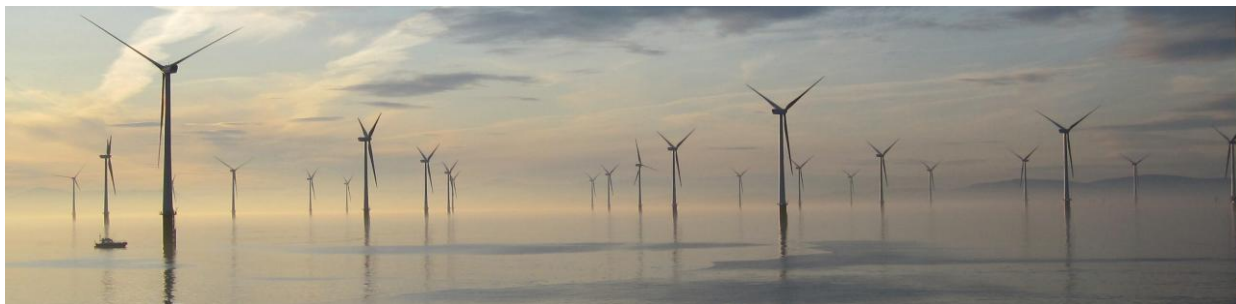




Rampion Offshore Wind Farm



ES Section 17 – Offshore Socio-economics

RSK Environmental Ltd

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E.ON Climate & Renewables UK Rampion Offshore Wind Limited

CONTENTS

17	SOCIO-ECONOMICS.....	17-1
17.1	Introduction	17-1
17.2	Legislation and Policy Context	17-2
17.3	Assessment Methodology.....	17-4
17.4	Environmental Baseline	17-8
17.5	Potential Impacts	17-22
17.6	Mitigation Measures.....	17-31
17.7	Residual Impacts	17-33
17.8	Cumulative Impacts	17-35
17.9	References	17-40

Tables

Table 17.1:	Relevant scoping responses	17-5
Table 17.2:	Sensitivity/Importance of the Receptor	17-6
Table 17.3:	Magnitude of Impact.....	17-7
Table 17.4:	Significance of Effect	17-8
Table 17.5:	Total population in West Sussex, East Sussex and Brighton and Hove, 2010 Estimate	17-8
Table 17.6:	Total population by local authority area in the study area, 2010 Estimate	17-9
Table 17.7:	Employment Rates in East Sussex, West Sussex and Brighton and Hove, Oct 2010 – Sept 2011	17-12
Table 17.8:	Employment and unemployment by local authorities, April 2010 – March 2011	17-12
Table 17.9:	Proportion of employee jobs by sector in East Sussex, West Sussex and Brighton and Hove, compared to averages for Great Britain, 2008.....	17-14
Table 17.10:	Indices of Multiple Deprivation, local authority ranks, 2010	17-16
Table 17.11:	Employee jobs in tourism, 2009.....	17-18
Table 17.12:	Wind farm design features and their influence on the Rochdale envelope for Socio-Economics.....	17-22
Table 17.13:	Summary of Residual Effects and Mitigation Measures.....	17-36

Figures

Figure 17.1:	Planning authorities in the vicinity of the offshore wind farm	17-2
Figure 17.2:	Population Change 2007–2010.....	17-9
Figure 17.3:	Working age employment and unemployment rates (16-64), January 2011–December 2011.....	17-13

17 SOCIO-ECONOMICS

17.1 Introduction

17.1.1 This section of the Environmental Statement (ES) considers the implications of the intertidal (landfall) and subtidal (offshore) elements of the proposed Rampion Offshore Wind Farm (the Project) on socio-economics. The implications of the onshore elements of the proposed development for the local and wider economy, tourism and recreation are addressed in Section 28 – onshore socio-economics.

17.1.2 The assessment has been made using data gathered from desk-based assessment and consultations. The following key relevant social and economic topics have been considered for the socio-economic baseline data evaluation:

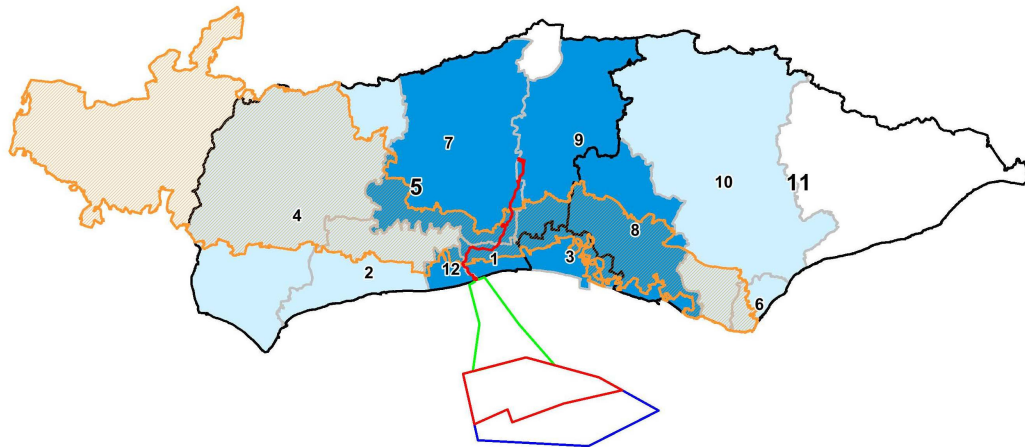
- Population and settlement;
- Employment and income;
- Economy and business base;
- Infrastructure and connectivity;
- Deprivation; and
- Tourism and marine recreation.

Area of Influence and Surrounding Communities

17.1.3 The Project site is located 13-23km off the Sussex Coast. The area of influence for socio-economic assessment (relating to the intertidal and subtidal aspects of the Project) covers the ceremonial counties of West Sussex and East Sussex. The relevant districts (local or unitary authorities) within these counties are Brighton and Hove¹, Lewes, Adur, Worthing, Eastbourne, Wealden, Arun and Chichester (Figure 17.1). The South Downs National Park is also considered within the area of influence.

17.1.4 The Offshore Project will affect fisheries and navigation interests in the area of the wind farm as well as stakeholders who use the marine environment for other commercial and recreational reasons. Some impacts are temporary in nature arising from the construction of the Project, while some impacts may be ongoing during the operational phase of the Project. The potential impacts on these other interests are discussed in sections 14 -Navigation and Shipping, 18 -Commercial Fisheries and 19 -Other Marine Users.

¹ Brighton and Hove became a self-administered Unitary authority, gaining city status in 2000, whilst remaining a part of the ceremonial county of East Sussex. For the purposes of this report, it is considered separate from East Sussex.



	Relevant Local Authorities
1	Adur District Council
2	Arun District Council
3	Brighton and Hove City Council (Unitary)
4	Chichester District Council
5	West Sussex County Council
6	Eastbourne Borough Council
7	Horsham District Council
8	Lewes District Council
9	Mid Sussex District Council
10	Wealden District Council
11	East Sussex County Council
12	Worthing Borough Council
	South Downs National Park Authority

Figure 17.1: Planning authorities in the vicinity of the offshore wind farm

17.2 Legislation and Policy Context

17.2.1 As outlined in Section 4 Planning Policy Context, national planning policy is provided by a range of National Policy Statements (NPSs) and the National Planning Policy Framework (NPPF). The following NPSs and NPPF sections have been considered when assessing the socio-economic impact of the proposed offshore works:

- Overarching NPS for Energy (EN-1);
- NPS for Renewable Energy Infrastructure (EN-3);
- NPPF - 1 Building a strong, competitive economy;

- NPPF - 7 Requiring good design; and
- NPPF - 4 Promoting healthy communities.

17.2.2 The National Policy Statement EN-1 (section 5.12) states that *“the assessment should consider all relevant socio-economic impacts, which may include:*

- *The creation of jobs and training opportunities;*
- *The provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;*
- *Effects on tourism;*
- *The impact of a changing influx of workers (in terms of numbers and skills) during the different construction, operation and decommissioning phases of the energy infrastructure. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development; and*
- *Cumulative effects – if development consent were to be granted to for a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region”.*

17.2.3 Paragraph 5.12.4 of EN-1 states that *“Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development’s socio-economic impacts correlate with local planning policies.”*

17.2.4 Paragraph 5.12.5 states that *“socio-economic impacts may be linked to other impacts, for example the visual impact of a development is considered in Section 5.9 but may also have an impact on tourism and local businesses.”*

17.2.5 Section 28 -Onshore Socio-Economics of this ES considers the legislative context onshore. All the legislation listed in Section 28 also applies to offshore socio-economic assessment.

17.2.6 In addition to the NPSs and NPPF, part 9 of the Marine and Coastal Access Act 2009 has also been considered for this section. Part 9 of the Act concerns managed public access routes to the coast.

17.3 Assessment Methodology

Establishment of Baseline Environment

17.3.1 The socio-economic information from various desk based sources was reviewed, including:

- Relevant Local Plans and Local Development Documents;
- Local Council website resources;
- East Sussex, West Sussex and Brighton and Hove City Council's Local Economic Assessments (LEA's), 2011;
- Department for Communities and Local Government (CLG), The English Indices of Deprivation (2010);
- Office for National Statistics (ONS) NOMIS database (<http://www.nomisweb.co.uk/>);
- Office for National Statistics (ONS), Neighbourhood Statistics website for census and population data (<http://www.neighbourhood.statistics.gov.uk>);
- Office for National Statistics (ONS), Business Demography 2010;
- Office for National Statistics (ONS), Regional Trends;
- East Sussex County Council, East Sussex in Figures website: (<http://www.eastsussexinfigures.org.uk/webview/welcome.html>);
- South East Employability and Economic Context, South East England Development Agency (SEEDA);
- Department for Transport (DfT), Maritime Statistics 2011;
- Visit England, Visitor Surveys; and
- Tourism South East, Visitor surveys.

17.3.2 The most up to date information available have been used in the socio-economic baseline, mostly relating to the year 2010/2011.

Scoping and Consultation

17.3.3 Initial consultation on the Project was carried out via the Rampion Offshore Wind Farm Scoping Report (E.ON/RSK, September 2010). Responses received are presented in the Infrastructure Planning Commission (IPC) Scoping Opinion report (IPC, October 2010). The issues raised during the scoping process with

regard to socio-economic issues are summarised in Table 17.1. This table also lists the location where these issues have been addressed (mostly they are dealt with in the onshore socio-economics chapter).

Table 17.1: Relevant scoping responses

Date	Consultee	Summary scoping response	Sections where addressed
12/10/2010	Brighton and Hove City Council	The regeneration of Shoreham Harbour should be considered in the assessment. The main aims of this regeneration are to address socio-economic deprivation, provide zero-carbon emission options/scenarios, mixed use developments including several thousand new homes, jobs, leisure and retailing facilities.	Section 28.4.17
29/09/2010	SEEDA ²	Socio-economic assessment should include: • Number of direct jobs to be created permanent and temporary • Number of indirect jobs (permanent or temporary) • Opportunities for local business • Analysis of local skills and assessment of training needs • Economic impact on local economy – possible increase in Gross Value Added (GVA) – this impact could be significant on economically depressed areas such as Newhaven.	28.5.5
20/09/2010	Health Protection Agency (HPA)	Provided a generic document describing HPA position in relation to applications for onshore and offshore wind farms. This states that promoters should ensure they consult other health bodies including: Strategic Health Authorities, Primary Care Trusts and Health Boards (in Wales). The HPA would expect best practise guidelines to be adhered to during construction and decommissioning to limit any potential health issues. This report (ES) should include a risk assessment showing consideration has been given to mitigation measures for acute risks. In relation to possible long term health effects and precaution the report should include a summary of compliance with HPA and government policy.	This will be dealt with at a later stage in the development design process. The Rampion Offshore Wind Farm will be designed under the Construction Design and Management (CDM) Regulations which aim to reduce safety risks in project design.

17.3.4 The scope of the assessment was modified accordingly to take account of the above consultee responses and the opinions of the IPC, the findings of which were reported in the Draft ES and subject to stakeholder consultation.

² Note that as of 31st March 2012, Regional Development Agencies, including SEEDA, were replaced by Local Enterprise Partnerships (LEPs). As such, SEEDA is no longer in existence

Formal Pre-application Consultation

- 17.3.5 As detailed in Section 5 – EIA Methodology, an extensive programme of engagement has been undertaken with regard to the Project, details of which are provided in the Consultation Report for the Project (Document 5.1). This included publication of the Draft ES as part of the Section 42 and Section 48 consultation in June 2012.
- 17.3.6 Key consultees provided responses to the draft ES regarding socio-economic issues. Responses related to the following main issues, which have now been addressed in this Section:
- Modelled reductions in the wave heights which could affect the surfing industry in the area, and other effects on marine recreation which could arise as a result of operation of the wind farm. Revised modelling indicates that reduction in wave heights will not be significant in terms of surfing.
 - Noise impacts to divers during the construction phase. Section 19 – Other Marine Users covers this issue, including proposed mitigation measures.
 - Disruption to beach use during the construction of the landfall. Section 19 – Other Marine Users discusses this issue and refers to E.ON's commitment to liaise with the Adur and Worthing to reduce impacts as far as possible.
 - Opportunities to maximise local employment. E.ON's commitments are now outlined within this Section.

Identification and Assessment of Impacts and Mitigation Measures

- 17.3.7 An assessment has been made of the significance of environmental effects, taking into account the importance/sensitivity of the receptor, the magnitude of impact, the duration/persistence of the impact and the likelihood of the impact occurring. Impacts were identified and assessed based on expert judgment. Examples of criteria that have been used to make judgments on the importance/sensitivity of the receptor(s) and magnitude of impact are presented in Table 17.2 and Table 17.3 below. The categories used when classifying overall significance are indicated in Table 17.4. Section 12 – Seascape, Landscape and Visual Impact Assessment deals with the sensitivity, magnitude and significance of impacts relating to views of the wind farm from various coastal locations, whilst this section deals with the socio-economic implications.

Table 17.2: Sensitivity/Importance of the Receptor

Receptor Sensitivity/Importance	Description
High	National economy Assisted areas Tourist attractions of regional or national importance (i.e.

Receptor Sensitivity/Importance	Description
	recreational boating) Communities/ Settlements which are particularly important due to their support of an activity which has a very limited range or those where activities are restricted to an extremely short period.
Medium	Tourist attractions of local importance Local economy Communities/ Settlements which form part of a much wider area that is used for a similar activity, or where the season is not temporally restricted.
Low	Communities/ Settlements which are not used for commercial or recreational activities.

Table 17.3: Magnitude of Impact

Magnitude	Definitions
Large	Substantial, permanent impacts on the national or regional economy, including tourism and recreation Substantial, permanent social or cultural impacts at national or regional level
Medium	Moderate temporary or permanent impacts on the national or regional economy, including tourism and recreation Substantial, permanent impacts on the local economy Substantial, permanent local social or cultural impacts
Small	Minor temporary or permanent impacts on the national or regional economy, including tourism and recreation Moderate temporary or permanent impacts on the local economy Moderate temporary or permanent local social or cultural impacts
Negligible	Negligible or undetectable impacts on the national or regional economy Negligible or undetectable social or cultural impacts at national or regional level Minor temporary or permanent impacts on the local economy Minor temporary or permanent local social or cultural impacts

Note: All impacts can be adverse or beneficial

Significance of Residual Effects

- 17.3.8 The overall significance of impacts is determined by combining sensitivity of the receptor (Table 17.2) and the magnitude of the impact (Table 17.3), as presented in Table 17.4.

Table 17.4: Significance of Effect

	Sensitivity/Importance		
Magnitude	High	Medium	Low
Large	Major	Major/ Moderate	Moderate
Medium	Major/Moderate	Moderate	Minor
Small	Moderate	Minor	Minor
Negligible	Minor	Negligible	Negligible

- 17.3.9 An assessment has also been made of the significance of residual effects, i.e. those remaining after mitigation.

Uncertainty and Technical Difficulties Encountered

- 17.3.10 There is a wide range of data used in this assessment, some of which may predate any recent change in the study area. Therefore it should be assumed that this section provides a representative view of the baseline socio-economic environment, however, there may be external factors which cannot be quantified at present and which may also impact the baseline environment, such as the wider economic climate.

17.4 Environmental Baseline

Population and Settlements

- 17.4.1 Table 17.5 presents a breakdown of the population in West and East Sussex Counties, and Brighton and Hove City Council by local authority area, in 2010.³

Table 17.5: Total population in West Sussex, East Sussex and Brighton and Hove, 2010 Estimate

	Population	Males	Females
West Sussex	799,700	387,700	412,000
East Sussex	515,500	247,000	268,500
Brighton and Hove	258,800	127,800	131,000

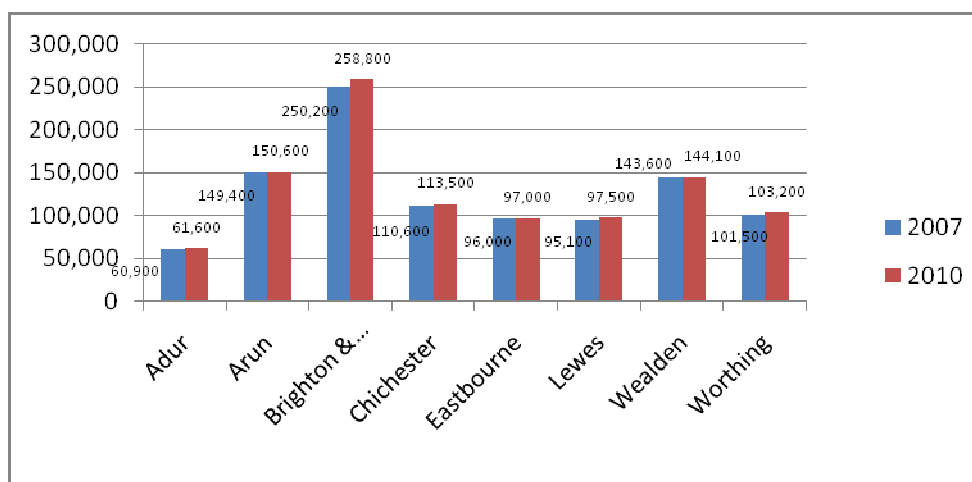
- 17.4.2 Table 17.6 shows population by local authority area in the study area.

³ Mid-year population estimates, ONS via NOMIS

Table 17.6: Total population by local authority area in the study area, 2010 Estimate

	Population	Males	Females
Adur	61,600	29,700	31,900
Arun	150,600	72,000	78,500
Brighton and Hove	258,800	127,800	131,000
Chichester	113,500	54,100	59,400
Eastbourne	97,000	46,000	51,000
Lewes	97,500	46,900	50,600
Wealden	144,100	69,300	74,800
Worthing	103,200	49,800	53,300

17.4.3 Figure 17.2 shows population change over the period of 2007-2010. The population of all the considered communities/settlements have increased since 2007, with Brighton and Hove showing the highest increase in population over this period. At 1.9% the population increase in the area was lower than population increase in both the wider South East region (2.7%) and England (2.2%). Brighton and Hove (3.4%) was the only local authority area where population increased above regional averages.

**Figure 17.2: Population Change 2007–2010**

West Sussex

17.4.4 West Sussex has a population of 799,700 with a higher number of females than males (Table 17.6). The population in the county increased by 37,900 between 2001 and 2009. The 2007-2009 data show that West Sussex has a high proportion of elderly population. The trend however indicates a decrease of retired population from 26.6% in 2007 to 22.2% in 2009.

East Sussex

- 17.4.5 East Sussex has a population of 515,500 with higher number of females than males as reported in 2010. The population in the County has increased by 19,000 people between 2001 and 2009. The 2007-2009 data show that East Sussex has a high percentage of elderly population, with one in four residents being over pensionable age, with an increase between 2007 (26.3%) and 2009 (27.1%).

Brighton and Hove

- 17.4.6 Brighton and Hove has the highest population among the local authorities in the study area (Figure 17.2). Out of a total of 258,800, there are more females than males as reported in 2010. The population in the City has increased by 8,900 people between 2001 and 2009. The 2007-2009 data show that Brighton and Hove has a small percentage of retired population (7.4%).

Adur

- 17.4.7 Adur has a population of 61,600. The population in the district has increased by 1,600 people between 2001 and 2009. The population of Adur is mostly centered on the coastal towns of Lancing, Shoreham-by-Sea and Southwick. The northern area of the district is more sparsely populated, falling within the South Downs National Park.

Arun

- 17.4.8 Arun has a population of 150,600. The population in the County has increased by 4,900 people between 2001 and 2009. The population of Arun is mostly centered on the coastal towns of Littlehampton and Bognor Regis, and the inland town of Arundel. The northern area of the district is more sparsely populated, falling within the South Downs National Park.

Chichester

- 17.4.9 Chichester District has a population of 113,500, with the main settlement being the City of Chichester. The remainder of the district is predominantly rural, interspersed with market towns and includes 9 miles of coastline.

Eastbourne

- 17.4.10 Eastbourne is a seaside town sitting at the foot of the South Downs in East Sussex with a population of 90,000. The mid year population estimates show an increase in population size (1,000 persons) in the period 2007-2010. Eastbourne has grown the fastest in comparison to Wealden, Brighton and Hove and Lewes.

Worthing

- 17.4.11 In 2009, the mid year population estimate for the local authority area of Worthing was 102,400 persons. The town of Worthing (largest seaside town in West Sussex) largely dominates Worthing Borough, making the borough principally urban in character. Outside of the urban area, parts of the borough fall within the South Downs National Park. The Worthing Submission Core Strategy (Worthing Borough Council, 2010) states that the settlement pattern of the borough is influenced by its 7.5km of shoreline and two areas of river flood zones; Ferring Rife and Teville Stream.

Wealden

- 17.4.12 Wealden is a large rural district which includes a high number of settlements and communities. The District's economy is heavily dependent on the service sector.
- 17.4.13 Tourism is very important to the Wealden economy. Some 5.4m visitors per annum bring in an annual income of £260 million of income to the District, support over 4,700 jobs and provide the lifeblood for many small businesses (Wealden District Council, 2011).

Age profile

- 17.4.14 In 2010, 21.3% of the population of the study area was aged over 65, compared to an average of 16.5% for England. This higher proportion of elderly people either suggests that the area acts as a destination for inward migration of retirees or there is a significant outward migration of the study area's younger population.
- 17.4.15 The number of young people (aged 0-15) residing in the study area has remained relatively static since 2000. Population growth can be attributed to those of working age and the elderly, which suggests the study area does not have sufficient levels of labour force supply from its younger population and that its workforce growth has been due to inward migration.
- 17.4.16 Of the local authorities in 2010, only Brighton and Hove (70.0%) had a working age population (aged 16-64) proportionately higher than the average for England (64.8%)⁴.
- 17.4.17 This workforce supply/demand issue may explain higher employment rates and lower levels of unemployment in the study area, detailed below.

⁴ Mid-year population estimates, ONS via NOMIS, accessed 2012.

Employment and Income

17.4.18 Levels of employment (Table 17.7) in the study area are higher than the average for England; 72.0% of people aged 16-64 were in employment between October 2010 and September 2011, compared to 70.1% nationally. Similarly, unemployment in the study area (5.8%) was significantly lower than the national average (8.0%) between the dates.

17.4.19 In line with national averages there was a higher rate of employment for males aged 16-64 years than for females aged 16-59 years in the study area. West Sussex had a higher proportion of females in employment than in the remaining study area. At 73.3% between the dates, this was also higher than the average for England (64.8%)⁵.

Table 17.7: Employment Rates in East Sussex, West Sussex and Brighton and Hove, Oct 2010 – Sept 2011

	Employment rate – working age	Employment rate – males (16-64 years)	Employment rate – females (16-59 years)
West Sussex	78.2	82.8	73.3
East Sussex	70.5	75	59.6
Brighton and Hove	68.3	70.2	66.2

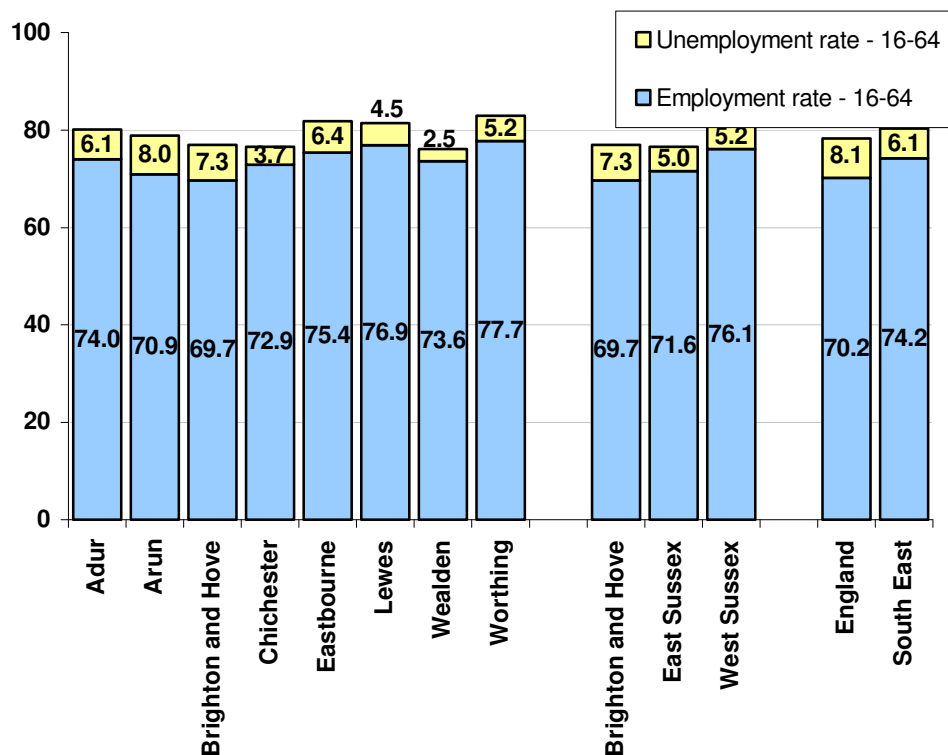
17.4.20 Table 17.8 shows the number of economically active individuals, in the relevant local authority areas, for the year 2010-2011.

17.4.21 Brighton and Hove (137,900) has the highest economically active population, followed by Arun. Employment rates vary in the local authorities in the study area, with the highest percentage of people in employment (81.6%) reported for Eastbourne during April 2010-March 2011 (Table 17.8).

Table 17.8: Employment and unemployment by local authorities, April 2010 – March 2011

	Economically Active	In employment	Employees	Self employed	Unemployed
Adur	30,000	28,600	26,200	n/a	2,100
Arun	72,000	65,500	54,400	10,600	4,700
Brighton and Hove	137,900	128,100	106,900	20,500	10,600
Chichester	57,200	56,900	45,600	11,300	2,500
Eastbourne	49,300	46,700	37,200	8,900	3,400
Lewes	46,300	44,400	35,700	8,700	2,600
Wealden	65,600	63,200	47,300	15,700	2,900
Worthing	51,500	49,100	41,800	6,900	3,400

⁵ Annual Population Survey, ONS via NOMIS, accessed 2012



Source: Annual Population Survey, ONS via NOMIS, accessed 2012

Figure 17.3: Working age employment and unemployment rates (16-64), January 2011-December 2011

Employment by Sector

- 17.4.22 Data from 2008 indicate that the largest employment sectors in the study area were Public administration, education and health (175,000 jobs), Distribution hotels and restaurants (157,900) and Finance, IT and business services (126,100) (Table 17.9).
- 17.4.23 Comparisons between the employment profile of the study area and that of Great Britain indicates that in 2008, there was a higher proportion of employee jobs in Distribution, hotels and restaurants and Public administration, education and health. Conversely, there was a lower proportion of jobs in the Manufacturing and Finance, IT and other business activities sectors (Table 17.9).

Table 17.9 Proportion of employee jobs by sector in East Sussex, West Sussex and Brighton and Hove, compared to averages for Great Britain, 2008

					Employment Profile, Proportion of employee jobs	
	East Sussex	West Sussex	Brighton and Hove	Combined study area	Combined study area	Great Britain
Manufacturing	14,200	32,300	3,400	49,900	8.12	10.20
Construction	9,600	13,000	3,200	25,800	4.20	4.80
Distribution, hotels and restaurants	45,700	83,600	28,600	157,900	25.71	23.40
Transport and communications	5,200	31,600	5,600	42,400	6.90	5.80
Finance, IT and other business activities	24,200	70,000	31,900	126,100	20.53	22.00
Public admin, education and health	56,800	82,300	36,100	175,200	28.52	27.00
Other services	11,000	17,200	8,700	36,900	6.01	5.30

Source: Annual Business Inquiry 2008, ONS, employee analysis

Income

17.4.24 Average annual earnings within the study area were slightly lower in 2011 than the average earnings for England. At £25,786, average annual earnings in West Sussex were £1,861 higher than in East Sussex (£23,925). There is significant disparity between the local authority areas within the counties. For example, the local authority area with the highest average annual salary (Lewes, £25,173) was £4,791 greater than the local authority with the lowest (Arun, £20,382), which suggests there are significant pockets of higher and lower affluence within the study area (ONS, 2012).

Economy and Business Base

17.4.25 Gross Value Added (GVA) is an internationally recognised way of assessing the contribution of a business, industry or region to a wider economy, by taking a sum of its outputs less the sum of its intermediate purchases.

17.4.26 In 2009, East Sussex, West Sussex and Brighton and Hove had a combined headline GVA of £27.5bn, contributing 15.3% towards the regional and 2.9% towards England's output. Headline GVA in West Sussex (£15.3bn) was more than double that of both East Sussex (£6.9bn) and Brighton and Hove (£5.3bn) in 2009.

17.4.27 This is indicative of a larger workforce in West Sussex, rather than workforce productivity. For example, GVA per head in Brighton and Hove (£20,611) was slightly higher than the average for England (£20,498) and notably higher than the remaining areas of study; East Sussex, £13,521 and West Sussex, £19,241(ONS, 2010).

- 17.4.28 At 66% of the national average, levels of productivity in East Sussex are particularly low, which is a reflection of a higher proportion of its workforce employed in low value-added sectors.

Business Stock

- 17.4.29 In 2010, there were 67,765 businesses operating within the study area, which was 18.3% of businesses operating in the South East Region and 3.4% of business in England. There were 6,615 business start-ups in the study area in 2010 and 8,555 business closures, giving a net reduction of 1,940(ONS, 2011).

Infrastructure and connectivity

- 17.4.30 The study area is geographically close to national economic hubs such as London, and has good access to mainland Europe through the ports of Newhaven, Dover and Portsmouth as well as via Ashford International Station and Gatwick Airport. Increased car use throughout the study area has increased congestion and there exists a need for traffic upgrade schemes to improve the condition and capacity of road links. A number of schemes have been identified which seek to ease congestion problems in the study area and long-term Local Transport Plans (2011-2026) have been produced⁶.
- 17.4.31 The quality and standard of rail services in East Sussex suffers both in terms of east-west movement along the coastal corridor and also in terms of connectivity to London (East Sussex Council, 2011). Some improvements in rail have been delivered, for example the Gatwick Express rail service has been extended to Brighton during peak hours⁷, but the network requires further upgrades.
- 17.4.32 The largest ports within the study area are Shoreham and Newhaven, with smaller ports dotted along the coastline servicing local fishing communities. Either side of the study area are the larger trading ports of Dover and Portsmouth.
- 17.4.33 The port of Shoreham handled 2,801,000 tonnes of cargo in 2011, which was a 10 year increase of 16.5%. The port predominantly handles domestic dry bulk goods. The smaller port of Newhaven handled 754,000 tonnes in 2011, although it also maintains a regular daily passenger ferry service to and from Dieppe. In recent years, Newhaven has experienced a significant fall in cargo throughput, handling 36.9% less in 2011 than it did in 2008 (a peak year) (Department for Transport, 2011).

⁶ See Local Transport Plans (2011-2026) for East Sussex County Council, West Sussex County Council and Brighton and Hove City Council.

⁷ Brighton and Hove Economic Strategy, 2008-2016, Brighton and Hove City Council

17.4.34 Based on the analysis of the maritime traffic survey data gathered for the site (see Section 14 – Shipping and Navigation), vessels headed to/from the ports of Shoreham and Newhaven traverse the wind farm site. The vast majority of cargo vessels in the Offshore Project area exit the westbound lane of the Dover Strait Traffic Separation Scheme (TSS), and pass to the south of the proposed wind farm site. Of the vessels passing through the proposed wind farm site, around half do so in a north/south direction, heading to/from the port of Shoreham and about a third of vessels passing through the proposed wind farm site, do so in an east/west direction to/from Newhaven.

Housing

17.4.35 There are 476,140 dwellings within the study area, of which 88.0% are privately owned⁸. There is a higher proportion of social housing (local authority or social landlord) in Brighton and Hove, Eastbourne and Adur compared to the remainder of the study area.

17.4.36 14,050 new builds were constructed within the study area between 2006 and 2011, but fewer dwellings have been constructed since the peak year of 2008/09; this mirrors the national trend.

17.4.37 Average weekly rental values in 2011 were significantly higher in West Sussex (£92.28) than in East Sussex (£82.57) and Brighton and Hove (£80.11). Average rental values in all local authority areas in the study area were higher than the average for England (£78.28).

Deprivation

17.4.38 Indices of deprivation (Department for Communities and Local Government, 2011) are used in England to measure relative deprivation, i.e. how deprived one area is compared with another. The index compares performance across a range of socio-economic indicators (covering income, employment, health, education, housing barriers, crime and living environment). It then ranks each of these and sums the results to allow for comparisons between the 326 local authority areas in England. Essentially, the higher the ranking, the lower the relative deprivation rating, information relating to this is shown in Table 17.10.

Table 17.10: Indices of Multiple Deprivation, local authority ranks, 2010

Local Authority Area	Rank, 2010	Relative Performance
Wealden	250	Ranked amongst the 25% of local authority areas with the <u>lowest</u> levels of deprivation in England
Chichester	213	Ranked amongst the 50% of local authority areas with the <u>lowest</u> levels of deprivation in England
Lewes	179	
Worthing	162	Ranked amongst the 50% of local authority areas with

⁸ Housing Statistics, Department for Communities and Local Government

Arun	151	the <u>highest</u> levels of deprivation in England
Adur	135	
Eastbourne	68	Ranked amongst the 25% of local authority areas with the <u>highest</u> levels of deprivation in England
Brighton and Hove	67	
Notes: 1= Most deprived and 326=Least deprived		

17.4.39 In 2010, three local authority areas in the study area (Wealden, Chichester and Lewes) were among the 50% least deprived in England. Of these, Wealden ranked among the top 25% least deprived of local authority areas.

17.4.40 The remaining five local authority areas of interest ranked amongst the 50% most deprived in England. In keeping with the national trend, the predominantly urban areas rank lowest on the scale, with Brighton and Hove and Eastbourne sitting amongst the 25% most deprived local authority areas in England.

17.4.41 At county level, West Sussex outperformed East Sussex on this index. Indeed, East Sussex experiences the highest levels of deprivation of all counties in the South East. This is largely due to the low performance of its coastal towns. However, it should be noted that the South East region is amongst the least deprived of English regions.

Tourism and Marine Recreation

Total Tourism Volume and Value in the Project Area

17.4.42 The coastal visitor economy is markedly more seasonal than the rural visitor economy, although all recreation and tourism data show peak numbers in the summer months and during school holidays, and a pronounced low season in January and February.

Day visits

17.4.43 There were an estimated 40.6 million day visits (lasting >3hrs) to Brighton and Hove, East Sussex and West Sussex in 2011, with an estimated spend of £1.5bn in 2011⁹. Day visitors to the area come overwhelmingly from London and the South East, many from within Sussex itself.

Overnight stays

17.4.44 Staying visitors are made up mainly of domestic visitors from London and the South East, Essex, Dorset and Wiltshire. On average, there were an estimated 3.7 million domestic trips to the combined counties of Brighton and Hove, East Sussex and West Sussex each year between 2009 and 2011; with 12.1 million overnight stays. The annual value of these trips was £596 million per year¹⁰.

⁹ 2011 Great British Day Visits Survey, Visit Great Britain

¹⁰ Great Britain Tourism Survey 2011, Visit England

17.4.45 Overseas visitors are mainly from near European countries – France, Belgium, Netherlands and Germany – with a small percentage from long haul destinations. There were an estimated 1.1 million overseas visitors in 2011; with 7.1 million overnight stays. The annual value of these trips was £405 million per year¹¹.

17.4.46 There were 1,450 serviced hotels in Brighton and Hove, East Sussex and West Sussex in 2010, with a further 1,074 non-serviced accommodation (holiday lets and campsites) in the counties. Brighton and Hove (211) and Chichester (207) had the greatest number of hotels¹². The presence of large holiday parks on the coast (Butlins at Bognor Regis, Arun, for example, or the static van parks on the Chichester coast at Selsey) have a significant effect on the data trends, as these tend to draw large numbers of domestic visitors to single locations.

Total spend

17.4.47 Therefore it is estimated that broadly in the region of £2.5 billion is spent on leisure and tourist activities in the study area, through domestic and overseas day trips and overnight stays.

Tourism Jobs in the Study Area

17.4.48 The number of jobs generated by tourism in the relevant local authorities is estimated to be 47,900, see Table 17.11 for a breakdown. There is a fairly even split between full and part-time employment in tourism jobs, which is a similar profile seen regionally and nationally. The total figure hides seasonality and mixed job use in the workforce.

17.4.49 Tourism jobs accounted for 12.7% of all jobs in the relevant local authority areas in 2009, which is higher than the average for the wider South East region and for England; although a higher concentration of tourism jobs in coastal towns is unsurprising.

Table 17.11: Employee jobs in tourism, 2009

	Employees	Full-time employees	Part-time employees	Proportion of tourism Jobs compared to total employee jobs
Adur	1,300	600	800	7.3%
Arun	6,100	3,700	2,400	16.1%
Brighton and Hove	17,300	9,700	7,600	15.1%
Chichester	6,700	3,400	3,200	12.7%
Eastbourne	4,200	2,300	1,900	11.1%
Lewes	3,000	1,600	1,400	9.7%
Wealden	6,100	2,600	3,500	14.2%
Worthing	3,200	1,500	1,700	7.4%
Local	47,900	25,400	22,500	12.7%

¹¹ International Passenger Survey 2011, ONS

¹² Census 2010

Authority totals*				
South East	373,800	199,000	174,800	10.2%
England	2,343,400	1,213,100	1,130,300	10.3%
*All figures are rounded to the nearest 100, so total may not sum				

Source: ONS Tourism Information Unit (TIU) (2011) Business Register and Employment Survey

The South Downs

- 17.4.50 The South Downs are a major attraction for visitors in the area, particularly since their designation as a national park. The South Downs National Park attracts approximately 39 million recreational day visits or trips per year.
- 17.4.51 Visitors to the Downs are overwhelmingly day visitors with only an estimated 3.5% of the total trips being made by visitors staying in the Downs. Of the day trips a large number were recorded as being made by local residents. Visitor spend per annum was estimated in 2003 to be in the region of £331m¹³. Visitors came from London and the South East primarily.
- 17.4.52 Walking was the most common activity undertaken by 25 – 30% of all visitor types, but amongst staying visitors the most popular reason to visit was to see a specific attraction (40%).
- 17.4.53 The things most enjoyed about the Downs by visitors were the scenery and landscape (73%), and the peace, quiet and space (46%)¹³.

Other Visitor Characteristics

- 17.4.54 Through various visitor survey reports, it is possible to draw out demographic trends in visitors. Staying visitors in the coastal resorts of Brighton and Worthing tend to attract a large number of adults aged 45 and over, whilst Bognor and Littlehampton have a higher number of family groups. This is likely to be a function of the presence of holiday parks and more traditional seaside attractions at the Arun resorts. Brighton attracts a younger audience for day events and specific entertainment.
- 17.4.55 What visitors like about the Sussex resorts tends to be similar across different locations. Visitors prefer to have lots to see and do in a resort, rather than simply a beach and the general upkeep and cleanliness of the public realm is an important factor, as are having good places to shop, eat and drink.
- 17.4.56 The dislikes focus typically around the provision and cleanliness of public toilets, parking charges, and littering.
- 17.4.57 Research into the preferences and motivations of day visitors to the South East in 2008 showed Brighton's enduring popularity as a destination. It came top of a

¹³ Tourism South East Research Services and Geoff Broom Associates (2003), Visitor Survey of the proposed South Downs National Park. Research undertaken for the Countryside Agency

list of 100 seaside resorts in the South East visited by survey respondents in the three months prior to being interviewed. In fact, 3 of the top 10 coastal destinations visited in the 3 months prior to the interviews were within the study area; Brighton 1st, Littlehampton 6th and Bognor at 7th. Worthing was also 12th in the overall list¹⁴.

17.4.58 The Survey also found that day visits are driven by a large number of factors but the main reasons for travel to any destination are:

- Visiting an attraction 43%
- A day out generally 34%
- Shopping 34%
- Entertainment 33%
- Attending an event 32%
- Visiting the beach 32%

17.4.59 The data for Brighton and Worthing show that even in recognised seaside resorts other activities such as shopping, entertainment, eating out, and “generally walking around” are important motivations to visit, as well as the beach.

Other Marine Recreation

17.4.60 A description of recreational marine user activity in the study area can be found in Section 19 - Other Marine Users. The following is included to provide an overview of the types, intensity and value of marine recreation.

17.4.61 Accurate quantitative data on recreational sea users in the study area is currently unavailable. Research conducted by Balanced Seas (2012)¹⁵ found that Beachy Head is a popular spot for recreational boating due to its dramatic scenery of chalk cliffs, and also for angling. Ten yacht clubs, 13 sea angling clubs, and 37 charter vessels (for divers and anglers) operated within the vicinity of recommended Marine Conservation Zone 13.2 Beachy Head West. Depending on the type of trip and season, prices to charter a boat range from £350 to £650 per day, with individual sea anglers paying £30 to £50 per day (sourced from various Sussex sea angling charter boat websites, accessed August 2012). Balanced Seas found that higher levels of angling occur around Beachy Head and to the east of the mouth of the River Cuckmere.

¹⁴ Visit Britain Day Visits Survey, Arkenford Ltd March 2008, on behalf of Visit Britain and Tourism South East (TSE)

¹⁵ Balanced Seas is the regional Marine Conservation Zone (MCZ) project in the South East. Research conducted relates to recommended MCZ 13.2 Beachy Head West. The rMCZ itself covers around half of the intertidal coastline in the study area, stretching from Beachy Head to within 100 metres of Brighton Marina

- 17.4.62 At the national level, a report completed for Defra in 2004 made the following findings about sea angling in England and Wales. Most sea angling takes place from the shore (54%) but activity from private boats (23%) and charter boats (22%) is also popular (Drew Associates, 2004). However, boat anglers are thought to contribute more to the local economy than shore anglers and spend an average of £68/day (charter boat) and £88/day (own boat) compared to £22/day (from the shore) (Drew Associates, 2004). Resident sea anglers in England and Wales are estimated to spend approximately £538m per year and support 18,890 jobs (Drew Associates, 2004). However, the contribution of sea angling to local economic growth is estimated to be low (Drew Associates, 2004). For example, a study of the popular sea angling destination of Weymouth on the south coast found that sea angling generated 119 jobs which represented only about 0.6% of the local workforce (Drew Associates, 2004).
- 17.4.63 The stretch of coastline was described as a popular wildlife watching destination both on land and via charter vessels conducting nature trips out of Eastbourne, Brighton and Newhaven. Coastal walking in the accessible parts of the site and along the cliff tops alongside the site is very popular, as well as coastal swimming.
- 17.4.64 Recreational diving is very popular off the Sussex coast. There are a number of wrecks in the area, and a number of local dive clubs which operate out of the area.
- 17.4.65 Surfing is also a popular activity along the English south coast, and participants in surfing and other wave-related sports (stand up paddle boarding, kite surfing, wind surfing and kayaking) help support a variety of businesses along the south coast including surfing shops and surf schools.

Key issues/Impacts in the region

- 17.4.66 The key issues identified in the study area are summarised below:
- For many key socio economic indicators, the study area sits above national averages, but below averages for the South East region. East Sussex and Brighton and Hove usually underperform West Sussex, which often performs slightly above the average for the South East Region;
 - Higher unemployment, lower incomes and higher levels of deprivation are present in East Sussex, compared to the wider South East region;
 - The study area is not capitalising on its location advantages, in part due to limited connectivity;
 - It has not been able to attract higher value-added industries and there exists an over reliance on low value-added sectors to provide employment for its labour force;

- There is an aging population within the study area, with a higher proportion of elderly people and a smaller working age population (apart from within Brighton and Hove); and
- Tourism plays an important role in the local labour market of coastal communities and along the entire coastal strip.

17.4.67 The Project could have both negative and positive effects on the socio-economic situation of the region. There will be potential benefits in terms of creating local employment and bringing investment into the area. However, the project could potentially cause temporary disturbance to the surrounding community and tourism sector as a result of the construction of the Project.

17.5 Potential Impacts

17.5.1 This section identifies the key socio-economic impacts of the project on key related social issues as discussed below.

Rochdale Envelope

17.5.2 In line with the use of the “Rochdale Envelope” (see Section 5), the assessment in this section has been based on a development scenario which is considered to be the worst case in terms of impacts to socio-economics relating to the offshore components of the Project. Table 17.12 lists the components of the design of the marine part of the project that could influence the magnitude of impacts. The realistic worst-case scenario in terms of socio-economics is presented in Section 2a – Offshore Project Description.

Table 17.12: Wind farm design features and their influence on the Rochdale envelope for Socio-Economics

Design feature	Design options
Wind Farm Site Layouts	Turbines filling the wind farm area will be a worst case – with regard to visual effect and potential impingement to movements of pleasure craft.
Wind Turbines	A higher number of small turbines is considered a worst case in terms of visual impact and hence the potential to affect tourists whose enjoyment of the area is based on the seascape.
Foundations	Selection of foundations with larger diameter piles will increase the levels of noise generated from installation, which could affect the diving and other tourist industries.
Construction and Installation	A long construction period would be a worst case in terms of the length of time that any exclusion zones would be imposed within the Project Site, and possibly the duration of noise generating operations. Conversely, fewer larger turbines will take a shorter time for installation hence the period over which construction workers may be

Design feature	Design options
	present in the area and purchasing goods and services will be reduced. Landfall construction activities in the summer would be a worst-case if restrictions to recreational beaches are required.
Operation and Maintenance	The lowest estimate of permanent employees at the O&M base in Newhaven will be 65.
Decommissioning	The influence of the duration of the decommissioning period would have similar effects as the worst-case construction and installation options.

Population and Settlement

Construction and Operation

- 17.5.3 As described in Section 17.4.1, the population of West Sussex, East Sussex and Brighton and Hove has increased during the past few years. In general, any project activities or any developments in the region could attract inward migration from different parts of the region mainly during construction stage. Although the project will be based offshore and will create a number of temporary local jobs, it could be seen as a source of income for businesses and investors. It is likely that there will be a small scale migration into the area as a result of the project activities.

Decommissioning

- 17.5.4 Impacts to the community during the decommissioning stage are likely to be of similar small magnitude to those resulting from the construction phase.

Impact Ranking

- 17.5.5 As the project will not demand a large permanent workforce, the impact of the project on population is considered not significant. Residual impacts are considered below.

Local Employment

Commissioning and Construction

- 17.5.6 It is estimated that the total capital value of the Project, including offshore and onshore elements, would be in the order of £2bn. At this stage it is difficult to quantify exactly how much of this value will be captured by the UK economy, and harder still to pinpoint how much may be secured in the region or locally to the project. However, as a general principle local and regional content will be maximised where possible, subject to capability and commercial criteria and is already working proactively with local suppliers in this regard. In terms of track record to date, a benchmark study was undertaken to quantify UK and regional economic benefits on E.ON's most recent UK offshore wind farm project, which is described further below.

- 17.5.7 E.ON is a partner in a Supply Chain project led by Marine Southeast and involving the local authorities and county councils in Sussex. Its objectives are to establish what local and regional capability and interest exists, to map this against E.ON's contract procurement requirements including not only Tier 1 direct contracts but subcontracts also, and to develop a database to allow communication on timing of opportunities. Furthermore the work will conduct a gap analysis and identify opportunities for businesses with the potential to develop new products and services, as well as creating a web-based resource which can be utilised by procurement officers to identify local businesses with the capability of supplying products and services and by suppliers to identify where they fit into the supply chain.
- 17.5.8 The initial part of the study identified 18 tier 1 contracts and 692 sub categories of products and services procured during the construction of a typical wind farm. More than 600 local businesses with the capability to supply products and services have been identified and linked directly to specific sub sectors using a unique coding system. In addition, three events to raise awareness of the opportunity have already taken place in Shoreham, Newhaven and Chichester with over 180 delegates attending to find out about the project and register their interest. Future 'Meet the Buyer' events in due course will develop this further by confirming E.ON's contracting structure, what plant and equipment packages are to be tendered, the procurement process and how and when companies should bid for work.
- 17.5.9 As well as contract opportunities for supply of equipment and services, the above study also considers potential for the construction and commissioning activities to be based at, or supported by, a local port, which could be a significant local economic benefit.
- 17.5.10 **Direct employment:** it is estimated that the Project will employ the following number of personnel for offshore construction, commissioning and support vessel requirements as described in earlier Section 2a - Offshore Project Description:
- 250 operational personnel that will be onboard main construction vessels during transportation and installation activities (excluding any permanent crew members on each vessel). In practice, there may be more than one of these vessel types working on the site at the same time, and there will probably be back to back crews working. It is therefore conceivable to estimate that the actual number of personnel required on the main construction vessels will be doubled to approximately 500;
 - 92 personnel for commissioning and support vessels. For the same reasons as above, it is estimated that this figure will double to 184 personnel; and
 - (Estimated) between 65 and 85 personnel for onshore support, depending on the design option chosen for the wind farm.

- 17.5.11 **Indirect employment:** indirect employment is generated through additional demand created by the primary construction businesses. In the case of the Offshore Project, this will be in the form of providing support services to the vessels being used for the offshore construction. There will be also job opportunities for the service industry through provision of catering, cleaning, transport services and logistics for the project workforce. It is not known where the construction workforce will reside, however there may be opportunities for hotels and bed and breakfast to accommodate the construction workforce.
- 17.5.12 **Induced employment:** induced employment is anticipated in the study area, generated by directly and indirectly employed personnel spending wages. It is estimated that the Project is likely to be constructed over a 2½ to 3 year period. Therefore, during the construction period, there will be an increase in income generated as a result of employment expenditure.

Operation

- 17.5.13 The Project would require a permanent Operations and Maintenance (O&M) base in the area. This will be based at Newhaven Port. This will provide a significant local economic benefit both in terms of investment into the port and in terms of permanent full-time jobs created. It is likely that the majority of onshore support personnel would be employed locally, subject to skills, and others would seek accommodation close to the port. While Newhaven has a population below 20,000, it is close to the larger city of Brighton, which would likely accommodate the largest share of those relocating. However, it is expected that there would be a small-scale inward migration to Newhaven as well, which may provide some economic boost, as both a job creator and to property sale and rental values.
- 17.5.14 O&M activities can be divided into three main categories:
- Scheduled maintenance;
 - Operation and unscheduled maintenance; and
 - Larger unscheduled maintenance or breakdowns and special maintenance.
- 17.5.15 O&M activities will require year round access i.e. 365 days per year and 24 hour a day. The total number of core personnel to be employed for the Project on a permanent basis for O&M activities is estimated to be between 65 and 85.
- 17.5.16 There will be job opportunities for technicians for technical maintenance work. The approximate number of personnel hours and transport vessel requirements for the scheduled maintenance activities, during the summer months is estimated to be as follows (see Section 2a - Offshore Project Description).
- 17.5.17 Each turbine will be serviced over a 3 day period by a 4 man crew during a 10 hour working shift. Each service vessel will be able to carry a maximum of 12

offshore technicians (i.e. 3 teams). Assuming there are 175 turbines, this gives the following estimates:

- **Planned maintenance, man-days**
 - 3 days x 175 WTGs = 525 days per year
- **Planned maintenance vessel days**
 - Assuming 3 teams of 4 men are carried on each service vessel (i.e. 3 turbines can be serviced every 3 days): 525 man-days / 3 teams = 175 days
- **Annual planned maintenance man-hours:**
 - 3 (days/ turbine) x 4 (staff/ turbine) x 10 (hours per shift) x 175 turbines = 21,000 man-hours per year.

17.5.18 The unscheduled maintenance work including routine daily operations and non routine minor maintenance will require an estimated 40-50 technicians (excluding vessel crews). This is derived from a maximum of 10 technicians (and 2 service engineers) operating from 4 or 5 vessels.

17.5.19 In addition to the offshore technicians, there will be further staff for administration, contract management, HV network operation and vessel crew required for transport.

17.5.20 An independent study published in September 2011 by BVG Associates quantified the degree to which the capital value of E.ON's Robin Rigg project, a 60 turbine offshore wind farm in the Solway Firth, was retained within firstly the region (defined as the Northwest and Scotland) and secondly the UK as a whole. The total project value for the development, manufacture, construction and installation of the Robin Rigg wind farm was £381 million. The BVG study identified the source of all subcontracting value, not just the headline Tier 1 contract value, since there will clearly be UK contractors who sourced components or services from overseas and vice versa. The report concluded that the UK content at Robin Rigg was 32% (approx £121m), the Regional content being 12% (approx £45m). The highest proportion of UK content was captured in the installation and commissioning phase at 56%.

- 17.5.21 It should be noted that the UK and Regional content achieved at Robin Rigg was achieved despite an absence of UK based wind turbine manufacturer, which is clearly a significant part of the overall capital expenditure. Turbine manufacturers, as well as cable, foundation and electrical systems manufacturers who are gearing up to supply the needs of the UK Round 3 projects have announced a number of planned investments in new UK manufacturing plant. Higher levels of UK content should follow from higher levels of UK assembly and component manufacture, especially if the UK's market lead in offshore wind is sustained. Over time, this will result in gradually increasing average UK content levels compared with those for Robin Rigg.
- 17.5.22 Based on the Robin Rigg evidence, where over three quarters of staff were recruited from the region, E.ON is confident that the operational staff will be recruited from the area local to the operation centre. This will provide local opportunities for the service industry in the study area for provision of security, transport and catering to the Project employees. The Project will use Newhaven as the base for its Operation and Maintenance activities.
- 17.5.23 A further study by BVG Associates (July 2012) analysing the annual Opex of Robin Rigg between 1 May 2010 and 30 April 2011, identified approximately 1,300 transactions with over 150 different companies.
- 17.5.24 The report shows that the UK content of the O&M expenditure at Robin Rigg for the year analysed was 86 per cent. A total of 34 per cent was local to the project in Cumbria. Regionally, NW England and Scotland together captured 45 per cent of expenditure.
- 17.5.25 Only 7 per cent of expenditure went to businesses in Scotland and NW England that were based outside Cumbria and Dumfries and Galloway. This indicates that the economic impacts were felt close to the location of the wind farm and, in particular, at the location of the operations base at Workington, Cumbria, NW England. It further suggests that there was little wider regional benefit.
- 17.5.26 The total UK content was fairly evenly split between the sum of the two counties immediately adjacent to the wind farm and the rest of the UK.

Decommissioning

- 17.5.27 At the end of the wind farm's operational life, the offshore structures will be removed and foundations cut off below the seabed surface. This operation will entail considerable expenditure and necessitate employment at similar levels, and with comparable experience and expertise, to that involved in the construction phase. There will not be any significant employment impact as a result of decommissioning phase.

Impact Ranking

- 17.5.28 The construction of the Project is estimated to support up to 684 (500 during construction and 184 during commissioning) employment opportunities during construction and commissioning. During the operation, there will also be employment opportunities for technicians to conduct maintenance work.
- 17.5.29 There will be about 65-85 full-time personnel employed for O&M activities. The significance of the impact on direct employment opportunities within the study area is considered to be 'Beneficial'. The O&M base at Newhaven will also create indirect job opportunities associated with logistics including provision of services and maintenance support to the project vessels. Successful candidates will need a base level of qualification, but training for the roles will be provided. Where possible, the Project will seek opportunities to support training for local workers to become employed in technical maintenance roles.

Local Economy

Construction and Operation

- 17.5.30 During the construction and operation period, employee's spend is likely to provide a small boost to the local economy. During the operational phase, the offshore substations will be remotely monitored and controlled. The estimated number of 65-85 employees that will be residing in the onshore area and managing the offshore project could lead to increase in local expenditure and boosting guesthouse occupancies or the local rental housing market. This benefit may increase in significance during the tourist low season, by ensuring year round room occupancy. It is likely that there would be some increase in demand for local services, but this is not thought to significantly impact on current provision. In addition, the project could potentially be seen as an attractive source of income for businesses and investors.

Decommissioning

- 17.5.31 During the decommissioning stage, the operational personnel will no longer be working on the Project. However, decommissioning work will require specialised contractors and skilled workers for removal of offshore structures. A similar exercise to identify local supply chain opportunities would be carried out nearer the time.

Impact Ranking

- 17.5.32 During construction and operation the Project could act as a catalyst for some regeneration of the region, which would likely be centered in the vicinity of Newhaven. The impact of the Project on local economy and community investments is considered to be 'Beneficial' due to potential opportunities for local investments and increase in local expenditure.

Tourism

Construction

- 17.5.33 Tourism plays an important role in the region's economy and brings in significant investment. There may be some localised temporary disruption to the tourism sector for specific activities undertaken offshore during the construction period. However, it is anticipated that the impact on tourism will be minimal with implementation of relevant mitigation measures.

Operation

- 17.5.34 During the operation of the Project, the only potential for impacts to tourism are thought to be the perception of the change to visual amenity. Whether visual impact, is deemed negative, neutral or even positive for beach users is a largely subjective area and Section 12 - Seascape, Landscape and Visual Impact considers this impact further.
- 17.5.35 Surveys indicate that visits to the seaside resorts are driven only partially by beach use. There are many other reasons stated for people to visit towns like Brighton, Worthing, Bognor and Littlehampton including the shopping, attractions, events, and provision of well-equipped holiday parks with good facilities for family holidays. Aside from beach users, some degree of visual impact is likely to be on those users of the South Downs who visit and walk the high points along the rural hinterland – Devils Dyke, Firle Beacon, Beachy Head and Chanctonbury. Even so, the introduction of the wind farm 13km out to sea is unlikely to have a serious impact on those elements of the rural experience – the scenery and landscape, peace and quiet, and lack of crowds – that are the main draw to the area.
- 17.5.36 Visual impact from large developments on the horizon does not figure in any of the research into what visitors to the Downs, or the seaside resorts dislike, their attention being focused more on everyday problems such as parking, traffic and litter.
- 17.5.37 In terms of accommodation provision, the introduction of the wind farm, and its associated business activity could provide a small increase in business visitors and contractors to the area and fill bed-spaces to the benefit of the accommodation providers, particularly in the shoulder and off seasons.
- 17.5.38 Finally, the impact on marine tourism should be considered. At present there is no publicly available data that shows the volume or value of visitors using such services. These broadly break down into private yachting and motorboat use from the marinas along the coast; sailing training, flotilla holidays and charter services; diving, wildlife watching and fishing trips.

17.5.39 The majority of these activities are likely to take place close to the shore and, as such, will not be significantly impacted by the development. Indeed, there may be scope to develop pleasure boat trips out to the wind farm as an additional attraction. Boat trips are known to operate from the following ports around the UK to visit wind farms:

- Ramsgate in Kent to see the Thanet wind farm;
- Ramsgate in Kent to see the Kentish Flats wind farm; and
- Southwold in Suffolk to visit the Scroby Sands wind farm.

17.5.40 Surfing is of significant social and cultural importance along the south coast, particularly in Brighton. Participants in surfing and other wave related sports help support variety of business along the coast. Changes to the wave heights as a result of the presence of the wind farm have been investigated in Section 6 – Physical Environment and are also discussed in Section 19 – Other Marine Users. Concerns that effects on wave height would have a significant effect on the wave resource have been resolved, with worst-case effects are now modeled at less than 7%. Surfers Against Sewage (SAS) consider that changes in wave height of less than 7% are not detrimental to the surfing regime. Hence, it is anticipated that the importance of the study area to surfers will remain unchanged.

17.5.41 Brighton and Hove City Council considers that the proposed offshore wind farm is likely to be beneficial to the city's environmental industries and services sector and to its tourist industry and has indicated that there is a potential for the wind farm to become a tourist attraction and its potential to generate marine based tourism. They have also recommended that the potential to enhance growing eco-tourism initiatives should be considered and linked with the impacts on the local economy during the operational phase. There is also scope to link the visitor economy for other major tourist attractions, such as the proposed i360 observation tower, with the wind farm proposals.

Decommissioning

17.5.42 Impacts during the decommissioning phase are anticipated to be similar to those for the construction phase.

Shipping

Construction, Operation and Decommissioning

17.5.43 A detailed assessment of the impacts to shipping and navigation can be found in Section 14 – Shipping and Navigation.

- 17.5.44 It is anticipated the main impact to shipping will arise from the displacement of vessels routing between the ports of Shoreham and Newhaven and the Traffic Separation Scheme (TSS) shipping lanes to the south of Offshore Project area. This is particularly true for vessels departing the port of Shoreham. This will increase steaming times as vessels divert around the wind farm and there will be an associated direct economic cost arising from increased fuel consumption.
- 17.5.45 An assessment of likely rerouting for vessels during the operation phase is provided in Section 14 – Shipping and Navigation. Typically, vessels departing Shoreham and joining the eastbound TSS lane are expected to route to the west of the wind farm resulting in an increase in route distance of approximately 6.0nm. A proportion of vessels routeing to Shoreham from the east are expected to leave the westbound TSS early resulting in a reduction in route length compared with the current route. If vessels route to the east of the Offshore Project then this will result in a deviation of approximately 5.3nm whereas routeing to the west will result in a deviation of approximately 8.5nm.
- 17.5.46 Initially, the deviations required to route around the wind farm will be minor, but will increase during the construction phase as the site becomes more developed. Impacts will then align with the operation phase impact. Conversely, the deviations required to route around the wind farm will decrease during decommissioning, as physical infrastructure is removed.
- 17.5.47 Increased fuel and time costs associated with rerouting may have an effect on the attractiveness of the port of Shoreham as a destination for commercial shipping operators.

17.6 Mitigation Measures

Population and Settlement

- 17.6.1 No specific mitigation measures are proposed during the construction, operation or decommissioning phases of the Project.

Local Employment

During Construction

- 17.6.2 E.ON's policy will be to ensure that local employers, suppliers and trade bodies are kept abreast of the proposed offshore works and to encourage participation of local and regional companies in contract and supply tenders, in order to assist in enhancing the benefit derived by the local and regional economy from Project delivery. E.ON will ensure that local training is provided for local employees to ensure that they have obtained certain skills that can be applied on other similar projects in the region. The potential for apprenticeships will also be considered.

During Operation

- 17.6.3 E.ON will ensure that there are opportunities for locals to be trained during operation stage, resulting in opportunities for hiring locals in operational project work. Training of locals will provide locals with opportunities to transfer and apply their skills on other similar projects in the region.

During decommissioning

- 17.6.4 Similar mitigation measures are proposed during the decommissioning phase to those identified above for the construction phase.

Local Economy and Community Investment

During Construction, Operation and Decommissioning

- 17.6.5 E.ON's policy will be to ensure that they will be a good neighbour to community, and it has a track record on existing offshore wind farms of working with communities and supporting local initiatives, projects and education along themes of energy and the environment. To achieve the above, E.ON will develop relationships with Sussex communities and will consider the potential to provide initiatives such as community benefits funds; such activities will commence during and in advance of the construction phase.

Tourism

Construction

- 17.6.6 During the detailed design and construction phases of the Project, E.ON will ensure that regular contact and consultation with all parties potentially affected by the Project is maintained including local authority tourism departments and the local community.

Operation

- 17.6.7 E.ON will discuss the potential for a visitor centre(s) with the local authorities. Should a centre be constructed, this is likely to assist in attracting visitors to the area. Any application for a visitor centre would be a separate consideration and does not form part of the Project.
- 17.6.8 Through working with the marine interest groups, E.ON will establish which maintenance activities have the greatest potential for impacts on ongoing socio-economic activities. E.ON will endeavour to notify interested groups of the timing of any such activities to enable alternative scheduling to take place. E.ON's schedule will also take into consideration major events in the area such that as little disruption occurs as possible.

Decommissioning

- 17.6.9 No specific mitigation measures are proposed during the decommissioning phase.

Shipping

Construction, Operation and Decommissioning

- 17.6.10 No specific mitigation measures are proposed during the construction, operation or decommissioning phases of the Project, however discussions with Port and Vessel operators will seek to minimise any impacts,

17.7 Residual Impacts

- 17.7.1 The direct and indirect economic impacts are key causal factors for a range of social impacts and most of the recommended mitigation actions apply to these impacts. Subsequent to implementation of mitigation measures, there will be no significant residual effects as a result of project construction, operation and decommissioning.
- 17.7.2 A summary of the significance of residual effects during construction, operation and decommissioning (i.e. those effects predicted to remain after mitigation measures have been implemented) is presented in Table 17.13.

Population and Settlement

Construction, Operation and Decommissioning

- 17.7.3 There are six communities that are located within the study area. The sensitivity of this “receptor” is ranked as ‘Medium’ due to presence of these communities that form part of a much wider area where the Project is located. The magnitude of the impact is classified as ‘Negligible’ as the population of the study area will not be increased significantly as a result of the Project development. Similarly, increases in traffic or housing demand are thought to be “Negligible”, as only a small scale migration is expected, the majority of construction staff will be based offshore for long periods and the number of long term onshore support for O&M activities will be fewer than 100 FTE staff. The impact on Population and Settlement is therefore classed as ‘Negligible’.

Local Employment

Construction

- 17.7.4 The Offshore Project is estimated to support 500 jobs during the construction phase and 184 during commissioning. The scale/magnitude of local employment opportunity is classified as ‘Small’ as the demand for permanent long term local employment is less than 100 FTE staff. There are however potential opportunities for hiring of local contractors for logistics, maintenance and

onshore support work during the construction stage, and the opportunities which are being explored through the MSE study. The sensitivity of receptor is classified as 'Medium' due to presence of the six communities within the study area. The impact is ranked 'Minor Beneficial'.

Operation

- 17.7.5 The Project is estimated to create about 65 and 85 direct operational jobs. The direct impact of employment to the region as a whole is not judged to be significant, however on a more local level it would be creating a good number of skilled jobs in the technology and renewable energy sector. The magnitude of impact is classed as 'Small' as there will be a relatively low number of directly employed staff, and construction related employment will cease. The sensitivity is classed as 'Medium' due to presence of six communities in the study area. The impact is thus ranked as 'Minor beneficial'. The indirect impact of employment however is classed as 'Beneficial' as there will be opportunities for locals to provide services to employees residing in the study area.

Decommissioning

- 17.7.6 Effects from decommissioning on local employment are assessed as being the same as those generated during the construction phase (Minor Beneficial).

Local Economy

Construction, Operation and Decommissioning

- 17.7.7 Employment from the Project will result in an increase of local spending, which will lead to improvement of local economy at small scale mainly during construction and operation phases. The sensitivity of the receptor is classified as 'Medium' due to presence of six communities in the study area. The magnitude of impact is classified as 'small', resulting from an anticipated localised improvement of economy. The impact is therefore ranked as 'Minor Beneficial' during the construction and operational phases. There may also be some increased local spending during the decommissioning phase due to the presence of contractors in the area; however the magnitude of this is anticipated to be negligible, resulting also in a negligible impact.

Tourism

Construction

- 17.7.8 The study area has important beaches where tourists visit annually. The tourism sector could be affected as a result of increase in marine and vehicular traffic associated with nearshore and landfall works during this stage of the Project. The sensitivity is classified as 'High' due to important recreational beaches and importance of the tourism sector in the study area. The magnitude of the impact

is classified as 'Small' due to effects being very localised and temporary in nature. The impact is therefore ranked 'Moderate'.

Operation

- 17.7.9 During operation however, the wind farm could be a source for attraction of tourists who are interested in viewing the wind farm, however it may also deter tourists from visiting the area if visitors are averse to the visual impacts of the development. Given the distance of the wind farm from coastal access points, and the potential it has for increase in visitors, the magnitude is classed as negligible, resulting in a Minor impact. The region as a whole has a diverse range of interests and attractions for visitors, and the presence of the wind farm is just one of a range of factors which may affect tourism trends in the area. Brighton and Hove city council has also referred to beneficial impact of proposed offshore wind farm on tourism.

Decommissioning

- 17.7.10 Effects from decommissioning on tourism are assessed as being the same as those generated during the construction phase (Moderate).

Shipping

Construction, Operation and Decommissioning

- 17.7.11 Increased fuel and time costs associated with rerouting may have an effect on the attractiveness of the port of Shoreham as a destination for commercial shipping operators. There may be indirect impacts arising from a reduction in cargo handled at the port – including a small reduction in the levels of processing and transportation effort in the study area. It is not possible to provide a detailed assessment of costs associated with this, as it is unclear if any operators would consider alternative routes. Indeed, the costs associated with moving operations (new route planning and establishing new supply chains) may outweigh any increased fuel and time costs.
- 17.7.12 Due to uncertainty and given the location of this route in the approaches to Shoreham port, the sensitivity is considered to be medium during the construction and decommissioning phases and medium/high during the operation phase. Given only modest increases in steaming times expected for medium haul routes, the magnitude is considered to be small. The residual impact is therefore ranked 'moderate/minor'.

17.8 Cumulative Impacts

- 17.8.1 There are no other commercial scale wind energy developments or other large scale developments, either consented or proposed, in the wider area, and therefore Cumulative impacts have not been assessed further in this Section.

Table 17.13: Summary of Residual Effects and Mitigation Measures

Aspect	Impact	Proposed Mitigation Measures	Sensitivity	Magnitude	Residual Effect
Construction Phase					
Population and Settlement	No predicted impacts upon the local population structure or character of the region. Only a small scale migration expected as a result of construction work.	No mitigation proposed	Medium	Negligible	Negligible
Local Employment	Beneficial impacts on local employment	E.ON will ensure that local employers, suppliers and trade bodies are kept abreast of the proposed offshore works. E.ON will encourage participation of local and regional companies in contract and supply tenders. Local employment training to be provided by E.ON.	Medium	Small	Minor Beneficial
Economy and Community Investment	Beneficial impacts on local economy	E.ON's policy will be to ensure that they will be a good neighbour to community, and have a track record on existing offshore wind farms of working with communities and supporting local initiatives, projects and education along themes of energy and the environment. In order to achieve the above, E.ON will develop relationships with Sussex communities and will identify the type of initiatives that communities need assistance from E.ON.	Medium	Small	Minor Beneficial
Shipping	Displacement of vessels, increased steaming times and fuel costs	No mitigation proposed	Medium	Small	Minor

Aspect	Impact	Proposed Mitigation Measures	Sensitivity	Magnitude	Residual Effect
Tourism	Disruption to tourists visiting local tourist attractions. Local disruption through temporary closure of beach, noise and traffic associated with construction work and vessel movements.	E.ON will maintain regular contact and consultation with all parties potentially affected by the project including local authority tourism departments and the local community. Provide clear signs to indicate the reasons for, and duration, of beach closure.	High	Small	Moderate
Operation					
Local Employment	Beneficial impacts on local employment through creation of jobs for maintenance and onshore support staff	E.ON will ensure that local employers, suppliers and trade bodies are kept abreast of the proposed offshore works. E.ON will encourage participation of local and regional companies in contract and supply tenders. Local employment training to be provided by E.ON.	Medium	Small	Minor beneficial
Direct Employment			Medium	Small	Minor Beneficial
Indirect Employment			Medium	Small	Minor Beneficial

Aspect	Impact	Proposed Mitigation Measures	Sensitivity	Magnitude	Residual Effect
Economy and Community Investment	Beneficial impacts on local economy	E.ON's policy will be to ensure that they will be a good neighbour to community, and have a track record on existing offshore wind farms of working with communities and supporting local initiatives, projects and education along themes of energy and the environment. In order to achieve the above, E.ON will develop relationships with Sussex communities and will identify the type of initiatives that could be supported under community benefits scheme as part of E.ON's good neighbour approach	Medium	Small	Minor Beneficial
Shipping	Displacement of vessels, increased steaming times and fuel costs	No mitigation proposed	Medium/High	Small	Moderate/Minor
Tourism	Beneficial impact associated with attracting regional tourists to the area.	E.ON will consider community benefits schemes in the project area that could contribute to regeneration of the region.	High	Negligible	Minor
Decommissioning					
Population and Settlement	No Impact	No mitigation measures proposed	Medium	Negligible	Negligible
Local Employment	There will not be any significant impact associated with decommissioning, as there will be opportunities for local decommissioning contractors in the region.	Local employment training to be provided to local employees so during the decommissioning stage, operational personnel can be transferred to other projects in the region.	Medium	Negligible	Negligible

Aspect	Impact	Proposed Mitigation Measures	Sensitivity	Magnitude	Residual Effect
Economy and Community Investment	There will not be any significant impact.	No mitigation measures proposed	Medium	Negligible	Negligible
Shipping	Displacement of vessels, increased steaming times and fuel costs	E.ON will continue to engage with the operators of Ports and vessels to determine mitigation options.	Medium	Small	Minor
Tourism	There will not be any significant impact. There will be minor impacts associated with marine and vehicular traffic which could potentially cause disturbance to local recreation and tourism.	E.ON will consider community benefits schemes in the project area and could contribute to regeneration of the region.	High	Small	Moderate

17.9 References

Department for Transport (2011) *Maritime Statistics*

East Sussex County Council (June 2011) *East Sussex Local Economic Assessment*

MCZ Projects (Finding Sanctuary, Irish Seas Conservation Zones, Net Gain and Balanced Seas) (2012) *Impact Assessment materials in support of the Regional Marine Conservation Zone Projects' Recommendations.*

ONS (2010) *Regional, Sub-regional and Local Gross Value Added*

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Wealden District Council (2011):

http://www.wealden.gov.uk/Wealden/Leisure_Tourism_and_Culture/Tourism

Worthing Borough Council (April 2010) *Submission Core Strategy, Publication Version Reg. 27. (Not Adopted)*