17 Socioeconomic Effects

17.1 Introduction

1 This chapter considers the effects of the proposed Onshore Works for the Neart na Gaoithe Offshore Wind Farm on socioeconomics. It details likely direct, indirect and induced employment generation associated with the proposed Onshore Works. It also considers potential effects in relation to recreational amenity and tourism within the boundary of the Onshore Works and in the wider area. The socioeconomic assessment was undertaken by LUC, with input from SQW in relation to likely employment generation[1].

17.2 Effects Assessed

2 The following effects have been considered:

- positive effects on the local economy through job creation and expenditure: direct, indirect (supply chain effect) and induced effects (e.g. re-circulating income in local area);
- direct effects on public access and recreation, including consideration of Rights of Way (RoW), Core Paths, other paths and other recreational sites within the vicinity of the Onshore Works during construction and decommissioning;
- indirect effects on recreational amenity and tourism in the wider study area during construction, operation and decommissioning relating to the visibility of the Onshore Works.

3 The key land uses within the vicinity of the Onshore Works and its surroundings are residential, grazing and other agriculture, and wind farm developments, including the existing Crystal Rig Wind Farm. Predicted effects on agriculture and land use are covered in **Chapter 13: Soils, Agriculture and Land Use**. With respect to residential amenity, relevant information is included in **Chapter 10: Landscape and Visual Amenity**, **Chapter 14: Access, Traffic and Transport, Chapter 15: Air Quality** and **Chapter 16: Noise and Vibration.** Given this, potential effects on local amenity are not considered further in this chapter.

4 Potentially sensitive viewpoints of relevance to recreation and tourism, either as tourist attractions or locations along popular walking or driving routes, are detailed below and the assessment of indirect effects on recreation and tourism are based on the findings of **Chapter 10**.

17.2.1 Effects Scoped Out

5 On the basis of the desk based and survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, the following topic areas have been 'scoped out':

- potential effects on formal recreational activities[2] during construction, operation and decommissioning;
- potential direct effects on recreational amenity, public access and tourism during operation;
- all potential cumulative effects during operation.

17.2.2 Assessment Methodology

6 There is no established guidance for undertaking a socioeconomic assessment as part of a wider EIA; however, the assessment follows advice set out in the Scottish Government Advice Note on Onshore Wind Turbines (2011) which provides general guidance on good practice for the assessment and implementation of renewable energy technologies in Scotland.

7 The following guidance has also been given consideration:

- The Green Book: Appraisal and Evaluation in Central Government (HM Treasury, 2003)[i];
- Output Income and Employment Multipliers Scotland (Scottish Government, 2010)[ii];
- The Scottish Outdoor Access Code[iii];
- Planning Advice Note (PAN) 73: Rural Diversification (Scottish Executive, 2005)[iv];
- The Economic Appraisal Guidance Note (Scottish Enterprise, 2008).

8 The assessment uses desk based information sources supplemented by consultation with local stakeholders and expert judgement to assess the likely scale of effects and is largely based on LUC's and SQW's previous experience in undertaking assessments of socioeconomic effects.

17.2.3 Data Sources

9 The following data sources were used to inform the assessment:

- The Edinburgh and Lothians Structure Plan 2015 (City of Edinburgh Council *et al.,* 2004)[v];
- The East Lothian Local Plan 2008 (East Lothian Council (ELC), 2008)[vi];
- Our Plan for the Future for East Lothian: Single Outcome Agreement 2011 (East Lothian Community Planning Partnership, 2011)[vii];
- The East Lothian Tourism Strategy 2010-2013 (ELC, 2010a)[viii];
- The East Lothian Visitor Survey 2011 (ELC, 2012)[ix];
- The East Lothian Core Paths Plan (ELC, 2010b)[x];
- Scottish Renewables Report (IPA Energy, 2010);
- Scottish Input-Output Tables Industry Group (Scottish Government, 2010);
- Census and population information (from Scotland's Census Results OnLine (scrol) and local authority publications including East Lothian Council population data);
- Tourist and visitor guides, leaflets and information.

17.2.4 Consultation

10 As explained in **Chapter 3: EIA Methodology and Approach**, a request for a Scoping Opinion was submitted to East Lothian Council in January 2012. Potential socioeconomic effects were highlighted in the Scoping Opinion. The issues raised by both East Lothian Council and other organisations consulted by LUC to inform the socioeconomic assessment chapter, and action taken by LUC in response to these comments, are detailed in **Table 17.1** below.

[1] SQW provided input to this chapter for consistency, given their involvement in the employment generation calculations for the Offshore Works.
[2] Formal recreation includes activities which require purpose built facilities such as pitches, tracks, etc.

Consultee	Scoping/other Consultation	Issue Raised	Response/Action Taken
East Lothian Council (ELC)	Scoping	The proposed assessment is generally acceptable. For the baseline, East Lothian Council expects to have the results of the 2011 Visitor Survey which could assist. Local groups to be consulted should include Visit East Lothian, and the East Lothian Tourism Attractions Group. Indirect effects on tourism should include visitor perception of the area as well as visual assessment.	The Visitor Survey is referred to within this chapter in the context of existing conditions. Consultation letters sent to both organisations.
East Lothian Council Access Officer	Wider consultation	There is a duty to uphold the right of public access for any path or track under the Land Reform (Scotland) Act 2003. Generally, where a public access route will be affected, the Council would ask any developer to put up signs at least 30 days ahead of any operation to inform the public that there will be disruption to a route. An alternative route should be provided, so the sign should include the date the proposed work will start, how long it will be for, a description or map of the diversion and a contact number for the developer in case of a problem. Similar signs should also be put in place when the construction works are underway in addition to signs that clearly mark the diversion route.	Where public access will be temporarily disrupted during construction, diversions will be put in place. Details of these, along with the requirements for signage, will be agreed with the Access Officer for ELC prior to commencement of construction works
Scottish Rights of Way Society (Scotways)	Wider consultation	Scotways brought attention to four RoWs that intercept the route corridor. They also highlighted that the John Muir Way is also within the route corridor. They recommended that the East Lothian Core Paths Plan (ELC, 2010b) is considered.	The RoWs have been considered. Although there are four that were within the route corridor at the time of consultation, only Right of Way LE211 coincides with the final Cable Corridor. The Cable Corridor does cross the John Muir Way near the landfall area. The Core Paths Plan[ix] has been taken into consideration within the assessment. The paths are shown on **Figure 17.1** in addition to the other public access routes.
John Muir Trust	Wider Consultation	The John Muir Trust did not have any comments in relation to the Onshore Works.	n/a
British Horse Society	Wider consultation	Horses will need to be taken into consideration as horse riders live and ride within the vicinity of Innerwick and Thurston Manor. Construction workers will need to be sensitive to the needs of horse riders.	Horse riding is given consideration within this chapter along with the other recreational interests within the vicinity of the Onshore Works.

Table 17.1: Consultation Responses

11 Other organisations consulted included Visit Scotland, Wildlife Scotland, the East Lothian Tourism Attractions Group and Sustrans Scotland, none of whom provided a response.

17.2.4.1 Summary of Relevant Consultation from the Neart na Gaoithe Offshore Wind Farm ES

12 As part of the consultation process for the Neart na Gaoithe Offshore Wind Farm Environmental Statement, a number of local clubs and associations were contacted and were provided with the opportunity to comment on the project proposals, raising any issues of concern. From the consultation responses received, it appears that Thorntonloch Beach is not used as frequently as others along the same coastline for surfing, canoeing and sailing. Concerns raised by surfers who do use the beach were related more specifically to the effect of the Offshore Works on the wave climate as opposed to potential effects on access to and use of the beach itself. Full details of this consultation are provided in **Chapter 22: Other Users** and **Appendix 22.1** of the Neart na Gaoithe Offshore Wind Farm Environmental Statement[xi].

17.2.5 Assessing Significance

13 Criteria for determining the predicted significance of socioeconomic effects are provided in **Table 17.2**.

Significance of Effect	Description
Major	Effects on the economic activity or well-being of the population which are measurable at the national level.
Moderate	Effects on the economic activity or well-being of the population which are measurable at the regional and/or local level.
Minor	Effects on the economic activity or well-being of the population which are measurable to a minority of individuals in the local community.
Negligible	No measurable effects on the economic activity or well-being of the population.

Table 17.2: Significance Criteria

14 Major and moderate effects are considered significant in the context of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011.

17.3 Planning Policy

15 Planning policies of relevance to this assessment are identified in **Chapter 6: Legislation and Planning Policy.**

17.4 Existing Conditions

16 This section details:

- current socioeconomic conditions in East Lothian and the area around the Onshore Works, including population and employment;
- recreation and tourism resources and statistics for the site and the study area.

17.4.1 Socioeconomic Conditions

17.4.1.1 Area and Population Profile

17 East Lothian had an estimated population of 97,500xii in 2010, which accounts for just under 2% of Scotland's population as a whole. **Table 17.3** below provides an age demographic breakdown for the East Lothian Council area, and for Scotland as a whole, based on population estimates for 2010. The general balance of age groups for East Lothian is similar to that for the whole of Scotland, with a higher proportion of people between the ages of 30-59.

Age Group	East Lothian (no.)	East Lothian (%)	Scotland (no.)	Scotland (%)
0-15	18,763	19.2	911,794	17.5
16-29	15,119	15.5	975,384	18.7
30-44	18,480	19.0	1,035,794	19.8
45-59	21,392	21.9	1,092,147	20.9
60-74	15,784	10.6	801,346	15.3
75+	8,162	8.4	405,635	7.8
All ages	97,500	100	5,222,100	100

Table 17.3: Estimated Population of East Lothian and Scotland, 2010[xiii]

18 The area around the Onshore Works consists of small settlements, clusters of houses and individual properties. The nearest settlement is Innerwick, approximately 100 m to the south east.

19 As reported by the General Register for Scotland, the population of East Lothian is predicted to rise by 33.5% by 2033 based on the population in 2008, increasing the total to 128,279. This is significantly higher than the projection of 7.3% for the whole of Scotland. These predicted increases for both East Lothian and Scotland will mainly be accounted for by people aged 75+. The increase in the number of older people, at a local and national level, is likely to result in greater demands on the social and healthcare systems in East Lothian.

20 The Scottish Index of Multiple Deprivation (SIMD) provides a measure of the level of deprivation of small areas (data zones) across Scotland. Indicators within the domains of income, employment, health, education, skills and training, housing, geographic access and crime are allocated a score, and the overall score is used to determine the level of deprivation, and rank of each data zone (i.e. rank position 1 being the most deprived, rank position 6,505 being the least deprived). Innerwick, the closest settlement to the Onshore Works, lies within data zone S0100161, with the rank position of 4,357[xiv].

17.4.1.2 Employment

21 In 2010, East Lothian's employment rate was 71%, the same as for Scotland compared to as a whole in the same year[xv].

22 Figures for East Lothian in 2010 indicate that a near equal amount (approximately 21,000) of the working population aged 16-64 work within the Council area as those who commute and work outwith the Council boundary. **Table 17.4** indicates the distribution of employment within East Lothian by industry, in comparison to Scotland as a whole. For both East Lothian and Scotland, the sectors with the highest proportion of workers are 'Education' and 'Health' followed by 'Manufacturing' and 'Retail'. The proportion of people in East Lothian working within 'Business Administration and Support Services' is notably lower (3.6%) than that for Scotland (7.5%). The proportions for the remaining sectors are relatively similar.

Industry	East Lothian (%)*	Scotland (%)*
Agriculture, forestry and fishing	-	1.6
Production and Construction Industries		
Mining, quarrying and utilities	4	2.8
Manufacturing	8.8	7.5
Construction	7.6	5.3
Service Industries		
Motor trades	1.6	1.9
Wholesale	2.4	3.0
Retail	9.6	10.2
Transport and storage (incl. postal)	2.4	4
Accommodation and food services	8	7.1
Information and communication	1.2	2.7
Financial and insurance	1.2	3.7
Property	0.8	1.0
Professional, scientific and technical	5.2	5.9
Business administration and support services	3.6	7.5
Public administration and defence	6.4	6.8
Education	11.2	8.4
Health	18.5	16.4
Other services	7.6	4.4
All Industries	**24,900**	**2,311,100**

*Percentages are based on 2010 population figures.

Table 17.4: Employment by Industry, 2010 (Source: Business Register Employment Survey (BRES) 2010[xvi])

17.4.1.3 Tourism

23 The pattern of tourists visiting East Lothian has changed slightly as a result of the recession. In 2008, the number of visitors from overseas declined and there was a 4% rise from 2008 to 2009 in the number of people visiting for the day[xvii.] The East Lothian Tourism Strategy 2010-2013[vii] reports that tourism provides 15% of the workforce with jobs and generates over £200 million for the local economy.

24 The East Lothian Visitor Survey 2011 (published January 2012) presents the findings of 511 face-to-face interviews with visitors to East Lothian and 31 online respondents (542 people in total). The age profile of visitors to East Lothian was similar to that for the whole of Scotland with the majority of visitors aged between 35-64 years. In total, 56% of those included in the survey were on a short break, with the average length of stay being just over four nights. Many people stayed with family or friends (29%) with the next most popular option (25%) being caravans and mobile homes. Visitors consistently rated the satisfaction level of their visit to be high and would highly recommend the area to others as a destination to visit.

25 With over 40 miles of coastline, East Lothian is a popular destination for those who enjoy the outdoors. It is a popular destination for surfers, walkers and wildlife enthusiasts. The numerous golf courses are a major attraction of the region, as well as the coastal towns of North Berwick and Dunbar.

26 Closer to the Cable Corridor, Thurston Manor Leisure Park[xviii] offers accommodation and camping/caravan pitches for those staying overnight. This lies approximately 500 m west of the route near Thurston. It has a range of facilities on its grounds for holiday makers and is in a good location for travelling to popular destinations nearby. There is also a caravan site at Thorntonloch on the sea front, close to the proposed cable landfall. High season for the caravan park falls during Easter and the summer months (June, July and August). Low season includes the months of March, April, May and September[xix]. The caravan park is closed from the end of October until the beginning of March each year.

17.4.1.4 Public Access and Recreation

27 There are several RoWs close to the Onshore Works, one of which crosses the Application Boundary (RoW LE211). This RoW originates adjacent to the Application Boundary at Woodhall and crosses it south-west of Weatherly, travelling for approximately 400 m within the Application Boundary (as shown on **Figure 17.1**). This RoW connects to another RoW in the west near Watch Law, providing a link to the wider network and other paths within the Council boundaries and beyond.

28 According to the maps that support the East Lothian Core Paths Planix, there are several Core Paths that fall close to the Onshore Works. These are concentrated near Thorntonloch at the coast.

29 There are three Core Paths that encroach into the boundary of the Onshore Works, as shown in **Figure 17.1**. Core Path 324 enters into the Application Boundary at two points, near Temple Mains and north of Thurston Manor. Core Path 309 runs in parallel with a stretch of the A1 road and crosses the Application Boundary close to Thorntonloch Bridge. Lastly, Core Path 213 meets the Application Boundary at the eastern extent at Thorntonloch beach.

30 The John Muir Way is a popular coastal path that originates in Musselburgh, close to Edinburgh, and travels south to the East Lothian border near Cockburnspath. It is 47 km long in total and crosses the Application Boundary at the landfall point along the coast at Thorntonlochxx. The closest Long Distance Footpath is the Southern Upland Way, which is approximately 3.7 km southeast of the eastern extent of the Onshore Works.

31 Heritage Paths are old paths or roads that have been used, historically, for a specific purposexxi. The Heritage Paths are designated and maintained by Scotways. There is one Heritage Path identified that is close to the Onshore Works, approximately 1 km west of the route at the closest point, south of Thorter Cleugh. This is known as 'The Herring Road' and is 45 km long, travelling from Dunbar, southwards to Lauder. In the past it was used to transport herring when the industry was strong.

32 National Cycle Route 76, part of the National Cycle Network, travels along the coast from Berwick upon Tweed to Edinburgh, continuing on to the opposite side of the Forth to St Andrewsxxii. The route crosses the Application Boundary south-east of Skateraw.

33 The beach can be accessed on foot from the north via the coastal walkway from Skateraw Harbour or from the car park behind the Thorntonloch Caravan Park. These access routes are utilised by visitors to the beach who participate in a number of activities including surfing and bathing. The entry point near the caravan park is that most commonly used by recreational users of the beach due to the proximity to the car park.

34 An area including the northern section of Thorntonloch Beach and Thorntonloch Caravan Park is designated as an area of open space within the East Lothian Local Plan. As an 'open space', the area facilitates recreational and leisure activities such as those referred to above.

35 The British Horse Society advises that horse riding activity takes place within the vicinity of the Onshore Works, near Innerwick and Thurston Manor specifically.

17.5 The 'Do Nothing' Scenario

36 In the absence of the Onshore Works, current land use activities are likely to remain unchanged. Socioeconomic activity within East Lothian is likely to continue in accordance with the trends as identified above. These include an increase in the overall population, continued high employment within the tourism sector and the key industry sectors remaining the same. Public access and recreation is expected to remain as at present.

17.6 Assessment of Effects

37 The assessment of effects is based upon the description of the Onshore Works as outlined in **Chapter 5: Project Description** and is structured as follows:

- construction effects;
- operational effects;
- decommissioning effects;
- in-combination effects;
- cumulative effects.

17.7 Construction Effects of the Onshore Works

17.7.1 Predicted Effects

17.7.1.1 Employment

38 The assessment methodology used by SQW to estimate the potential employment generation associated with the Onshore Works is explained in **Appendix 17.1** and follows a similar methodology to that used in **Chapter 23: Socioeconomics** of the Neart na Gaoithe Offshore Wind Farm Environmental Statement.

39 The methodology is based on assessing the effect of the Onshore Works project expenditure based on an Input-Output model of the Scottish economy. However, there are assumptions specific to modelling the employment associated with the Onshore Works[3]. These are noted below:

- The scope of the assessment of the Onshore Works relates to the project phases of construction/installation and operation and maintenance.
- The study area for onshore employment assessment is assumed to be predominantly the local authority area of East Lothian, but wider supply chain activity may also be generated in Edinburgh, Fife, Angus and Dundee and in the rest of Scotland.
- The total anticipated Onshore Works expenditure for the construction/installation phase is approximately £87million:
  - the geographical breakdown of the expenditure is included as **Table 3** in **Appendix 17.1**[4];
  - the project timeline is as assumed in **Chapter 23: Socioeconomics** of the Neart na Gaoithe Offshore Wind Farm Environmental Statement, i.e. approx. two years for construction/installation and approx. 22 years for operation and maintenance.
- The supply chain activities associated with construction/installation and operation and maintenance as mapped against Standard Industry Classification (SIC) codes from the Scottish Input-Output Table used in the modelling include a combination of the following[5]:
  - 88: Construction;
  - 112: Architectural and engineering activities and related technical consultancy, technical testing and analysis.

40 Type II employment multiplier values[6] from the Scottish Input-Output Tables associated with these SIC codes are used to estimate the indirect and induced effects (for construction/installation and operation and maintenance).

[3] Employment associated with onshore operations and maintenance is estimated differently to that for the Offshore Works due to availability of data.
[4] i.e., for the low case scenario : this refers to the total value of contracts that have been delivered, or are expected to be delivered, from within each geographical area (i.e., study areas; rest of Scotland and the rest of the UK), assuming the current supply chain. This represents a conservative estimate of the supply chain.
[5] For these SICs, the values for the relevant Type II multipliers and ratios used in the economic modelling can be found in **Appendix 17.1**.

41 The employment results for the construction/installation are presented in **Table 17.5**.

	Study Area			Rest of Scotland			Whole of Scotland (study area + rest of Scotland)		
	Direct	**Indirect + Induced**	**Total**	**Direct**	**Indirect + Induced**	**Total**	**Direct**	**Indirect + Induced**	**Total**
Construction/installation	59	40	99	49	59	108	108	99	207

Table 17.5: Employment during Construction/Installation (job years[7])

42 It is considered that this represents a positive temporary effect of minor significance to the local economy.

17.7.1.2 Public Access and Recreation

43 The area of the Onshore Works is not currently used for any formal public recreation activities. However, there are one known RoW (LE211) and three Core Paths that cross the Application Boundary. It is not anticipated that construction of the Onshore Works will affect other public access routes around the site.

44 The Application Boundary crosses National Cycle Route 76 where it travels along the A1 road over Thorntonloch Bridge. Whilst the A1 will not be closed, traffic management measures will be put in place during the crossing works.

45 Closer to the landfall area, the Application Boundary meets the John Muir Way. The construction method to be used for cable laying at the landfall point is undetermined at this stage, pending further investigation of the ground conditions in the inter-tidal area. If a trenchless technique is used at the beach area to install the cable, this short section of the route is unlikely to be closed during construction and access maintained throughout the period of the inter-tidal works. If an open trenching technique is applied, it is likely that this access route will be closed temporarily and appropriate diversions will be put in place.

46 For the public access routes that will be affected temporarily by the Onshore Works; including the John Muir Way, an alternative route will be identified and appropriate signage will be put in place prior to and during the time the route is affected to ensure that the diversion is clearly marked for any users. Any route diversion would be temporary and, as stated previously in **Table 17.1**, diversion arrangements would be agreed with the ELC Access Officer in advance of any construction works.

47 Access to the beach from Thorntonloch Car Park will be retained for the duration of construction (regardless of which construction method is used: trenchless or open trench). The extent to which the beach in this area will be out of bounds will depend on the extent of the 'exclusion zone'. The exclusion zone will be a marked area that will indicate where access is not allowed, the extent of which will vary depending on the construction method used. For a trenchless technique, this will be during the period of cable pull in and burial. This is typically two days, but some access can be allowed as the burial process progresses.

48 Under open trench construction, and particularly if rock excavation is required, the exclusion zone could be required for up to two months. Access would be restricted during this period; however, access to the majority of the beach will be possible.

49 The direct effects on access are considered to be of moderate significance. However, it is important to note that these effects will be both temporary and localised.

[6] Effects are measured using standard assumptions (multipliers) based on a Scottish Government model of the Scottish economy (Scottish Input-Output Tables). The Type II employment multiplier is the ratio of direct plus indirect plus induced employment changes to the direct employment change.

[7] For example, 20 full-time equivalent jobs lasting 10 years is equivalent to 200 job years.

17.7.1.3 Recreational Amenity and Tourism

50 Landscape and visual effects during construction and operation are considered in **Chapter 10**. Viewpoints were selected partly on the basis of accessibility and on the number of potential viewers. When predicting the sensitivity of these views to change, consideration was given to the 'type' of viewers that may be affected (i.e. local residents, tourists, walkers etc.).

51 Viewpoints, including those of relevance to recreation and/or tourism, either as tourist attractions or potential stopping points along popular recreational walking or driving routes; are shown on **Figure 10.3**. The corresponding predicted temporary effects are highlighted in **Table 17.6** below.

View-point No	Viewpoint	Relevance of Viewpoint to Recreation and as a Visitor Attraction	Assessment of Effect
1	Thorntonloch	The viewpoint is experienced by recreational users, on the beach, on the John Muir Way, and at the caravan park. The viewpoint is also within an area of locally designated scenic quality. Thorntonloch Beach is designated as Open Space.	Major
4	Thurston Manor	The viewpoint is experienced by visitors passing to and from Thurston Manor caravan and camp site.	Moderate
6	Blackcastle Hill	The viewpoint is experienced by a small number of recreational users on this local path. There are a number of overt or intrusive man made elements already in the view.	Minor
8	Tay Burn	The viewpoint is experienced by recreational users on this Core Path and there are a number of overt or intrusive man-made elements already in the view.	Moderate
9	Bransly Hill	The viewpoint is experienced by recreational users on this local path and there are a number of overt or intrusive man-made elements already in the view.	Moderate
10	Watch Law	The viewpoint is experienced by recreational users on this Core Path and there are a number of overt or intrusive man-made elements already in the view.	Moderate

Table 17.6: Assessment of Effects on Viewpoints of Relevance to Recreation and as Visitor Attractions During Construction

52 As shown in **Table 17.6**, all but one of the viewpoints of relevance to recreational users are predicted to experience effects of moderate to major significance during construction[8]. As a result of this, there is the potential for the construction of the Onshore Works to temporarily influence individuals' choice of location to visit or recreational activities to undertake.

53 During, and immediately following, construction, visitors to Thorntonloch will be able to see the construction works and associated machinery along the cable route. The proximity of the Onshore Works to this site may influence visitors' decision to stay here during the time of construction. However, this effect will be temporary. The entire duration of the construction phase is anticipated to be between 18 and 24 months, with works undertaken in

[8] It is important to note that locations with the clearest potential view of the Onshore Works were selected. These locations therefore represent 'maximum case' views rather than typical views.

phases across the route Where possible, construction works in this area will be programmed to take place during the months the caravan park is closed (from the end of October to the beginning of March).

54 Locally, due to the duration and concentration of construction activity within the area, the effect in and around Thorntonloch is predicted to be of moderate temporary significance. However, the overall indirect effect of the Onshore Works on recreational amenity and tourism during construction is considered to be of minor significance. This judgement has been made not only due to the temporary nature of the works, but also based on the consideration that there are other areas nearby that can provide a similar service without any economic implications, during construction. This reflects findings within the Socioeconomics chapter (**Chapter 23**) of the Neart na Gaoithe Offshore Wind Farm Environmental Statement.

17.7.2 Proposed Mitigation

55 During the construction period, access to RoW LE211, the Core Paths that fall within the Application Boundary and the relevant sections of the John Muir Way, will be restricted and appropriate diversions will be put in place, following advice provided by the East Lothian Council Access Officer (see **Table 17.1**).

17.7.3 Residual Effects

56 Effects of **minor** (positive) significance are predicted in relation to employment generation.

57 With the implementation of the proposed mitigation measures, direct effects on public access are considered to be of **minor** significance. The overall indirect effect of the Onshore Works on recreational amenity and tourism during construction is considered to remain as of **minor** significance as no further mitigation is possible.

17.8 Operational Effects of the Onshore Works

17.8.1 Predicted Effects

17.8.1.1 Employment

58 It is expected that one full-time equivalent (FTE) staff member will be employed to undertake routine maintenance work once the cable is in place. To estimate the potential indirect and induced effect associated with this direct employment, Type II employment multiplier values from the Scottish Input-Output Table have been used. Average multiplier values were derived from combining SICs 57, 97 and 112 (as set out below), which gives a multiplier value of 1.64 for the study area and 2.06 for Scotland:

- 57: Structural metal products;
- 97: Supporting and auxiliary transport activities, activities of travel agencies;
- 112: Architectural and engineering activities and related technical consultancy, technical testing and analysis

59 The indirect and induced gross employment generated in the study area is estimated to be 1.64 FTEs and 2.06 FTEs respectively.

60 This is considered to be of negligible significance.

17.8.1.2 Public Access and Recreation

61 During operation of the Onshore Works, there will be no access restrictions and the area of designated open space at the beach will be as it was prior to construction. Therefore, effects on public access and recreation have been scoped out.

17.8.1.3 Recreational Amenity and Tourism

62 The relevant findings of the landscape and visual impact assessment, for viewpoints of relevance, either as visitor attractions or stopping points along popular recreational walking routes, are summarised in **Table 17.7**.

Viewpoint No	Viewpoint	Assessment of Effect
1	Thorntonloch	Negligible
4	Thurston Manor	Negligible
6	Blackcastle Hill	Negligible
8	Tay Burn	Minor
9	Bransly Hill	Minor
10	Watch Law	Minor

Table 17.7: Assessment of Effects on Viewpoints of Relevance to Recreation and as Visitor Attractions During Operation

63 Three of the viewpoints listed in **Table 17.7** show that an effect of minor significance is predicted during operation. This relates to the substation, which will be seen as an extension to the existing infrastructure in this area.

64 Recognising that the effect of changes in views relevant to recreation is negligible to minor, and that the substation is an addition to infrastructure that already exists here, it is concluded that the Onshore Works will have an overall negligible effect on recreational amenity and tourism.

17.8.2 Proposed Mitigation

65 Potential mitigation measures for visual effects are limited to the design of the Onshore Works which has been considered in such a way as to relate to the surrounding landscape and minimise the effect on landscape and visual amenity where possible. The substation will be the key component of the Onshore Works visible once operational and planting will be used to screen the substation as appropriate.

66 No other mitigation measures are considered necessary.

17.8.3 Residual Effects

67 Effects of **negligible (positive)** significance are predicted in relation to employment generation.

68 Indirect effects of the Onshore Works on recreation and tourism during operation are considered to be of **negligible** significance.

17.9 Effect of Decommissioning

69 The assessment of decommissioning is based upon the removal of the substation, the cable, transition pits and all other related components. The effect of decommissioning on socioeconomic effects is assessed below.

17.9.1 Predicted Effects

70 Potential effects during decommissioning are likely to be similar to those predicted during construction (the significance of effects is not anticipated to be any greater than at construction). Effects anticipated include:

- generation of employment during decommissioning;
- direct effects on public access and recreation during decommissioning (particularly public RoWs in and around Thorntonloch);
- effects on visual amenity during decommissioning with temporary indirect effects on recreational amenity and tourism.

71 None of these effects are predicted to be significant.

17.10 In Combination Effects between Onshore and Offshore Works

72 This section considers the potential effects on employment opportunities, public access and recreation and wider recreational amenity and tourism which would arise as a result of the construction of the Onshore Works in combination with construction of the Offshore Works.

17.10.1.1 Employment

73 The assessment of in-combination effects considers the potential for the 'Project' (the Onshore Works and Offshore Works) to generate employment opportunities during construction. The effect of employment generation is considered to be of **moderate (positive)** significance taking account of the duration of the construction period for the 'Project'.

74 The assessment of in-combination effects also considers the resilience of expected employment effects associated with the proposed development given the potential competition for resources which may arise if the onshore and offshore construction stage were to occur at different time periods and if the time periods overlapped. In theory, the latter would represent a greater level of constraint on the local study area supply chain to meet the demand for construction activity. The consultation evidence from stakeholders (local authorities and other organisations) as reported in the socioeconomics chapter found that the study area was very well prepared to meet the opportunities that offshore wind farm developments will bring; the various national and study area supply chain (business and skills) initiatives (refer to the socioeconomics offshore chapter, section 23.8 'supply chain capacity') only add to this point. Therefore, it is considered that there is sufficient capacity within the local study area to meet the demand for both onshore and offshore construction work if they were to occur at different periods or at the same time.

75 A relevant consideration is the potential for the study area to attract new investment that would be dedicated to increasing supply-side capacity. There is evidence of this, which provides confirmation that the study area has capacity to respond to opportunities presented by Neart na Gaoithe Wind Farm. The announcement[9] of new levels of dedicated study area capacity is a major factor with respect to the consideration of in-combination effects: with such investment, employment capacity effects are less likely. This is because additional capacity will have been put in place specifically to respond to the opportunities created by the expansion of onshore and offshore activity.

17.10.1.2 Public Access and Recreation

76 As noted, access routes near the intertidal area will be affected directly as a result of construction works here where the offshore and onshore cables meet. The extent of disruption will depend on which construction method is used to lay the cable at the beach. As these works are predicted to result in effects of moderate significance prior to mitigation for the Onshore Works, and these works are related to the Offshore Works and will likely be perceived as the same overall project, in combination effects on public access and recreation are predicted to be of moderate significance. However, these effects will be temporary and localised and, following implementation of mitigation measures (as detailed in section 17.7), effects will be reduced to minor significance.

77 There is potential for in combination effects on surfers from Onshore and Offshore activities. Access to part of the beach will be temporarily restricted during Onshore intertidal works (during construction). The Neart na Gaoithe Offshore Environmental Statements notes the potential for changes to the hydrodynamic regime during offshore activities, such as operation of the jack up barge and cable plough during construction, restricting access offshore for surfers. Both on and offshore activities have potential to extend the period when access to the beach, and areas offshore, is restricted. However, given the availability of alternative sites for surfing and the temporary nature of both the onshore and offshore activities, the effects are not predicted to be any greater than for either of the onshore or offshore components in isolation (i.e. of minor significance).

17.10.1.3 Recreational Amenity and Tourism

78 The effects of both the Onshore and Offshore Works on recreational amenity and tourism will be indirect and related to visual effects.

79 As reported in **Chapter 10**, there will be construction activity related to both the Onshore and Offshore Works happening at the same in the inter-tidal area (by open trenching or trenchless techniques). Due to the proximity of the Works, viewers will perceive the construction work as being part of the same overall project. These works will be seen concurrently for a short period of time from Thorntonloch Beach (Viewpoint 1) and the effects on this viewpoint are predicted to be of major significance.

80 In addition, elements of the Onshore Works will also occur at the same time as the offshore wind turbines are constructed further out at sea, approximately 25-40 km away. **Chapter 10** notes that these works will be seen at the same time from or near to Viewpoints 1-6 and Viewpoint 10, four of which are relevant to recreational amenity and tourism (see **Table 17.6**). Due to the distance between the two, they are likely to be viewed as separate activities and no significant effects are predicts for these viewpoints.

81 It is predicted that the combined effects on views will be no greater than those affecting the areas as a consequence of the Onshore Works when considered in isolation; therefore, the overall effect is considered to be minor.

17.11 Cumulative Effects Assessment

82 This section considers the potential cumulative effects on employment opportunities, public access and recreation and wider recreational amenity and tourism which would arise from construction of the Onshore Works in conjunction with the Crystal Rig III and Aikengall II wind farms (and associated substation) and the SPT NnG scheme.

83 Operational effects are not considered here as given the assessment findings for the Onshore Works in isolation, the potential for significant cumulative effects is considered to be low.

17.11.1.1 Employment

84 As the construction programmes for the other schemes are unknown at this stage, it is difficult to predict which schemes might be constructed in parallel and which sequentially. This will have implications for the number of workers required at any one time and the duration of employment. However, adopting a precautionary approach, the employment generation associated with the construction of the Onshore Works, Crystal Rig III and Aikengall II wind farms and the SPT grid connection scheme is considered to equate to a positive effect of minor significance.

17.11.1.2 Public Access and Recreation

85 Direct cumulative effects on public access and recreation are predicted to be of moderate significance prior to mitigation. However, this judgement is triggered by the assessment for the Onshore Works in isolation, which predicts that direct effects on access are considered to be of moderate significance, albeit both temporary and localised. It is not considered that the significance of this effect will be exacerbated by the addition of the other projects included in the cumulative assessment as these are geographically remote from the John Muir Way and Thorntonloch Beach.

17.11.1.3 Recreational Amenity and Tourism

86 The cumulative visual effects of the Onshore Works are considered in **Chapter 10**. For those viewpoints relevant to recreation and visitor attractions, temporary effects of moderate significance have been predicted during construction for viewpoints 8: Tayburn, 9: Bransly Hill and 10: Watch Law. No significant effects are predicted for the remaining viewpoints. Although the other projects considered in this cumulative assessment are some distance from the tourism facilities of most relevance to the Onshore Works, which tend to be concentrated near the coast, the area in and around the substation may still be utilised by recreational walkers (represented by viewpoints 8,9 and 10) and the cumulative effect on views is considered to be significant and of moderate significance. There is the potential for temporary effects on views and restrictions to access around the substation to temporarily limit walking opportunities in the areas around Crystal Rig. Effects would be temporary and localised with opportunities to walk elsewhere in the Lammermuirs. Therefore effects on recreation are considered to be of minor significance.

17.11.2 Proposed Mitigation

87 No additional mitigation measures are proposed.

[9] For example: (1) Mitsubishi Power Systems announced in December 2010 the creation of a Centre for Advanced Technology in Edinburgh, involving investment of circa £100 million and the creation of 200 jobs; (2) Samsung Heavy Industries announced in January 2012 a £100 million investment in an offshore wind manufacturing facility at Methil in in Fife, expected to create 500 new jobs. (3) Gamesa recently announced the Port of Leith, Edinburgh as the site for its new UK plant for the manufacture of wind turbines. The investment in the Port of Leith is expected to be €150 million, creating 800 jobs

17.11.3 Residual Cumulative Effects

88 The residual cumulative effects for employment and recreational amenity and tourism will remain as outlined above. Residual cumulative effects on public access and recreation will be reduced to **minor** following the agreement of appropriate temporary diversions with the East Lothian Council Access Officer.

17.12 Further Survey Requirements and Monitoring

89 No future monitoring requirements are proposed.

17.13 Summary of Effects

90 **Table 17.8** below summarises the predicted effects of the Onshore Works on socioeconomic receptors and conditions. The summary of predicted effects on viewpoints of relevance to recreation and/or tourism is presented in **Chapter 10**.

Predicted Effect	Significance	Mitigation	Significance of Residual Effect
Construction			
Employment	Minor (positive)	N/A	**Minor (positive)**
Public Access and Recreation	Moderate	The agreement of appropriate temporary diversions with the East Lothian Council Access Officer.	**Minor**
Recreational Amenity and Tourism	Minor	None	**Minor**
Operation			
Employment	Negligible positive)	None	**Negligible (positive)**
Public Access and Recreation	*Scoped out*		
Recreational Amenity and Tourism	Negligible	None	**Negligible**
Decommissioning			
Employment	Minor (positive)	None	**Minor (positive)**
Public Access and Recreation	Moderate	The agreement of appropriate temporary diversions with the East Lothian Council Access Officer	**Minor**
Recreational Amenity and Tourism	Minor	None	**Minor**
In-Combination (Construction only)			
Employment generation	Moderate (positive)	N/A	**Moderate (positive)**
Public Access and Recreation	Moderate	Diversions as for Onshore Works in isolation	**Minor**
Recreational Amenity and Tourism	Minor	None	**Minor**
Access for Surfers	Minor	None	**Minor**
Cumulative (Construction only)			
Employment	Minor (positive)	N/A	**Minor (positive)**
Public Access and Recreation	Moderate	Diversions as for Onshore Works in isolation	**Minor**
Recreational Amenity and Tourism	Minor	None	**Minor**

Table 17.8: Summary of Predicted Effects

17.14 References

[i] HM Treasury (2003) The Green Book: Appraisal and Evaluation in Central Government. Available at : http://www.hm-treasury.gov.uk/data_greenbook_index.htm

[ii] Scottish Government (2010) *Input-Output Tables.* Available at: http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output/Downloads

[iii] Scottish Natural Heritage, *Scottish Outdoor Access* Code. http://www.outdooraccess-scotland.com/outdoors-responsibly/access-code-and-advice/soac/

[iv] Scottish Executive (2005) *Planning Advice Note 73: Rural Diversification.* Available at: http://www.scotland.gov.uk/Publications/2005/02/20638/51727

[v] City of Edinburgh Council et al (2004) *Edinburgh and Lothians Structure Plan 2015.* Available at: http://www.elsp.gov.uk/CurrentStructurePlan.htm

[vi] East Lothian Council (ELC) (2008) *East Lothian Local Plan 2008*. Available at: http://www.eastlothian.gov.uk/info/178/development_planning/305/the_adopted_east_lothian_local_plan_2008

[vii] East Lothian Community Planning Partnership (2011) *Our Plan for the Future for East Lothian: Single Outcome Agreement 2011*. Available at: http://www.eastlothiancommunityplanning.org.uk/newseventitem.aspx?itemid=331&type=N

[viii] ELC (2010a) *East Lothian Tourism Strategy 2010-2013.* Available at: http://www.eastlothian.gov.uk/info/200193/tourism_and_hospitality/1353/tourism_and_hospitality_businesses/5

[ix] ELC (2012) *East Lothian Visitor Survey 2011*

[x] ELC (2010b) *The East Lothian Core Paths Plan.* Available at: http://www.eastlothian.gov.uk/a_to_z/service/268/core_paths_plan

xi Neart na Gaoithe Offshore Windfarm Environmental Statement (July, 2012)

xii General Register Office for Scotland (2010) Mid-2010 Population Estimates Scotland: Population *estimated by sex, age and administrative area.* Available at: http://www.gro-scotland.gov.uk/files2/stats/population-estimates/mid-2010/mid-year-pop-est-2010.pdf

[xiii] Source: http://www.gro-scotland.gov.uk/files2/stats/council-area-data-sheets/east-lothian-factsheet.pdf

[xiv] Scottish Government (2009) *Scottish Index of Multiple Deprivation.* Available at: http://www.scotland.gov.uk/Topics/Statistics/SIMD

[xv] Scottish Government (2009) *Local Area Labour Markets in Scotland*. Available at: http://www.scotland.gov.uk/Resource/Doc/933/0108124.pdf

[xvi] Labour Market Statistics (2010) *Business Register Employment Survey (BRES)*. Available at *http://www.scotland.gov.uk/Topics/Statistics/Browse/Labour-Market/DatasetsEmployment*

[xvii] East Lothian Council, *East Lothian Tourism Strategy 2010-2013. http://www.eastlothian.gov.uk/info/200193/tourism_and_hospitality/1353/tourism_and_hospitality_businesses/4*

[xviii] Thurston Manor Leisure Park Website: http://www.thurstonmanor.co.uk/index.asp

[xix] Thorntonloch Caravan Park Website: http://thorntonlochcaravanpark.vpweb.co.uk/

[xx] Walking Scotland website: http://walking.visitscotland.com/walks/centralscotland/john_muir

[xxi] Heritage Paths Website: http://heritagepaths.co.uk/

[xxii] Sustrans Website: http://www.sustrans.org.uk