB area. Second, through the supply chain opportunities for local companies (to supply goods and services to the key contractors during the construction phase in particular).

12.5.6.6 In Scotland, the employment impact ranges from 140 to 410 FTEs annually. In the context of the scale of the overall Scottish economy, the magnitude of impact is **negligible** under both scenarios.

12.5.6.7 The Traffic and Transport Assessment has set out the number of potential contractors who could be working on or near site during the construction phase, with at peak between 250 to 350 staff split between:

- 200 – 250 FTEs for the construction compound / substation construction,
- 50 – 100 FTEs along the cable corridor / at landfall.

12.5.6.8 These employment estimates are higher due to the inclusion of contractors from outside the Local Study Area who come into the area to deliver particular aspects of the development, and also them being peak rather than annualized estimates. This is important as these contractors can generate additional economic benefit associated their expenditure on hospitality, retail and other local services. Whilst this points to the possibility of a higher localised employment benefit, this information does not change the conclusion (under the EIA assessment methodology) that the impact is negligible.

Sensitivity

12.5.6.9 Job creation is a central strategic priority in national and local economic policies and strategies. It is a vital component in the government's plan to create sustainable and equitable growth. As highlighted in the strategic policy review (Section 12.2.3) there is an emphasis on opportunity sectors, one of which is the renewable energy sector.

12.5.6.10 Sub-regionally the local authority strategies within the Local Study Area have ambitions for employment creation in their own local authority boundaries. Furthermore, the economic challenges facing the oil and gas sector mean that there is increased importance in supporting employment opportunities, particularly given the transferability of skills.

12.5.6.11 In light of the continued strategic importance attached to the creation of employment, this receptor is deemed to be of high value. The sensitivity of the receptor is therefore considered to be **high**.

Significance

12.5.6.12 The significance of effects on employment is driven by the high sensitivity of the receptor rather than the magnitude of impact.

12.5.6.13 For the Local Study Area, the effect would be of **minor positive** significance for the low and high assessment scenarios, which is not significant in EIA terms.

12.5.6.14 For Scotland, the significance of the effect on employment is expected to be of **minor positive significance** for both assessment scenarios, which is not significant in EIA terms.

Moray West OnTI Construction Activities Leading to an Effect on GVA

Magnitude

12.5.6.15 Table 12.5.4 sets out the estimated levels of direct, indirect and induced GVA that the development could support during the construction phase of the onshore transmission infrastructure across the Local Study Area and Scotland.

Table 12.5.4: Magnitude of Construction OnTI GVA Impact					
		Local Study Area		Scotland	
Indicator	Impact Type	Low Scenario	High Scenario	Low Scenario	High Scenario
Cumulative GVA (£ millions)	Direct	7	15	7	20
	Indirect + Indirect	2	4	11	31
	Total	9	19	18	51
Annual GVA (£ millions) during a 2-year construction period	Direct	3	7	3	10
	Indirect + Induced	1	2	5	15
	Total	4	9	9	25

Source: Socio-economic impact calculations by Regeneris Consulting, 2017. Please note that totals might not sum due to rounding.

12.5.6.16 The potential GVA impact in the Local Study Area ranges from £4 m GVA annually over the construction period in the low scenario to £9 m in the high scenario. In the context of the local economy of £9.2 bn, this represents an uplift of less than 0.1% under both scenarios compared to baseline conditions. The magnitude of impact is therefore **negligible** in both scenarios under the EIA assessment method, although it nevertheless supports valuable localised economic benefits through additional expenditure.

12.5.6.17 In Scotland, the annual GVA impact ranges from £6 m to £25 m annually under the low and high scenarios. Given the annual GVA in Scotland in 2015 was £127.3 bn, this would represent an uplift of under less than 0.1% under both scenarios. The magnitude of impact is therefore **negligible** in both scenarios.

12.5.6.18 As noted in the assessment of the employment receptor, it is possible that the employment supported by the development locally may be higher due to contractors from outside the area who work on site. If this is the case, it will contribute to higher GVA impacts, associated mainly with local expenditure in the hospitality and retail sectors. Whilst this points to the possibility of a higher localised GVA benefit, this does not change the conclusion that the impact is negligible in EIA terms.

Sensitivity

12.5.6.19 Nationally, GVA is an important measure of the amount of wealth that economic activity is creating and economic growth is a national priority. At the Local Study Area level, economic growth and hence additional wealth creation is identified as a key ambition.

12.5.6.20 In light of the strategic importance attached to the creation of wealth and economic growth as set out in the baseline section, the GVA receptor is deemed to be of high sensitivity. The sensitivity of the receptor is therefore considered to be **high**.

Significance

12.5.6.21 Similarly to employment impacts, the significance of effects on GVA is driven by the high sensitivity of the receptor rather than the magnitude of impact.

12.5.6.22 For the Local Study Area, the effect would be of **minor positive significance** for both assessment scenarios, which is not significant in EIA terms. Nevertheless, this will be a valuable boost to the local economy especially in terms of contractor expenditure with accommodation and hospitality service providers and other local businesses which provide services to the construction supply chain.

12.5.6.23 Likewise for Scotland, the significance of the effect on GVA is expected to be of **minor positive significance** for both assessment scenarios, which is not significant in EIA terms.

Moray West OnTI Construction Leading to Short-term Path / Route Diversions and Effects on User Access and Enjoyment

Core Path: Fordyce - Sandend

12.5.6.24 In the worst-case scenario, the core path will be crossed by the cable route, with the need for a short-term diversion. The core path is considered to be of moderate sensitivity. The magnitude of impact would be negligible; that is, the construction would be expected to cause only a short-term (< one month) change to existing patterns and levels of use of the path, with only a slight reduction in overall numbers and a low level of displacement. The combination of moderate sensitivity and negligible magnitude of impact leads to the conclusion that the significance of the effect of the development upon this core path would be **minor negative**, which is not significant in EIA terms and no specific mitigation is required.

Core Path: Sandend - Portsoy

12.5.6.25 This route will be affected by the Onshore Landfall Area, requiring temporary, local diversion to maintain access. No other coastal routes exist between the settlements, although there is an alternative coastal path heading west from Sandend towards Cullen. This core path is considered to be of moderate sensitivity. The magnitude of impact would be negligible, causing only very slight changes in patterns or levels of use. The combination of moderate sensitivity and negligible magnitude of impact leads to the conclusion that the significance of the effect of the development on this core path would be **minor negative**, which is not significant in EIA terms and no specific mitigation is required.

NCN1

12.5.6.26 NCN1 will, in the worst-case scenario, be crossed near Fordyce by means of open cut techniques, requiring a short-term diversion of the single-track road that the cycleway runs upon. NCN1 is considered to be of moderate sensitivity. Because the provision that will be made for motor vehicles can also be used by cyclists, the magnitude of impact would be negligible with a slight reduction in overall numbers and a low level of displacement. The combination of moderate sensitivity and negligible magnitude of impact leads to the conclusion that the significance of the effect of the development upon NCN1 would be **minor negative**, which is not significant in EIA terms and no specific mitigation is required.

Core Path KT04

12.5.6.27 Access to Balloch Wood Core path KT04 runs upon the minor road from Keith to Balloch Wood and provides access to the recreational opportunities found in the wood. As a worst case, KT04 will be crossed by means of open cut trenching techniques. The core path is considered to be of moderate sensitivity because of the access it provides to the horse riding tracks in Balloch Wood. The magnitude of impact upon this access will be negligible, given the embedded mitigation to provide a diversion or temporary route. The combination of moderate sensitivity and negligible magnitude of impact leads to the conclusion that the significance of the effect of the development upon KT04 and access to Balloch Wood would be **minor negative**, which is not significant in EIA terms and no specific mitigation is required.

Old Military Road

12.5.6.28 The Road will be crossed by the cable route. In the worst case scenario, the Road will be crossed by an open trench requiring provision of a temporary alternative roadway. The Old Military Road is considered to be of moderate sensitivity. The magnitude of impact is considered to be negligible given the short period of interruption, the small length of the route affected and the provision of a temporary route. The combination of moderate sensitivity and negligible magnitude leads to the conclusion that the significance of the effect of the development upon the Old Military Road would be **minor negative**, which is not significant in EIA terms and no specific mitigation is required.

Moray West OnTI Construction Activities Leading to an Effect on Tourism Volume and Value

12.5.6.29 In order to assess the potential effect on tourism it is necessary to consider the following:

- Visual impacts associated with the construction and installation of onshore infrastructure;
- Noise and vibration impacts associated with the construction and installation of the onshore infrastructure;
- The disruption to recreational activities occurring as a result of construction activities; and
- The expenditure which contractors working locally spend with accommodation providers and other service providers which form part of the tourism sector.

12.5.6.30 These impacts could potentially result in a temporary displacement of tourism activity to areas which are not affected by the Moray West OnTI construction activities.

- 12.5.6.31 There are possible temporary disruptions to tourists visiting Sandend Bay who require access to parts of the shore east of Sandend when the landfall works and the onshore cable circuits are being installed.
- 12.5.6.32 Walking between Sandend and West Head could be temporarily displaced within the Local Study Area and is not likely to have an impact on overall level of tourism. Walkers will be able to access and use Sandend Bay within areas not closed off for construction works.
- 12.5.6.33 There will be positive effects on the local tourism sector in close proximity to the development associated with additional demand for accommodation, other hospitality and retail services from incoming contractors. This will result in additional tourism benefit, supporting jobs and GVA. Whilst the scale of this revenue will be dependent on the number of incoming workers and the uncertainties noted earlier, it could be an important economic benefit locally.
- 12.5.6.34 The magnitude of impact on tourism volume and associated value in the Local Study Area as a whole is considered to be **negligible**. However, the impact in the more localised area around the PAB is considered to be **low positive**. This is due to the disruption to access to and enjoyment of the tourist and recreational resources is temporary and minimal with alternatives available, whilst there are benefits in terms of the boost to business tourism locally associated with expenditure of contractors.

Sensitivity

- 12.5.6.35 Tourism is an important part of the economy in the Local Study Area, having been identified as a priority sector. The sensitivity of the receptor is therefore considered to be **high**.

Significance

- 12.5.6.36 In light of the limited magnitude of impact on tourism, the overall effect in the Local Study Area is expected to be **minor**, which is not significant in EIA terms. The overall effect in the more localised area around the PAB is considered to be **moderate positive** which is significant in EIA terms.

12.5.7 Potential Operational Effects

- 12.5.7.1 During the operation and maintenance of the OnTI, there are no significant effects expected on socio-economic receptors as activity will be of relatively small scale.
- 12.5.7.2 All recreation assets will be fully available during operation and maintenance of OnTI and there will be no significant effects, in EIA terms, on any recreation or tourism receptors.

Effect of Development Operations on UK Electricity Generation Costs

- 12.5.7.3 The assessment considers the operational effects of OnTI supplying power to the UK electricity market. Given the supply of electricity would be to the National Grid, the benefit is considered at a UK spatial level (note that this benefit is not assessed in terms of its significance in the same manner as the other receptors).
- 12.5.7.4 While it is not within the scope of this chapter to provide a quantitative assessment of the effect of OnTI on the supply and cost of electricity, it has the potential to deliver benefits for the UK electricity market which can be assessed qualitatively. The benefits include:
- Providing access to the reducing cost electricity provided by offshore renewables;
 - Increased resilience of the UK energy market; and
 - Increased security of energy supply.
- 12.5.7.5 Reducing the cost of energy as a whole is a key ambition for the UK Government. The Clean Growth Strategy (2017) published by the Government sets out the steps to ensure economic

growth is achieved while ensuring decreased emissions. Meeting domestic commitments at the lowest net cost to consumers and businesses is one of the key objectives of the Strategy.

- 12.5.7.6 The offshore wind industry has experienced significant cost reduction in recent years. The Offshore Renewable Energy Catapult tracks this progress on behalf of Offshore Wind Programme Board and publishes annual Cost Reduction Monitoring Framework reports. Its most recent report was produced in 2016, showing that the Levelised Cost of Energy (LCOE)⁶ fell by 32% from £142/MWh for projects reaching final investment decision (FID) in 2010/11, to £97/MWh for projects reaching FID in 2015/16. This level of cost reduction has exceeded the joint industry and UK Government target of £100/MWh by 2020.
- 12.5.7.7 Furthermore, the results of the recent Contracts for Difference auction suggest even greater progress in the industry. The Contracts for Difference (CfD) mechanism was introduced by the UK Government in 2013 as part of the Electricity Market Reform. The CfD process replaces the Renewable Obligation system, aiming to stimulate cost reduction of renewable electricity.
- 12.5.7.8 The CfD process works by offering to pay the energy generator the difference between the electricity strike price⁷ and the reference price⁸. By doing so, generators are given certainty of revenues while consumers are protected from paying for higher support costs when electricity prices are high (BEIS, 2017).
- 12.5.7.9 Since the introduction of the CfD process, two auction rounds have taken place in 2015 and 2017 respectively. The results saw the strike price for offshore wind halve, dropping to £57.50/MWh for projects commencing delivery in 2022 / 2023.

Table 12.5.5: Contracts for Difference Auction Results: Lowest Strike Price for Each Technology

Technology type	Round 1	Round 2
Advanced Conversion Technologies	£114.39	£40.00
Energy from Waste with CHP	£80.00	£74.75
Offshore Wind	£114.39	£57.50
Onshore Wind	£79.23	-
Solar PV	£50.00	-

Source: Department for Business, Energy & Industrial Strategy (2015,2017). Strike prices expressed in 2012 prices.

- 12.5.7.10 This evidence from the CfD auctions point to offshore wind driving down the costs of renewable energy, but also compared to other sources. Indeed, the latest auction results show that offshore wind is now cheaper than energy from planned nuclear development. The Government contract awarded to Hinkley Point C guarantees a strike price of £92.50/MWh for 35 years.
- 12.5.7.11 Furthermore, the cost of new gas-powered generation (Combined Cycle Gas Turbines) is estimated by the Department of Business, Energy and Industrial Strategy (BEIS) at £66/MWh for projects commissioning in 2020, increasing thereafter (BEIS 2016). The implication is that the latest CfD auction results imply offshore wind is thought to be one of the most cost-effective sources of electricity generation. Indeed, it is also the only source within the auctions that can provide a critical mass of energy supply that can supplant the thermal generation being taken off line.

⁶ Levelised cost of energy is the average cost of the lifetime of the plant per MWh of electricity generated (source: BEIS).

⁷ Strike price is a price for electricity reflecting the cost of investing in a particular low carbon technology (source: BEIS).

⁸ Reference price is a measure of the average market price for electricity in the GB market (source: BEIS).

12.5.7.12 By the next auction, Moray West will be required to bid below the Government's ceiling price if it is to secure the contract to supply electricity to the National Grid. The maximum price has been set by the Government at £85/MWh. While it is not known what the Moray West bidding price might be, the awarded contract for Moray East of £57.50/MWh suggests it will be much lower than the Government price cap.

12.5.7.13 Should Moray West Offshore Wind Farm be successful in the next round of the CfD auction, it will be a large source of renewable electricity generation for the UK. Moreover, it has the potential to drive down the cost of energy generation as a whole.

12.5.8 Potential Decommissioning Effects

12.5.8.1 Whilst the consent for development will be in perpetuity, the scoping opinion requires that the assessment considers decommissioning. It is considered that there is a strong likelihood that the assets will be retained and absorbed into the national grid once the windfarm reaches the end of its design life. However, if decommissioning is required, the cable circuits will be left in-situ, with only above ground infrastructure being removed (onshore substation and joint pits). The joint pits will not be sited under any tourism or recreation assets and so removal or filling-in of the pits will have negligible impact upon tourism or recreation receptors. Similarly, the substation will not be sited in the vicinity of any tourism or recreation assets and so its eventual dismantling will have negligible impact upon these receptors. Therefore, there will be no significant effects, in EIA terms, on any recreation receptors.

12.5.8.2 If decommissioned, there may be socio-economic effects. The nature of these effects will depend on the method of decommissioning and the level of expenditure which occurs locally. These economic effects could be similar in nature to those experienced during construction of the OnTI but on a less significant scale due to the limited decommissioning works that would be required. These economic effects are considered to be minor beneficial.

12.6 Additional Mitigation and Enhancement Measures

12.6.1.1 There are no adverse recreation impacts that are considered to be significant in EIA terms and requiring additional mitigation.

12.7 Residual Effects

12.7.1.1 A summary of the assessments undertaken and the residual effects is included in Table 12.7.1.

Table 12.7.1: Summary of Assessment						
Potential Effect	Nature	Probability	Sensitivity of Receptor	Magnitude of Impact	Significance of Effect	Rationale
Construction						
Creation of direct and indirect employment	The OnTI construction activities have the potential to support direct and indirect employment in the Local Study Area and Scotland as a whole.	The probability of creating construction and related employment in the Local Study Area and Scotland is very high.	Given the strategic importance of employment creation in the Local Study Area and Scotland, the receptor has high sensitivity.	Negligible for both Local Study Area and Scotland as a whole.	Minor positive in the Local Study Area and Scotland as a whole. This is not significant in EIA terms.	The construction will provide valuable employment opportunities for local residents and support local jobs through expenditure effects.
Creation of direct and indirect Gross Value Added	The OnTI construction activities have the potential to support direct and indirect Gross Value Added in the Local Study Area and Scotland as a whole.	The probability of creating construction and related GVA in the Local Study Area and Scotland is very high.	Given the strategic importance of creating additional wealth and economic growth, the GVA receptor is considered to have high sensitivity.	Negligible for both Local Study Area and Scotland as a whole.	Minor positive in the Local Study Area and Scotland as a whole. This is not significant in EIA terms.	The construction will provide a valuable stimulus to economic activity measured through GVA in the local study area in particular. This will benefit local residents through improved job opportunities and increased incomes.
Short-term path / route diversions and	The OnTI will temporarily require	High	Moderate for all five receptors.	Negligible for all five receptors.	Minor negative and not significant.	Short-term nature and temporary placement of

Table 12.7.1: Summary of Assessment						
Potential Effect	Nature	Probability	Sensitivity of Receptor	Magnitude of Impact	Significance of Effect	Rationale
effects on user access and enjoyment	local diversion of five significant receptors.					diversions will avoid significant effects.
Effects on the volume or value of Tourism	The OnTI construction activities have the potential to (i) discourage tourism due to temporary construction activity but also (ii) support tourism operators through the expenditure of contractors in the Local Study Area and around the PAB.	The probability of discouraging tourism activity is low, whilst the potential for expenditure effects to support local tourism operators is high.	The tourism sector is a priority sector in the Local Study Area. The receptor has high sensitivity.	Negligible in the Local Study Area. Low positive in the localised area around the PAB.	Minor positive and not significant in Local Study Area. Moderate positive and significant in the localised area around the PAB.	Walking between Southend and West Head could be temporarily displaced but this is not expected to have an overall effect on tourism. However, tourism operators are likely to benefit from contractor spend.
Operational						
There will be negligible effect on any economic, recreation or tourism receptors during operation.						

Table 12.7.1: Summary of Assessment						
Potential Effect	Nature	Probability	Sensitivity of Receptor	Magnitude of Impact	Significance of Effect	Rationale
Decommissioning						
If decommissioned, there will be economic effects. The significance of these will depend on the method of decommissioning and the level of expenditure retained locally.						

12.8 Assessment of Cumulative Effects

- 12.8.1.1 The relevant cumulative developments are listed in Chapter 3: The Environmental Impact Assessment Process.
- 12.8.1.2 The potential cumulative effects for socio-economics depend on the extent to which the construction of Moray West OnTI and other relevant projects draw on a similar supply chain and labour market within the study area. Contemporaneous activity may place competing demands on the supply chain, labour markets and services in the Local Study Area, which can increase competition for a range of goods and services in the area. This increases the likelihood of these goods and services being sourced from outside the study area and limits the ability of the local supply chain to benefit.
- 12.8.1.3 The timing of Moray West OnTI construction in consideration with other projects is an important factor in determining the likelihood of cumulative effects. Consecutive construction of projects can contribute to building capacity and capacity in the supply chain, leading to subsequent projects being able to deliver higher levels of benefit to the local area. Simultaneous construction, on the other hand, may limit the ability of the supply chain to adapt to increased demands on services and labour.
- 12.8.1.4 Chapter 3: The Environmental Impact Assessment Process of this EIA Report has identified the following projects for consideration in the cumulative assessment:
- Aultmore Wind Energy Project – a consented 13 turbine wind energy development proposed for a commercial forestry site approximately 2 km west of the PAB, south of Deskford; and
 - Lurg Hill Wind Farm – a five turbine wind energy development proposed for a commercial forestry immediately east of the PAB, south of Deskford (planning application submitted in July 2017).
- 12.8.1.5 Consideration of the socio-economic, tourism and recreational effect arising from the Moray West OnTI, Moray West Offshore Wind Farm and Moray West Offshore Transmission Infrastructure when considered together is presented within Chapter 14: Whole Project Assessment of this EIA Report and Chapter 18: Whole Project Assessment of the Offshore EIA Report. Cumulative effects arising from other offshore projects are assessed within the Offshore EIA Report.
- 12.8.1.6 It is important to note the significant uncertainties that characterise the cumulative assessment. Firstly, it is not possible to predict which cumulative projects will go ahead. Particularly projects which are at early stages of the planning process. Even projects which have been consented may change their design or apply for variations in consent.
- 12.8.1.7 The likely timing of the developments is not clear, and nor is the extent to which developers would use local supply chain and labour market capacity. This makes it impossible to assess the significance of the cumulative effects of Moray West OnTI on socio-economic receptors. It is important to note, however, that taken together, the cumulative schemes are unlikely to negatively affect the baseline position in the study areas in terms of employment and GVA.
- 12.8.1.8 In conclusion, these developments are not expected to generate cumulative effects on socio-economics, tourism and recreation.

12.9 References

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