Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Environmental Statement Volume 3

Chapter 3: Socio-Economics

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Vattenfall Wind Power Ltd

Thanet Extension Offshore Wind Farm

Volume 3

Chapter 3: Socio-Economics

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3.1 Introduction

3.1.1 This chapter has been prepared by Regeneris and presents an assessment of the onshore and offshore socio-economic impacts of the Thanet Extension Offshore Wind Farm (Thanet Extension) development for the purposes of the Environmental Impact Assessment (EIA).

3.1.2 This chapter:

- Presents the existing environmental baseline established from desk-based studies, and consultations;
- Presents the likely significant potential environmental effects on socio-economics arising from Thanet Extension, based on the information gathered and the analysis and assessments undertaken to date;
- Identifies any assumptions and limitations encountered in compiling the environmental information; and
- Highlights any necessary monitoring and/ or mitigation measures which could prevent, minimise, reduce or offset the possible environmental effects identified at the relevant stage in the EIA process.

3.1.3 This chapter should be read in conjunction with the project descriptions in Volume 2, Chapter 1: Project Description (Offshore) (Document Ref: 6.2.1), Volume 3, Chapter 1: Project Description (Onshore) (Document Ref: 6.3.1), Volume 5, Annex 3-1: Socio-economics Technical Baseline (Document Ref: 6.5.3.1), and Volume 3, Chapter 4: Tourism and Recreation (Document Ref: 6.3.4) for details of tourism and recreation where those receptors considered in a high level regional gross value added context in this chapter are considered in site specific detail.

3.1.4 The following sections of this chapter include:

- A summary of relevant legislation and planning policy;
- A description of the methodology for the assessment, including details of the study area and the approach to the assessment of effects;
- A summary of consultation with stakeholders;
- A review of baseline (of existing) conditions;
- Details of the measures proposed as part of the project to avoid or reduce environmental effects, including mitigation and design measures that form part of the project;
- An assessment of the likely effects for the construction, Operation and Maintenance (O&M), and decommissioning phases of the project, taking into account the measures proposed;
- Assessment of any cumulative effects with other proposed developments;
- Identification of any further mitigation measures as well as enhanced measures and strategies to reduce effects and maximise the socio-economic benefits; and
- A summary of the effects of Thanet Extension on socio-economics.

3.2 Statutory and policy context

3.2.1 Planning policy on offshore renewable energy Nationally Significant Infrastructure Projects (NSIPs), specifically in relation to the socio-economic issues to be assessed here, is contained in the Overarching National Policy Statement for Energy (NPS EN-1) (DECC, 2011a), the NPS for Renewable Energy Infrastructure (NPS EN-3) (DECC, 2011b), and the NPS for Electricity Networks Infrastructure (NPS EN-5) (DECC, 2011c).

3.2.2 NPS EN-1 includes guidance on which matters should be considered in the assessment of NSIPs. Neither NPS EN-3 nor NPS EN-5 provide specific guidance on socio-economic issues and, as such, account has been taken of NPS EN-1 in this respect. It is also noted that NPS EN-3 includes guidance relating to potential secondary or indirect impacts arising from changes to the physical environment which should also be considered. The planning process for NSIPs is administered by the Planning Inspectorate (PINS), with the decision on the Development Consent Order (DCO) being taken by the Secretary of State. NPS EN-1 highlights several points relating to the determination of an application in relation to mitigation (paragraph 5.12.6 to 5.12.9).

Table 3.1: Summary of legislation and policy context relevant to socio-economics and consideration of the Thanet Extension assessment

Policy/ legislation	Key provisions	Section where provision addressed
NPS EN-1	This assessment should consider all relevant socio-economic effects, which may include the creation of jobs and training opportunities (paragraph 5.12.3 of NPS EN-1).	The effects of the wind farm's construction activity on employment are considered in section 3.19. Employment effects associated with O&M activity are assessed in section 3.20. The employment effects during the decommissioning phase are assessed in section 3.21.
NPS EN-1	This assessment should consider all relevant socio-economic effects, which may include the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities (paragraph 5.12.3 of NPS EN-1).	All relevant socio-economic effects during the construction phase are considered in section 3.19. Effects during the O&M phase are considered in section 3.20. Effects during the decommissioning phase are considered in section 3.21.
NPS EN-1	This assessment should consider all relevant socio-economic effects, which may include effects on tourism (paragraph 5.12.3 of NPS EN-1).	The effects on tourism and recreation are addressed under Volume 3, Chapter 4: Tourism and Recreation (Document Ref:6.3.4).
NPS EN-1	This assessment should consider all relevant socio-economic effects, which may include the impact of a changing influx of workers during the different construction, O&M and decommissioning phases of the energy infrastructure (paragraph 5.12.3 of NPS EN-1).	All relevant socio-economic effects during the construction phase are considered in section 3.19. Effects during the O&M phase are considered in section 3.20. Effects during the decommissioning phase are considered in section 3.21.
NPS EN-1	This assessment should consider all relevant socio-economic effects, which may include 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 (paragraph 5.12.3 of NPS EN-1).	Addressed under the cumulative effects section of this chapter (see section 3.22).
NPS EN-1	PINS should have regard to the potential socio-economic effects of new energy infrastructure identified by the applicant and from any other sources that PINS considers to be both relevant and important to its decision. It should be reasonable for PINS to conclude that little weight is to be given to assertions of socio-economic effects not supported by evidence (particularly in view of the need for energy infrastructure as set out in this NPS) (paragraph 5.12.6-5.12.7 of NPS EN-1).	The Thanet Extension assessment provides evidence for assessments of socio-economic effects as far as it is possible to do at this stage. All relevant socio-economic effects during the construction phase are considered in section 3.19. Effects during the O&M phase are considered in section 3.20. Effects during the decommissioning phase are considered in section 3.21.
NPS EN-1	The assessment should consider any relevant positive provisions the applicant has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to socio-economic impacts (paragraph 5.12.8 of NPS EN-1).	Provisions made to boost local capture of socio-economic effects are outlined as part of the additional enhancement measures and strategies discussed in section 3.25.

3.3 National Planning Policy Framework

3.3.1 The National Planning Policy Framework (NPPF) (DCLG, 2012) replaces the previous Planning Policy Statements (PPS). The NPPF explains that the purpose of the planning system is to contribute to the achievement of sustainable development which is comprised of three dimensions, which are economic, social and environmental. This chapter is concerned with both the economic and social dimensions of sustainable development which are defined as follows by the NPPF:

- An economic role: contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation, and by identifying and co-ordinating development requirements (including the provision of infrastructure); and
- A social role: supporting strong, vibrant and healthy communities by providing the supply of housing required to meet the needs of present and future generations, and by creating a high quality built environment with accessible local services that reflect the community's needs and support its health, social and cultural well-being.

3.3.2 The NPPF explains (in paragraph 9.3) that planning plays a key role in helping shape places to secure a reduction in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change, and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development promoted by the NPPF. On 6th March 2014 the Department for Communities and Local Government (DCLG) launched the National Planning Policy Guidance (PPG) as a web-based resource.

3.4 Local planning policy

3.4.1 The most relevant planning policy context is that found in NPS EN-1. However, local planning policy also includes material which is relevant to Offshore Wind Farm (OWF) developments, their relationship to local economic development and the assessment of socio-economic impacts associated with such schemes. As such, statements in relevant local plans in relation to major infrastructure, and particularly offshore wind, are also relevant here.

3.4.2 The Thanet District Local Plan (Thanet District Council, 2015) indicates that the district has already seen above average development of wind farms and other renewable sources of energy. Furthermore, it also argues in favour of developing the green sector whilst also capturing the economic benefits from the wind farms surrounding Thanet and spin off businesses as opportunities arise. This echoes the Dover District Council's (adopted) Core Strategy (Dover District Council, 2010) which identifies offshore wind and biomass as the primary renewable energy sources within the district.

3.5 United Kingdom (UK) economic development policy

3.5.1 Over the past 24 months the Prime Minister has signalled a more active approach to industrial strategy compared with the previous administration. The most recent addition to the government's industrial strategy and the centrepiece of the current government's economic agenda is the November 2017 White Paper, entitled Building a Britain Fit for the Future (HM Government, 2017a). This follows the publication of the Green Paper Building our Industrial Strategy in February 2017 (HM Government, 2017b) setting out the Government's ambition "to improve living standards and economic growth by driving productivity and growth across the whole country".

3.5.2 The White Paper sets out five foundations for the Industrial Strategy, and four so called Grand Challenges. These include a focus on infrastructure, and achieving clean growth, and reflect the Green Paper's ambition to spur economic growth, drive forward productivity and deliver prosperity.

3.5.3 Securing affordable energy will be important in delivering the government's industrial priorities. The strategy identifies two important priority areas for energy: affordability and maximising industrial opportunities for the UK's economy from energy innovations. The strategy is keen to ensure that the UK secures a substantial share of the global market where its energy industries present an opportunity. This includes offshore oil and gas, as well as clusters of excellence such as along the east coast.

3.5.4 The importance of renewable energy and specifically offshore technologies to the UK's economic policy is illustrated by the comments made by the Department for Business, Energy and Industrial Strategy (BEIS) (previously two separate departments: (1) the Department for Energy and Climate Change (DECC), and (2) the Department for Business, Innovation and Skills (BIS)), to maximise the economic benefits from renewable energy, especially OWF developments.

3.5.5 As part of this, six Centres for Offshore Renewable Engineering (CORE) (HM Government, 2015) have been established across the UK (incl. the South East CORE which covers activity in Harwich, London Thamesport, Sheerness, Ramsgate and Brightlingsea). The intervention is driven by the need to meet the legally binding renewables target by 2020 as set out in the Renewable Energy Roadmap, and requires the support of the offshore wind manufacturing capacity to achieve this. Hence, CORE's aim is to maximise the ability of areas to benefit from opportunities in offshore engineering. Support structures that are in place include the establishment of Enterprise Zones with simplified planning regimes and enhanced capital allowances, amongst other incentives.

3.6 Local economic development policy

3.6.1 National aspirations in relation to private sector-led economic growth and employment creation are echoed at the local level. Here, the focus of economic policy is to close any gaps between local and national economic performance.

3.6.2 The South East Local Enterprise Partnership (SE LEP) has responsibility for shaping the economic development policy and strategy in the south-east area. This is a large Local Enterprise Partnership (LEP) area which encompasses Kent, Medway, Essex, Thurrock, Southend and East Sussex. Although its spatial coverage extends far beyond the boundaries of the Kent study area, upon which the socio-economic impact assessment will focus, the LEP's SEP is relevant to the assessment as it will guide major investments to shape economic conditions in the study area.

3.6.3 The SE LEP's Strategic Economic Plan (SEP) (SE LEP, 2014) identifies the importance of the offshore wind sector and acknowledges the role areas within the Local Enterprise Partnership (LEP) play in making it a key location for the offshore renewables industry. The SE LEP is currently refreshing its SEP, and in September 2017 published an updated evidence base as part of the process (SE LEP, 2017). The evidence base outlines the same themes highlighted in the current SEP, including an overarching aspiration to improve prosperity and productivity through the creation of higher value jobs as well as the creation of more jobs. At the time of writing (May 2018), the SEP's refresh is still underway, with no draft to the SEP update available, despite the LEP's website indicating that it aims to 'publish the SEP [in] early 2018'

3.6.4 Despite the current review, the SE LEP's ambitions in the SEP remain unchanged; i.e. aiming to create 200,000 private sector jobs, and leveraging £10 billion of investment by 2021. The SEP identifies several priority sectors across the LEP area which are of relevance to the offshore wind sector. These include advanced manufacturing, transport and logistics, as well as environmental technologies and energy. Furthermore, through its SEP, the SE LEP indicates that it will seek to promote innovation across these sectors, and to strengthen their supply chains whilst also increasing activity for specialised sectors such as offshore wind.

3.6.5 The economic development of Kent County Council and each of the local authorities within the study area are also relevant here, although few directly reference the economic opportunities associated with the offshore wind sector. At the Kent County Council-level, the Low Carbon Environmental Goods and Services (LCEGS) sector, and in particular the offshore wind sector, is highlighted as a key growth area, which, despite its recent successes, still requires support through funding, business advice and guidance (Kent County Council, 2016). Furthermore, the County Council is a key supporter of the low carbon sector locally having set up the Low Carbon Kent business network and supporting the Kent Wind Energy (http://www.KentWindEnergy.co.uk) portal.

3.6.6 The Economic Growth Strategy (EGS) for Thanet (Thanet District Council, 2016), published in November 2016, sets a vision for Thanet to be a great place to live, work and invest, rivalling its counterparts across the UK; a place where the economy will grow quickly, both in relative as well as absolute terms. When looking ahead, the EGS suggests that there are several emerging opportunities in advanced manufacturing across Thanet, and proposes a transformational initiative to invest in high value manufacturing and engineering across Thanet and east Kent. Furthermore, the SEP also indicates that there is scope to work more closely alongside the SE LEP in supporting these sectors.

3.6.7 Dover District Council's Core Strategy (Dover District Council, 2010) identifies a target of 6,500 jobs and 200,000 square metres of employment floorspace between 2006 and 2026. However, a recent study by Scott Brownrigg and Ramidus Consulting (2012) on behalf of the District Council found that as a result of the recession, the district is expected to see a loss of between 4,000 and 5,000 jobs by 2018. This means that a revision of the Core Strategy's targets is required, and suggests that employment in the district can recover to pre-recessionary employment figures (i.e. from 2006) by 2026. However, despite these challenges, the Scott Brownrigg and Ramidus Consulting (2012) study reports that Thanet has already seen a steady and increasing number of enviro-tech businesses expressing interest in East Kent due to its specialisation in LCEGS.

3.7 Consultation and scoping

3.7.1 Socio-economics has been included in the discussions between regulators and Vattenfall Wind Power Ltd (VWPL). As part of the EIA process, a number of consultations have been undertaken with various statutory and non-statutory authorities. A formal Scoping Opinion was sought from PINS following submission of the Scoping Report. Ongoing consultations (with a number of non-statutory consultees) post-scoping have been important in the evolution of the project and parameters for assessment.

3.7.2 Table 3.2 below provides a summary of the consultation about the socio-economic impacts of Thanet Extension, and outlines key comments from statutory consultees as part of the Section 42 (S42) consultation process of the PEIR.

Table 3.2: Summary of consultations relating to socio-economics

Date and consultation phase/ type	Consultation and key issues raised	Section where provision addressed
Scoping Opinion	The types of jobs created should be considered in the context of the available workforce in the area, this applies equally to the construction and O&M stage.	A specific receptor based on local access to employment is set out in section3.10. Effects during the construction phase are considered in section 3.19. Effects during the O&M phase are considered in section 3.20. Effects during the decommissioning phase are considered in section 3.21.
Scoping Opinion	Socio-economics topic chapter discusses attractions in the area. It is important to be clear about the separation between the socio-economic assessment and that carried out for tourism impacts.	Tourism and recreation attractions in the area have been excluded from this chapter as these are considered in Volume 3, Chapter 4: Tourism and Recreation (Document Ref:6.3.4).
Scoping Opinion	The LEP is not listed in the chapter as being involved in the collation of the baseline or the agreement of the methodology. The Applicant is requested to consider the involvement of the LEP.	The SE LEP has been scoped in the collation of baseline evidence, with the LEP's SEP analysed in the policy context (section 3.2) and major LEP representative Kent County Council consulted as part of the process (section 3.7).
Consultation with Kent County Council (July 2017)	Challenges local businesses face in accessing supply chain opportunities arising from the development of Thanet Extension.	This challenge is identified throughout this chapter, and ways to maximise benefits to local supply chains are addressed in section 3.25 discussing enhancement measures and strategies.
Consultation with Canterbury City Council	The importance of having a clear and transparent procurement process by VWPL was highlighted.	VWPL already has a high level of engagement with the local supply chain, as outlined in section 3.16. Furthermore, VWPL's ambition to maximise its spend with the local supply chain businesses is outlined in section 3.25 whilst discussing enhancement measures and strategies.
Consultation with Thanet District Council	Challenges local businesses face in accessing supply chain opportunities arising from the proposed development of Thanet Extension.	VWPL already has a high level of engagement with the local supply chain, as outlined in section 3.16. Furthermore, VWPL's ambition to maximise its spend with the local supply chain businesses is outlined in section 3.25 whilst discussing enhancement measures and strategies.
S42 consultation on PEIR by Thanet District Council	Is there opportunity for links to be developed with Further Education (FE) colleges within Thanet District, and to support local apprenticeships	VWPL already engages with local communities and will continue to develop partnerships to enhance local education and training opportunities wherever possible. This is discussed in section 3.25.
S42 consultation on PEIR by Thanet District Council	Thanet District Council would welcome the provision of a visitor centre within the district for use by the local population and visitors to the area, to access educational information about the OWF and facilitate engagement with the project.	This is a matter that falls outside consideration of the EIA as a potential community benefit.
S42 consultation on PEIR by Dover District Council	The socio-economic chapter should also consider relevant policy produced by Dover District Council	This issue is addressed in sections 3.4 and 3.6 of this chapter.

3.8 Scope and methodology

3.8.1 Two study areas have been defined for the socio-economic analysis of Thanet Extension. In light of the development's location, off the Kent coastline at Thanet, the County of Kent has been identified as the primary study area in the socio-economic impact assessment. This study area provides a meaningful spatial area within which to assess the potential economic impacts associated with the construction, O&M, and decommissioning of the proposed development.

3.8.2 The second study area is the UK, and includes England, Scotland, Wales and Northern Ireland. This has been defined to enable the magnitude and significance of the national effects to be assessed. Where data is not available at the UK level (such as for employment data from the Office for National Statistics (ONS) which is available for Great Britain, rather than the UK) this is clearly denoted within the commentary.

3.8.3 Effects in the UK study area are only assessed where they are relevant to the receptor. For example, the assessment of receptors relating to access to employment amongst local people, and effects on local sectors (such as renewable energy) are presented at the Kent area but not for the UK. In practice, this means that the UK study area is only used for receptors relating to employment and gross value added (GVA) created during the construction, O&M, and decommissioning phases of Thanet Extension. Table 3.3 below identifies the relevant study area(s) for each of the respective receptors listed above.

Table 3.3: Study areas for each of the receptors identified for Thanet Extension

Receptors	Study area(s)
1. Direct and indirect employment creation in the construction, O&M, and decommissioning supply chain	Kent UK
2. Direct and indirect GVA creation in the construction, O&M and decommissioning supply chain	Kent UK
3. Access to employment for local people as a result of employment creation in the construction and O&M supply chain	Kent
4. Potential for the employment created during the construction O&M, and decommissioning phases to lead to displacement of workers currently employed in other industries	Kent
5. Demand for housing, accommodation and local services	Kent

3.9 Baseline Data Analysis

3.9.1 The key sources of data used to assess the baseline environment include relevant national datasets from the ONS, which provide intelligence on population, labour market and employment base conditions.

3.9.2 The baseline analysis in this EIA draws on that presented in the Preliminary Environmental Information Report (PEIR) (drafted in August 2017), which was based on the most up-to-date sources of data available for all socio-economic indicators at the time of writing. Since publication of the PEIR, some of the data sources used in the baseline (e.g. the Annual Survey of Hours and Earnings, the Business Register and Employment Survey, and the Annual Population Survey) have been updated by the ONS. In our view this does not result in the need of a full update to the baseline, as this would only represent a partial update to the baseline. Based on a high-level review of changes, there are no significant changes which would impact on the findings of this assessment.

3.9.3 The year that the data relates to varies according to the release calendar for each dataset. There is often a lag in publishing national datasets and as such some information may be slightly out of date. The baseline year will therefore vary slightly across the indicators considered in the baseline, however this is referenced through this chapter. In view of this limitation, it is not considered that the lag in the publishing of national datasets to have a material effect on the predictability of the impact assessment. Furthermore, the lag in publishing national datasets also means that projects completed over the past 12-months (e.g. the onshore construction of the Nemo link through Pegwell Bay Country Park), are not captured in the baseline assessment and have therefore been incorporated in the cumulative impact assessment.

3.9.4 Based on this, it is our view that the overall socio-economic context for the Kent study area, in relation to the UK impact area has not changed since the PEIR was first drafted.

3.10 Employment and GVA Impact Assessment

3.10.1 The absolute scale of economic impacts (i.e. the number of jobs which construction, O&M, and decommissioning activity is expected to support) is calculated using an approach consistent with the methods for economic impact assessment as set out in the Green Book (HM Treasury, 2018).

3.10.2 The analysis of employment and GVA impacts focuses on direct and indirect economic impacts, outlined below:

- Direct economic impacts relate to direct employees of VWPL and the jobs and GVA associated with the first round of capital expenditure (i.e. what VWPL will spend directly with its suppliers); and
- Indirect impacts relate to the jobs and GVA generated within the chain of suppliers of goods and services to the direct activities.

3.10.3 In addition to direct and indirect (also known as supply chain) effects, there will be additional employment and wealth creation arising from the expenditure of personal income by those whose jobs are supported directly or indirectly by Thanet Extension; referred to as induced impacts. However, compared with the direct and indirect economic impacts, there is typically greater uncertainty about the scale, sectoral distribution, and geographical spread of these impacts, and so these have not been included in this assessment.

3.10.4 Direct employment and GVA impacts are estimated based on development costs and sourcing assumptions. Based on the assumptions for each of the development scenarios (outlined below), benchmark figures (from Regeneris Consulting's in-house Input-Output model[1] (2017), based on UK Input-Output tables for 2014 (released in 2017)) have been applied to the additional output generated in each sector to estimate the number of jobs and associated GVA that would be created in each study area as a result of the estimated direct spend.

3.10.5 To assess indirect employment and GVA impacts, the Regeneris Input-Output model has been used to model the way in which the direct expenditure with tier-one suppliers would lead to indirect employment and GVA effects further down the supply chain (i.e. spend by supply chain businesses in their respective supply chains).

3.10.6 In line with official guidance (HM Treasury, 2018), temporary job creation during the construction period is assessed and presented in terms of Full-Time Equivalent (FTE) person years of employment. Average annual FTE impacts during the construction phase have also been estimated to allow for the magnitude of potential change in baseline levels of employment to be captured. Similarly, cumulative GVA impacts are presented for the construction phase together with the average annual increases.

3.10.7 Job creation arising from O&M activity is presented as FTE jobs and GVA effects presented as annual impacts.

Use of Scenarios

3.10.8 The assessment of potential socio-economic effects is subject to various sources of uncertainty, in particular:

- The overall costs for construction, O&M and decommissioning of the OWF;
- The likelihood of ports in the Kent and UK study areas being selected for the construction base, and the range of functions they might serve (note the O&M base is confirmed to be within the Kent study area); and
- The location of the main tier-one and tier-two suppliers which will be appointed, and their associated supply chains, and therefore the extent to which this influences the retention of supply chain expenditure within the Kent and UK study areas.

3.10.9 In light of these uncertainties, the methodology has involved estimating construction and O&M costs using sector benchmarks from The Crown Estate (2012), and developed three scenarios to demonstrate the likely range of geographical sourcing patterns, including different assumptions about the construction port base to be used.

3.10.10 Please note that no estimates for decommissioning costs are made, as this activity is considered to be too difficult to forecast and too far into the future to allow for meaningful analysis. The assessment of employment and GVA impacts for this phase are therefore dealt with qualitatively in the assessment.

3.10.11 The sourcing assumptions for each scenario have been informed by:

- A review of published research examining the nature of both the onshore and OWF supply chains in the UK and local study area (using Renewable UK's Supply Chain Map[2] and University of Chester (2012));
- A review of published ex-post studies examining the economic impact of OWFs in the UK;
- An analysis of the economic sectors in which Kent has particular strengths; and
- Discussions with VWPL concerning the procurement process and the likelihood that UK suppliers might capture part of the supply chains.

[1] The Regeneris Input-Output model uses the Input-Output tables that are produced annually by the ONS to provide a snapshot of the UK economy, and the flow of goods and services between different sectors. The tables are a key part of the UK's national accounting framework. This model estimates (in a consistent manner) the full multiplier effects for the UK economy arising from a change in output in any sector. This provides a framework for assessing the total economic impact of expenditure injections (in the form of supply chain spend) and employee expenditure (in the form of induced impacts). These are not analysed due to uncertainties associated with defining geographical spread.

[2] http://www.renewableuk.com/Page/SupplyChainMap, accessed on 31.07.2017

3.11 Construction phase scenarios

3.11.1 The scenarios below show the sourcing assumptions under the low, middle and high scenarios for the construction phase. These are based on VWPL's experience and knowledge of the Kent supply chain, and how it operates. The categories of expenditure include:

- Design and development – the pre-construction phase including activities associated with the development of the scheme such as seabed surveys, engineering and design studies, and coastal processes surveys;
- Wind Turbine Generator (WTG) manufacture;
- Balance of plant activities (i.e. all components of the OWF except WTG), so including manufacture of cables, foundations and substations; and
- Installation and commissioning (this includes transportation of OWF components as well as transportation of staff working on installation and commissioning).

Low impact construction scenario

3.11.2 Under the low impact scenario, it is assumed that the main construction port will be outside of the UK. As a result, direct expenditure and supply chain opportunities for firms within the study areas during the manufacture and installation of the WTGs will be limited. As construction ports would be outside of the UK, it is assumed that all aspects of WTG manufacturing and the associated supply chain would be located overseas.

3.11.3 There would however be some UK-based sourcing of materials for balance of plant. Under the low impact scenario, none of this activity would occur within the Kent study area.

3.11.4 Under the low scenario, it is assumed that of Thanet Extension's estimated £748.3 million construction spend, only 1% is captured by suppliers in Kent. This increases to 2% when sourcing from within the UK is considered.

Table 3.4: Sourcing assumptions under the low impact construction scenario

Spend Category	Estimated Value (£ million)	% of spend category sourced from Kent study area	% of spend category sourced from within the UK
1. Design and development	18.0	10	50
2. WTG manufacture	272.0	0	0
3. Balance of plant	239.4	0	1
4. Installation and commissioning	219.0	1	3
Total	748.3	1	2

Source: Regeneris Consulting, 2017

Middle impact construction scenario

3.11.5 The middle impact construction scenario assumes that ports within the Kent study area would be used extensively during the construction period. This would enable locally-based suppliers to enter the construction supply chain more easily (particularly as part of balance of plant, and installation and commissioning activities).

3.11.6 Table 3.5 shows, the middle scenario assumes that much of WTG manufacturing activity would remain outside the UK (given the highly specialist nature of much of this activity). However, a much larger proportion of the balance of plant supply chain would be within the UK.

3.11.7 Under the middle scenario, it is assumed that of Thanet Extension's estimated £748.3 million construction spend, 6% is captured by suppliers in Kent, and 31% captured by suppliers nationally.

Table 3.5: Sourcing assumptions under the middle impact construction scenario

Spend Category	Estimated Value (£ million)	% of spend category sourced from Kent study area	% of spend category sourced from within the UK
1. Design and development	18.0	15	75
2. WTG manufacture	272.0	2	19
3. Balance of plant	239.4	9	30
4. Installation and commissioning	219.0	7	44
Total	748.3	6	31

Source: Regeneris Consulting, 2017

High impact construction scenario

3.11.8 As with the middle impact construction scenario, the high impact construction scenario assumes that local ports are used extensively throughout the construction phase of Thanet Extension. Alongside this, the scenario assumes that the overall level of UK-based sourcing is over 50%, an aspiration previously identified by government.

3.11.9 Under the high scenario, it is assumed that of Thanet Extension's estimated £748.3 million construction spend, around 9% is captured by suppliers in Kent, and more than half (or 56%) of total spend captured by suppliers nationally.

Table 3.6: Sourcing assumptions under the high impact construction scenario

Spend Category	Estimated Value (£ million)	% of spend category sourced from Kent study area	% of spend category sourced from within the UK
1. Design and development	18.0	20	100
2. WTG manufacture	272.0	5	40
3. Balance of plant	239.4	13	39
4. Installation and commissioning	219.0	8	90
Total	748.3	9	56

Source: Regeneris Consulting, 2017

3.12 O&M phase scenarios

3.12.1 The scenarios below show the sourcing assumptions under low, middle and high sourcing scenarios for the O&M phase. These are based on VWPL's experience and knowledge of the Kent supply chain, and how it operates. The categories of expenditure include:

- Direct employment supported by the operation of the offshore wind farm – broken down by administration and management, and technical staff;
- Professional services, business rates, insurance and administrative overheads;
- Fuel and utilities – for both the port and vessels;
- Technical and equipment transfer – the cost of transferring crew and equipment to site; and;
- Large component replacement – the costs of replacement and repair of parts of the OWF considered as spend within the local supply chain. (Please note - these O&M costs are based on annual costs post-warranty period).

Low impact O&M scenario

3.12.2 Under the low impact O&M scenario, all direct employees (i.e. OWF administration and management and technical maintenance staff) would be based in the Kent study area, but otherwise it is assumed that activities occurring locally are limited to those associated with port management, fuel, and some technical and equipment transfer. The involvement of local companies in the O&M supply chain would as a result be modest.

Table 3.7: Annual sourcing assumptions under the low impact O&M scenario

Spend Category	Estimated Value (£ million)	% of spend category sourced from Kent study area	% of spend category sourced from within the UK
1. Direct employment: administration and management	0.8	100	100
2. Direct employment: technical	0.6	100	100
3. Professional services, business rates, insurance, admin overheads	0.7	3	96
4. Fuel and utilities	0.2	26	60
5. Technical and equipment transfer	0.1	20	40
6. Large component replacement	16.3	0	2
Total	18.7	1	13

Source: Regeneris Consulting, 2017

Middle impact O&M scenario

3.12.3 Under this scenario, all of the technical maintenance staff would be based within the Kent study area, as would management and administration of the OWF. Local firms are also able to access more opportunities associated with replacing components and a larger proportion of replacement components are sourced from the UK, although more than half of this would still be sourced from outside the UK.

Table 3.8: Annual sourcing assumptions under the middle impact O&M scenario

Spend Category	Estimated Value (£ million)	% of spend category sourced from Kent study area	% of spend category sourced from within the UK
1. Direct employment: administration and management	0.8	100	100
2. Direct employment: technical	0.6	100	100
3. Professional services, business rates, insurance, admin overheads	0.7	7	99
4. Fuel and utilities	0.2	44	80
5. Technical and equipment transfer	0.1	40	60
6. Large component replacement	16.3	5	42
Total	18.7	8	49

Source: Regeneris Consulting, 2017

High impact O&M scenario

3.12.4 Under this scenario local firms capture a larger share of the O&M supply chain. The high impact O&M scenario is based on an increase in the capability of the local and national supply chains, thus resulting in increased expenditure.

Table 3.9: Annual sourcing assumptions under the high impact O&M scenario

Spend Category	Estimated Value (£ million)	% of spend category sourced from Kent study area	% of spend category sourced from within the UK
1. Direct employment: administration and management	0.8	100	100
2. Direct employment: technical	0.6	100	100
3. Professional services, business rates, insurance, admin overheads	0.7	12	100
4. Fuel and utilities	0.2	61	100
5. Technical and equipment transfer	0.1	60	80
6. Large component replacement	16.3	10	60
Total	18.7	17	65

Source: Regeneris Consulting, 2017

3.13 Assessment criteria and assignment of significance

3.13.1 The socio-economic assessment has used a similar approach to that taken by the majority of the assessments in this report. The significance of the socio-economic effects is assessed by considering the interaction between the magnitude of impacts and sensitivity of the receptors. A significance matrix based on the characteristics of the impact (magnitude) and the sensitivity of the receptor has been applied in the manner outlined below.

Sensitivity of receptor

3.13.2 The framework for assessing the sensitivity of each receptor is outlined in Table 3.10 below. The method for determining the sensitivity of each of the receptors takes account of the importance attached to each receptor in local and national economic development and regeneration policy, together with professional judgement relating to the scale of socio-economic challenges (drawing on the analysis presented in the baseline section of the EIA).

Table 3.10: Sensitivity/ importance of the environment

Receptor sensitivity/ importance	Description/ reason
High	A socio-economic receptor is considered to be of high sensitivity where it is identified as a policy priority (as a result of economic potential and/ or need). There is evidence of major socio-economic challenges, or opportunities for the receptor in the study area.
Medium	A socio-economic receptor is considered to be of medium sensitivity when it is not identified as a policy priority (as a result of economic potential and/ or need). There is however evidence of considerable socio-economic challenges, or opportunities for the receptor in the study area.
Low	A socio-economic receptor is considered to be of low sensitivity where it is not identified as a policy priority (as a result of economic potential and/ or need). There is evidence that the receptor is resilient within the study area.
Negligible	A socio-economic receptor is considered to be of low sensitivity when it is not identified as a policy priority. There is evidence of good overall performance for the receptor and no challenges within the study area.

Magnitude of impact

3.13.3 The criteria used for the assessment of the magnitude of socio-economic impacts (both positive and negative) are shown in Table 3.11 below. Professional judgement has been used in determining the magnitude of impacts at different spatial scales.

Table 3.11: Magnitude of impact

Magnitude	Definition
High	Proposals would cause a large change to baseline conditions in terms of absolute and/ or percentage change.
Medium	Proposals would cause a moderate change in baseline conditions which is noticeable in terms of absolute and/ or percentage conditions.
Low	Minor shift away from the baseline which would be noticeable in terms of absolute and/ or percentage change.
Negligible	Very slight change from the baseline conditions.
No change	No change from baseline conditions.

3.13.4 The assessment of the magnitude of effects is underpinned by an analysis of the potential economic impacts supported by the construction and O&M of Thanet Extension. The magnitude of impact on most receptors considered in the EIA is primarily driven by the increased level of economic activity in the area as a result of the proposed development going ahead.

3.13.5 The assessment considers the potential economic impact of the development in light of the cost of constructing and operating the OWF, the location of the development and the expected geography of the development's supply chain.

3.13.6 For each of the three phases – construction, O&M, and decommissioning – the development has potential to affect economic conditions through the direct and indirect (also referred to as supply chain) economic effects. The approach to determining the scale of each of these effects, under each of the development scenarios is outlined in section 3.17 below.

3.14 Assessment of significance

3.14.1 Magnitude and sensitivity are combined as shown in Table 3.12 to determine the overall significance of the effects. Given the nature of socio-economic effects, the significance level of the effects can be minor, moderate, major or negligible depending on the receptor being assessed. For each receptor, the assessment identifies whether the effects are beneficial, negligible or adverse along with the significance. Furthermore, the assessment identifies whether the effects are to be felt over the short-, medium- or long-term, and whether the effects are temporary or permanent. Any effects with a significance level of moderate and/ or major are defined as being significant effects in EIA terms.

Table 3.12: Significance of potential effects for Socio-economics

		Sensitivity			
		High	**Medium**	**Low**	**Negligible**
Negative Magnitude	**High**	*Major*	*Major*	*Moderate*	*Minor*
	Medium	*Major*	*Moderate*	*Minor*	*Negligible*
	Low	*Moderate*	*Minor*	*Minor*	*Negligible*
	Negligible	*Minor*	*Minor*	*Negligible*	*Negligible*
Beneficial Magnitude	**Negligible**	*Minor*	*Minor*	*Negligible*	*Negligible*
	Low	*Moderate*	*Minor*	*Minor*	*Negligible*
	Medium	*Major*	*Moderate*	*Minor*	*Negligible*
	High	*Major*	*Major*	*Moderate*	*Minor*

Note: Shaded cells are defined as significant effects.

3.15 Uncertainty and technical difficulties encountered

3.15.1 As outlined in the methodology at section 3.8, the main areas of uncertainty in undertaking the technical assessment of socio-economic impacts are around costs, construction port to be used, and geographic sourcing of goods and services. This revolves primarily around the need to retain commercial flexibility for the procurement phase of Thanet Extension, including:

- The overall costs for construction, O&M and decommissioning of the OWF;
- The likelihood of ports in the Kent and UK study areas being selected for the construction base, and the range of functions they might serve (note the O&M base is confirmed to be within the Kent study area); and
- The location of the main tier-one and tier-two suppliers which will be appointed, and their associated supply chains, and therefore the extent to which this influences the retention of supply chain expenditure within the Kent and UK study areas.

3.15.2 Section 3.10 details how this uncertainty has been dealt with in our methodology through the use of high, middle and low impact scenarios, to provide a range of likely potential impacts.

3.16 Existing environment

Socio-economic baseline conditions

3.16.1 Kent contains a mixture of rural and urban areas, some of the main population centres being Canterbury, Ashford, Dartford, Dover, Sevenoaks and Tunbridge Wells.

Population structure

3.16.2 As summarised in Table 3.13 below, the Kent study area is home to a population of around 1.5 million people, of which 889,000 (or approximately 58%) are of working age (working age population (WAP) refers to males aged 16 to 64 and females aged 16 to 59 in accordance with current definitions although this is likely to change to accommodate changes to retirement age); a smaller proportion than national levels (61%). Medway and Canterbury are two of the largest employment areas in the Kent study area with a higher WAP concentration (at 62% and 61% respectively). This concentration is in line with the average seen nationally.

3.16.3 Elsewhere in the Kent study area, the working age population makes up a much smaller proportion of the total. Both Thanet and Dover have a lower proportion of working age population (at 55% and 56% respectively). Furthermore, the SE LEP area, due to its mostly rural area, also has a much lower proportion of working age people (58%) than national levels.

Table 3.13: Total and Working Age Population (2015)

	Total Population (000s)	Working Age Population (000s)	Working Age Population as % of Total
Kent	1,525	889	58.3
Medway	277	171	61.8
Kent and Medway	1,801	1,060	58.9
Thanet	140	77	55.1
Canterbury	160	98	61.2
Dover	113	64	56.3
SE LEP	4,132	2,405	58.2
UK	65,110	39,454	60.6

Source: ONS, 2016a

Labour market indicators

3.16.4 Table 3.14 below highlights the performance of the Kent study area's labour markets in comparison with the national average and the SE LEP. Overall, the Kent study area compares well in terms of the proportion of working age residents who are economically active – i.e. those either in employment or actively looking for work (at 79% compared with 78% nationally). Within the Kent study area, economic activity rate varies from 70% in Canterbury (which performs below the national average) to over 83% in Dover (which out-performs the Kent study area by around four percentage points).

3.16.5 Table 3.14 shows that a high economic activity rate in the Kent study area's labour market is reflected in a high local employment rate, and a low economic inactivity rate. It shows that the Kent study area's employment rate at the end of 2016 was 75%, compared with 74% nationally. Table 3.14 shows that a high economic activity rate in the Kent study area's labour market is reflected in a high local employment rate, and a low economic inactivity rate. It shows that the Kent study area's employment rate at the end of 2016 was 75%, compared with 74% nationally.

Table 3.14: Headline performance on key labour market indicators, 2017. Rates presented as a proportion of working age population

	Economically Active		In Employment		Economically Inactive	
	No (000s)	% WAP	No (000s)	% WAP	No (000s)	% WAP
Kent	734	78.9	695	74.7	197	21.1
Medway	141	80.0	132	74.8	35	20.0
Kent and Medway	876	79.1	827	74.7	232	20.9
Thanet	63	77.3	61	75.0	19	22.7
Canterbury	70	69.9	66	65.6	30	30.1
Dover	57	83.1	53	76.7	12	16.9
SE LEP	1,987	78.7	1,893	73.0	537	21.3
UK	31,888	77.7	30,229	73.9	9.132	22.3

Source: ONS, 2016b

3.16.6 The unemployment data presented in Table 3.15 indicates that there is significant capacity within the labour market in the Kent study area. In total, there are over 39,000 unemployed residents across Kent. This represents an overall unemployment rate of 5.4% in Kent compared to the national unemployment rate of 5.0%.

Table 3.15: Unemployment rate for 2016

	Number of Unemployed	% of Economically Active Population
Kent	39,400	5.4
Medway	9,200	6.5
Kent and Medway	48,600	5.5
Thanet	1,800	2.9*
Canterbury	4,300	6.1
Dover	4,400	7.7
SE LEP	94,200	4.7
UK	1,588,200	5.0

Source ONS, 2016b.

*Please note: data for Thanet is not available for the period January to December 2016, so figures for October 2015 to September 2016 are used instead.

3.16.7 Recent changes brought about by the introduction of Universal Credit have meant that it is difficult to track how unemployment has changed over time. The evidence presented in Figure 3.1 measures the number of people claiming benefits (principally for the reason of being unemployed), and includes all out of work Universal Credit claimants as well as all Job Seekers' Allowance (JSA) claimants. It shows that overall, the claimant rate in the local study area was consistently below the claimant rate seen nationally. Furthermore, the diagram also shows that the claimant rate in the Kent study area has declined by around half over the past four years, from 3.2% in March 2013 to 1.7% by March 2017.

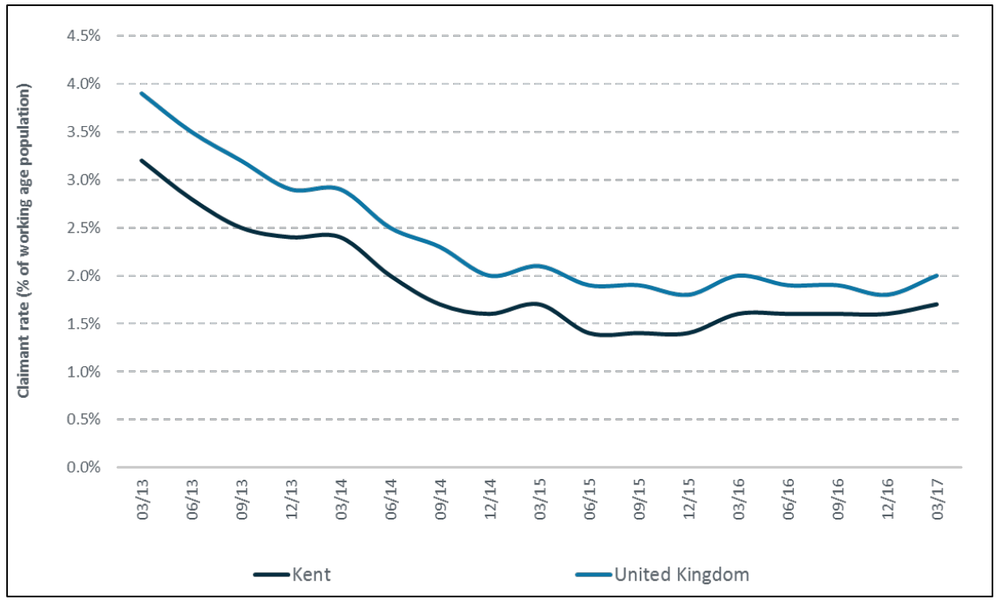

Figure 3.1: Change in claimant rate for UK and Kent study area, 2013 to 2017.

Source: ONS, 2017a

3.16.8 As Universal Credit continues to be rolled out and replace JSA, claimant count numbers continue to fall. Despite its gradual phasing out, JSA provides an insight into the number of people looking for employment in sectors relevant to offshore wind. The occupations considered to be of interest in the construction, O&M and decommissioning of OWFs include:

- Skilled metal and electronic trades;
- Skilled construction and building trade;
- Process plant and machine operatives;
- Transport and machine drivers and operatives; and
- Elementary trades, plant and storage occupations.

3.16.9 In total, the number of JSA claimants within the Kent study area looking for employment in these occupations is around 1,000 people. This figure represents around 10% of all JSA claimants in Kent. Please note that this figure is likely to be an under-representation of the number of claimants interested in roles complimentary to the offshore wind sector, and as such caution is recommended when referring to it. This figure is included to add context of the scale and interest of the labour market in sectors relevant to offshore wind.

3.16.10 The skills profile of the Kent study area's residents does not compare favourably to the national average. Table 3.16 below shows that around 37% of Kent's working age population have National Vocational Qualifications (NVQ) level four qualifications, a proportion which is slightly below the national average of 38%. This aggregate performance across the Kent study area masks variations amongst the local authority areas making up the Kent study area; with less than a third (or 30%) of Thanet's working age residents having NVQ level four or higher qualifications, compared with 46% in Canterbury. That said, the local study area compares favourably to the SE LEP area.

3.16.11 Overall, the proportion of working age residents with no qualifications in the Kent study area is significantly below that seen nationally (at 8.3%) and across the SE LEP area (7.6%).

Table 3.16: Education qualifications of working age adults by NVQ level, other and no qualifications, 2016

	NVQ 4 and Above		Other Qualifications		No Qualifications	
	No (000s)	%	No (000s)	%	No (000s)	%
Kent	343	36.9	60	6.5	65	7.0
Medway	53	30.3	10	5.5	13	7.5
Kent & Medway	396	35.8	70	6.3	78	7.0
Thanet	24	30.0	6	6.8	5	5.5
Canterbury	46	45.9	7	7.0	11	10.9
Dover	23	32.8	7	9.5	4	5.2
SE LEP	836	33.2	150	5.9	190	7.6
UK	15,545	38.0	2,697	6.6	3,379	8.3

Source: ONS, 2016b

3.16.12 The above average performance of the Kent study area with regards to higher level qualifications is reflected in the type of occupations in which the area's residents are engaged. Table 3.17 below highlights the relatively high representation of employment in higher managerial and professional occupations in Kent and shows that this is in line with what is seen nationally. Higher managerial and professional occupations include all those employed in Standard Occupational Classification (SOC) groups 1 to 3. SOC 1 includes managers, directors and senior officials, SOC 2 includes all professional occupations, and SOC 3 includes all associate professional and technical occupations.

3.16.13 At 45%, the proportion of the Kent study area's residents engaged in higher managerial and professional occupations masks variations at the local level. Within the Kent study area, Thanet and Dover both have a lower proportion of their WAP engaged in higher managerial and professional occupations (at 42% and 33% respectively) when compared with Kent (45%) and nationally (45%). On the other hand, the proportion of working age residents engaged in higher managerial and professional occupations in Dover is considerably higher at 61%.

Table 3.17: Standard Occupational Classification, 2016

	Groups 1-3 (Management)		Groups 4-5 (Administration)		Groups 6-7 (Support Workers)		Group 8-9 (Elementary Occupations)	
	No (000s)	%	No (000s)	%	No (000s)	%	No (000s)	%
Kent	326	45.0	162	22.3	120	16.6	116	16.0
Medway	55	40.5	34	25.0	23	17.1	23	16.9
Kent & Medway	382	44.3	196	22.8	144	16.7	139	16.1
Thanet	27	41.7	20	30.5	11	16.8	7	11.1
Canterbury	41	60.6	12	18.0	6	9.3	8	12.1
Dover	19	32.9	14	25.4	10	18.5	13	23.5
SE LEP	884	44.6	464	23.4	330	16.7	300	15.1
UK	14,172	45.0	6,500	20.6	5,284	16.8	5,399	17.1

Source: ONS, 2016b

Sectoral structure of the employment base

3.16.14 Data from the ONS indicates that the total number of people employed within the Kent study area is around 623,000. Employment within Kent is concentrated in different centres which include Dartford, Tunbridge Wells, Ashford, Sevenoaks, Dover, and Canterbury. The Thanet-Canterbury-Dover area contains around 142,000 jobs, which represents more than one-in-five jobs across the local area.

3.16.15 Employment density (i.e. the number of jobs per 1,000 working age residents) can be used to compare overall performance with the national performance and across other comparator areas. At over 700 jobs per 1,000 working age residents, jobs density in Kent is below the national average seen (at 749 jobs per 1,000 working age residents nationally). This is c. 50 jobs per 1,000 fewer than the national figure. Performance within Kent varies, with employment density ranging from c. 550 jobs per 1,000 working age residents in Thanet and Dover to c. 650 jobs per 1,000 working age residents in Canterbury.

Table 3.18: Total and working age population (2015)

	Total Employment (000s)	% of Employment in Kent Study Area	Employment Density (jobs per 1,000 WAP residents)
Kent	623	100	701
Medway	89	-	520
Kent and Medway	712	-	672
Thanet	43	6.8	552
Canterbury	64	10.2	649
Dover	35	5.6	545
SE LEP	1,596	-	664
UK	29,546	-	749

Source: ONS, 2015a

3.16.16 Figure 3.2 shows annual employment change across the Kent study area from 2009 onwards, and compares it with annual employment change nationally over the same period. It shows that, with the exception of 2011-12, annual change in employment numbers in the Kent study area was similar to and/ or higher than the average seen nationally. Of particular note, are the last three years for which data is available (i.e. 2012-13, 2013-14 and 2014-15) which has seen strong growth (at +1.6%, +2.5% and +5.0% respectively) when compared with the national average (at +1.1%, +2.7% and +2.0% respectively).

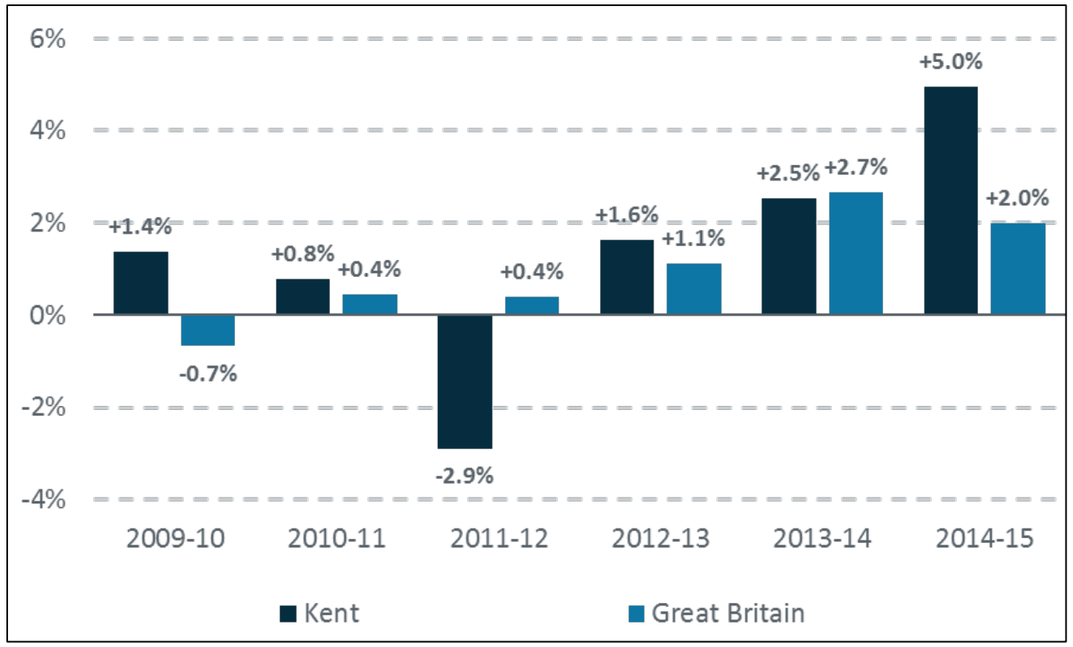

Figure 3.2: Annual change in employment, 2009 to 2015.

Source: ONS, 2015a

3.16.17 Concentrations of employment in key sectors that exist in the Kent study area (compared with the national employment base) are highlighted in Figure 3.3 below. Like Great Britain, Kent's employment base is heavily reliant on service sector activities, although there appears to be a slightly greater focus on lower value service activities such as wholesale and retail, with a Location Quotient (LQ) of 1.2, and an under representation in higher value activities such as information and communication technologies; and finance and insurance (both with a LQ of 0.7).

3.16.18 With around 40,000 jobs, manufacturing is the 7th largest sector across the Kent study area and represents just over six percent of all jobs locally. In comparison, the manufacturing sector employs around eight percent of all jobs locally. This means that the Kent study area has a lower concentration (or LQ of 0.8) of manufacturing jobs when compared with the national average.

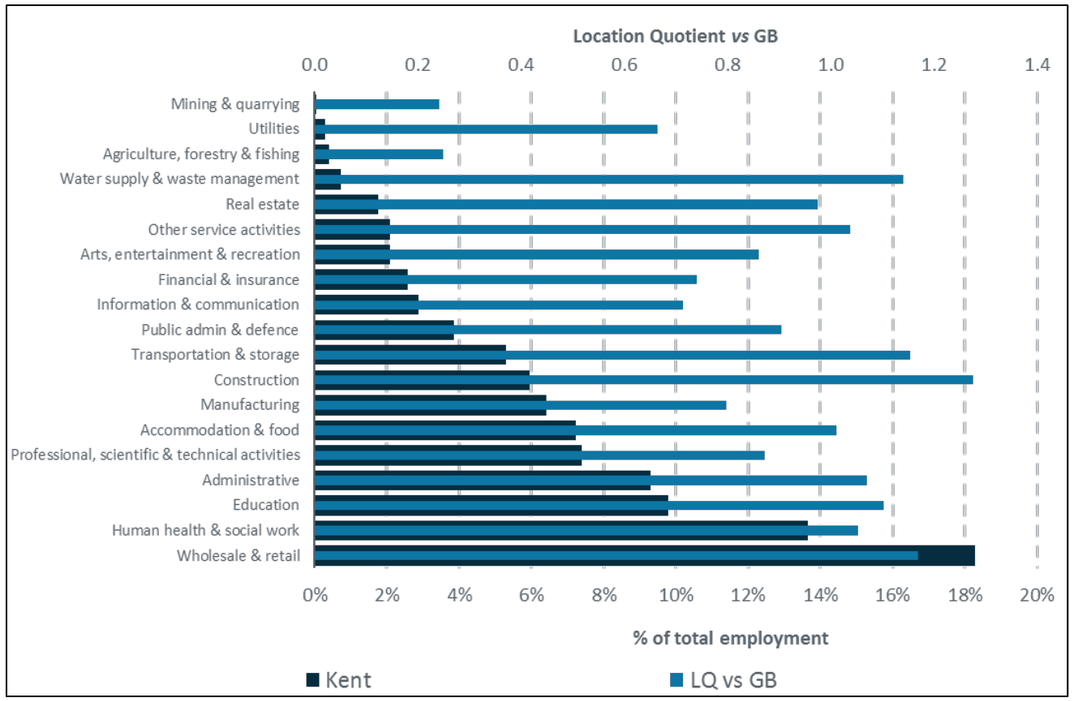

Figure 3.3: Sectoral employment profile in Kent (2015).

Source: ONS, 2015a

3.16.19 With around 33,000 jobs, the transport and storage sector represents just over five percent of all jobs across the Kent study area. Despite the relatively small number of jobs in the sector, the transport and storage sector shows a concentration higher than that seen nationally (with a LQ of 1.2).

Earnings and wealth generation

3.16.20 Table 3.19 below highlights the gap that exists between the earnings of those employed in the Kent study area and the national average. The median annual salary for people working in the Kent study area of £27,000 is around £1,200 per year lower than the national median. Within Kent, the average median salary for people employed locally varies greatly from £20,700 in Thanet to £26,700 in Dover. This is between £7,500 and £1,500 per year lower than the national median.

Table 3.19: Annual median and gross pay for full time employees and residents for Kent and other comparator areas

	Residence Based	Workplace Based
Kent	£29,100	£27,000
Medway	£29,500	£27,200
Thanet	£24,200	£20,700
Canterbury	£27,900	£25,000
Dover	£25,300	£26,700
SE LEP	£29,800	£26,800
UK	£28,200	£28,200

Source: ONS, 2016c

3.16.21 The relatively low value employment in the Kent study area is highlighted by the gap between the median salaries of those who are resident in, and those who work in Kent. The residence-based median salary of £29,100 per annum is around £1,900 greater than the median workplace-based salary for the Kent study area. This indicates that a large number of residents from Kent are travelling to higher paid employment outside the area.

3.16.22 The relatively lower value employment across Kent is also reflected in the study area's output represented as GVA. Table 3.20 shows that in 2015 Kent had an overall GVA output of just under £33 billion. As evidenced in Table 3.20 below, this represents around 40% of all the GVA output across the SE LEP area in 2015.

3.16.23 Total GVA figures on their own are not useful, especially when comparing Kent with the national average and that of other areas. As such, a figure of GVA per head is used instead. Data from the ONS gives Kent a GVA per head output of around £21,600.

3.16.24 Despite being higher than the GVA per head output for Medway (£17,300) and the SE LEP (£20,800), Kent's output per head is around £4,200 per annum lower than the average seen nationally. This reflects a range of socio-economic factors where the Kent study area performs below the national average, particularly in terms of qualifications, employment density (per 1,000 working age residents) in addition to the concentration of lower value sectors (such as wholesale and retail).

3.16.25 A detailed look at GVA output and GVA per head output within Kent, shows that Thanet has an output of £15,000 GVA per head. This is around £10,800 per annum lower than the national average and reflects the difference in workplace-based income between Thanet and the national average.

Table 3.20: Total GVA and GVA per head, 2015

	Total GVA (£ million)	GVA per Head	GVA per Head Index (UK = 100)
Kent	£32,989	£21,600	85.3
Medway	£4,794	£17,300	68.4
Thanet	£2,099	£15,000	59.2
Canterbury	£3,050	£19,100	75.2
Dover	£1,779	£15,700	62.0
SE LEP	£85,694	£20,800	81.9
UK	£1,666,342	£25,800	100.0

Source: ONS, 2015a

Key supply chain sectors

3.16.26 A number of sectors within the Kent study area have potential to benefit directly from the construction, O&M and decommissioning supply chains from Thanet Extension project. These will primarily include manufacturing and engineering sectors, construction, as well as land and marine-based transport. The current level of employment and degree of local specialisation (in terms of LQ) in these sectors is shown in Table 3.21 below.

3.16.27 The analysis indicates that, at the headline levels, there is a strong degree of specialism in several of these sectors within Kent (particularly around construction, land and marine-based transport). It should be noted that the figures presented in Table 3.21 only reflect the direct level of employment in these sectors, and do not take account of their wider supply chain.

3.16.28 The analysis presented below includes an estimation of the total employment in the energy sector (which overlaps to some degree with the manufacturing and engineering sectors). Based on this definition, the level of local specialism in the energy sector does not appear to be particularly strong. However, it should be noted that this sector is very difficult to define using Standard Industrial Classification (SIC) codes. The renewable energy sector does not currently have a dedicated classification – i.e. companies directly engaged in energy generation activities can be identified using SIC codes, but the wider energy generation supply chain (such as for components and construction activities) is difficult to capture as many of the companies operating in the sector provide goods and services to other markets (such as manufacturing and engineering firms). It is therefore, not possible to estimate the size of the energy sector both nationally and locally in a way that would allow for direct comparison.

Table 3.21: Employment in key strategic sectors in Great Britain and Kent, 2015

	Great Britain Employment		Kent Study Area		
	No (000s)	% of total	No (000s)	% of total	LQ Kent *vs* GB
Manufacturing	2,379	8.1	40.0	6.4	0.8
Construction	1,376	4.7	37.0	5.9	1.3
Land-based transport	542	1.8	13.0	2.1	1.1
Civil engineering	188	0.6	2.5	0.4	0.6
Architectural and engineering activities	525	1.8	7.0	1.1	0.6
Marine-based transport	17	0.1	1.0	0.2	2.8

Source: ONS, 2015a

3.16.29 Table 3.22 provides a more detailed breakdown of the current levels of employment in the sectors (and sub-sectors) which would be more likely to benefit from construction, O&M and decommissioning of the proposed development. The main sector benefits can be summarised as follows:

- Manufacturing and engineering sectors – In particular, the manufacture of fabricated metal products (for example as part of the supply chain for the towers and foundations), manufacture of electric wires and cables, manufacture of electric motors, generators (for example to supply components for substations) and WTG;
- Construction sectors – The more specialist construction sectors, and those relating to construction of floating structures, ships and boats are most likely to be affected by the development of Thanet Extension;
- Land and marine-based transport sectors – Sea and coastal water transport as well as ancillary services will be key sectors along with other land-based forms of transport;
- Accommodation and food services – These sectors are likely to experience an increase in demand to cater for workers coming into the area from elsewhere, during the construction period in particular; and
- Professional services – A range of technical consultancy services will be required throughout the construction, O&M and decommissioning of the development (which includes remotely monitoring the OWF once completed).

Table 3.22: Employment in sectors which would most likely benefit from the construction, O&M and decommissioning of Thanet Extension

	GB (000s)	Kent (000s)	LQ Kent *vs* GB
Manufacturing sectors:	204	2.7	0.6
259: Fabricated metal products	102	0.8	0.4
271: Motors, generators, transformers, etc.	31	1.3	1.9
273: Wiring and wiring devices	16	0.4	1.0
281: General purpose machinery	55	0.4	0.3
Construction sectors:	147	2.4	0.8
301: Building of ships and boats	32	0.1	0.1
429: Other civil engineering projects	115	2.3	0.9
Transport sectors:	490	12.2	1.2
494: Freight transport by road	243	6.0	1.2
502: Sea and coastal freight water transport	7	0.2	1.4
522: Support activities for transportation	240	6.0	1.2
Professional services:	1,042	17.3	0.8
702: Management consultancy activities	474	9.0	0.9
711: Architectural and engineering consultancy	463	6.0	0.6
749: Other professional, scientific and technical	105	2.3	1.0
Other sectors:	2,189	47.4	1.0
55: Accommodation	445	7.4	0.8
56: Food and beverage service activities	1,664	38.5	1.1
351: Electric generation, transmission and distribution	80	1.5	0.9

Source: ONS, 2015a

3.16.30 There are a number of specialisms within Kent's employment base which places it in a position to benefit from the proposed development. In particular, the manufacture of motors, generators and transformers indicate a relatively high concentration when compared with the national average (with a LQ of 1.9). Overall, it is estimated that there are c. 2,700 manufacturing jobs associated with renewable energy in Kent.

3.16.31 Other specialisms within Kent include a relatively high concentration of employment in sea and coastal freight water transport. This is the result of significant port activity in and around Dover and Margate. Other key concentrations, include high concentrations in freight transport by road, and support activities for transportation (both with LQs of 1.2), as well as food and beverage service activities (LQ of 1.1).

Supply chain capacity and capability

3.16.32 The Kent study area has a number of sector strengths and specialisms which may well position it to take advantage of some of the opportunities arising through the construction, O&M and decommissioning activity of Thanet Extension. Kent is already home to several players in the energy and offshore renewables sector, having recently seen the construction of the Kentish Flats Extension (KFE) OWF off the North Kent Coast, and the ongoing O&M of Kentish Flats and Thanet OWFs.

3.16.33 Data provided shows that VWPL invested £423.5 million across its three OWFs, incl. construction and O&M spending, of which £52.7 million were invested in Kent. In addition, it supports 70 FTE jobs in its Ramsgate office and an annual spend of £4.9 million in local wages. This data has helped to inform the spend and geographical sourcing scenarios as set out in sections 3.11 and 3.12.

Table 3.23: VWPL's supply chain sourcing in Kent and UK study areas

	Spend within Kent impact area (£ million)	Total spend in UK impact area (£ million)
Thanet (from 2009)	47.7	372.3
Kentish Flats	2.9	19.3
Kentish Flats Extension (from 2019)	2.1	29.5
Component replacement (from 2012)	0.01	2.5
Total for all Kent offshore wind farms	52.7	423.5

Source: VWPL, 2018

3.16.34 An initial overview of the offshore wind supply chain in the study area has highlighted several players providing a variety of services across the different phases of the OWF lifecycle from project development, to equipment design and manufacture, as well as construction, O&M and decommissioning. These services include construction crew transfer, height and rescue training, fuelling services in addition to water taxi services, offshore guard boat, and lithographic and digital printing.

3.16.35 A recent supply chain analysis report (University of Chichester, 2012) found that the core supply chain markets in Kent are predominately in O&M-related work and support services. Using a competitive index (which refers to the ratio of Kent and Medway-based suppliers over the total number of suppliers in the database), the study finds that sourcing a supplier for capital expenditure (CAPEX) activity of construction port, support services and/ or operational expenditure (OPEX) activities within the Kent and Medway area to be relatively easy.

3.16.36 Furthermore, this study reports that Kent and Medway are only likely to obtain 1.8% of potential local revenue accrued from CAPEX activities but 43% for OPEX. Most of the loss in CAPEX revenue, results from the lack of supply chain strength in balance of plant and WTG activity in Kent.

3.16.37 The report concludes by saying that there is great potential to trigger regional specialisation. Building on strong foundations which include some of the best coastal and deep-water development site for offshore wind manufacturers in the Medway Superhub; strategic location; track record of constructing and operating wind farms; and skilled workforce.

3.16.38 The development of Thanet Extension is expected to continue building on investments seen locally over the past few years, especially investment in port facilities. Over the years, the offshore wind sector, and in particular VWPL, has utilised a number of ports located along the Kent coast (such as Whitstable, Sheerness and Ramsgate). In both instances, this relationship has extended beyond the harbour boundaries, and has resulted in integration with the local community in a number of positive ways. Furthermore, the arrival of the offshore wind sector has also provided a range of both skilled and semi-skilled, secure jobs for local people.

3.16.39 VWPL has interacted with the supply chain in Kent through two supply-chain events held as part of the KFE OWF, and also attended several business networking events leading up to the project, supporting the Kent Wind Energy initiative. In delivering Thanet Extension, VWPL has committed itself to ensuring that its approach to project procurement and investment supports local businesses to engage with the renewables and green energy sector by requiring all contractors involved to maximise the use of local contracts and to seek engagement wherever possible.

Housing

3.16.40 This section assesses trends in the demand for and supply of housing and accommodation in the Kent study area. The aim is to understand the baseline capacity of different types of accommodation in responding to a potential increase in demand from workers during the construction and O&M phases of the proposed development. Data from the DCLG shows that in 2016 there were a total of 656,800 dwellings in Kent. Since 2006, the total stock of dwellings has decreased by around 9% (or 56,100 dwellings) at an average annual decline of just under 1% each year. Within Kent, around 87% of the total stock of dwellings is owned by the private sector.

3.16.41 Data from rightmove.co.uk shows around 18,530 homes currently available for sale across Kent (www.rightmove.co.uk, March 2018, based on the whole of Kent, Medway and parts of south-east London).

3.16.42 There is potential for Thanet Extension to give rise to an increase in demand for various types of housing and accommodation. The largest potential employment effects, associated with the development, are likely to occur in the construction phase. As these jobs would be temporary in nature, it would be expected that a corresponding increase in demand for housing or accommodation would be focused largely upon the rental and temporary accommodation sectors.

3.16.43 During the O&M phase, the potential employment effect would be less pronounced but sustained over a longer period. As a result, the owner-occupied sector is also a relevant aspect of the baseline.

Rental Accommodation

3.16.44 According to the 2011 Census, around 20% of residents within the Kent study area live in private rented accommodation, a seven-percentage point increase from 2001, while those living in owner occupied housing declined by six percentage points.

Table 3.24: Proportion of residents by tenure (2011)

	Residence Based	Workplace Based
	% of residents (2011)	Percentage point change 2001 - 2011
Owned	65	-6
Shared Ownership	1	0
Social Rented	13	-1
Private Rented	20	+7
Living Rent Free	1	-1

Source: ONS, 2011

3.16.45 Although there is currently no fully comprehensive up-to-date source providing insight about the number of dwellings which are available to let at a local level, data from rightmove.co.uk shows around March 2018, based on the whole of Kent, Medway and parts of south-east London).

3.16.46 In addition, an estimate of the number of serviced accommodation rooms across Kent can be derived from the data available. On the basis that approximately 3.98 million visitor nights were spent in serviced accommodation in Kent in 2015, with an average of 70.5% occupancy across the year, it can be estimated that this equates to a figure of the order of 15,000 serviced accommodation rooms across Kent (Destination Research, 2016).

3.16.47 Table 3.25 below shows median monthly private rents in Kent and the local authority areas within it. Within Kent, Canterbury has the highest monthly rent for a single room, and across all categories, compared to the other districts and England. Overall in 2016, median rent across all types of accommodation were £58 higher in the Kent study area when compared with England.

Table 3.25: Private median rents by number of bedrooms (2016)

	Room	Studio	1 Bed	2 Bed	3 Bed	4+ Bed	All
Kent	£381	£475	£550	£700	£850	£1,400	£708
Canterbury	£390	£598	£650	£795	£950	£1,500	£800
Dover	£316	£350	£425	£550	£700	£850	£525
Thanet	£282	£344	£425	£600	£750	£900	£560
England	£360	£395	£550	£600	£695	£1,250	£650

Source: DCLG, 2016

Owner Occupied

3.16.48 Data on median house prices show that as of 2016, the average house price in Kent stood at £257,700, an increase of 41% since 2006. This average is characterised by higher house prices across Kent, with the average house prices in Canterbury, Dover and Thanet, being £257,500, £207,000 and £191,300 respectively.

3.16.49 Figure 3.4 shows that median house prices in the Kent study area increased sharply during the early 2000s but remained fairly constant over the recessionary period and have since begun to rise again over the last few years.

3.16.50 Affordability ratios (the ratio of median house prices to median earnings) have followed a similar trend to house prices. Since the early 2000s the average affordability ratio for Kent has been above the England average which suggests that median house prices in Kent have grown quicker than median incomes, when compared with England. As of 2015, the affordability ratio of 10.3 is the highest over the period shown, and has been increasing since 2001. This is compared to an affordability ratio of 9.7 for England in 2015.

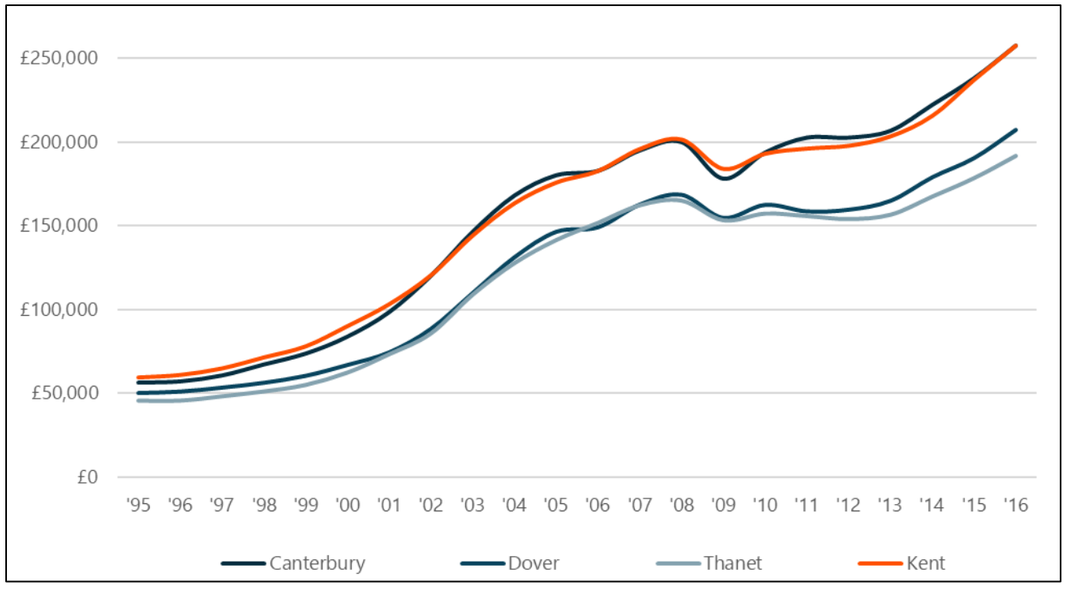

Figure 3.4: Median house prices over time (1995 to 2016).

Source: ONS, 2016d

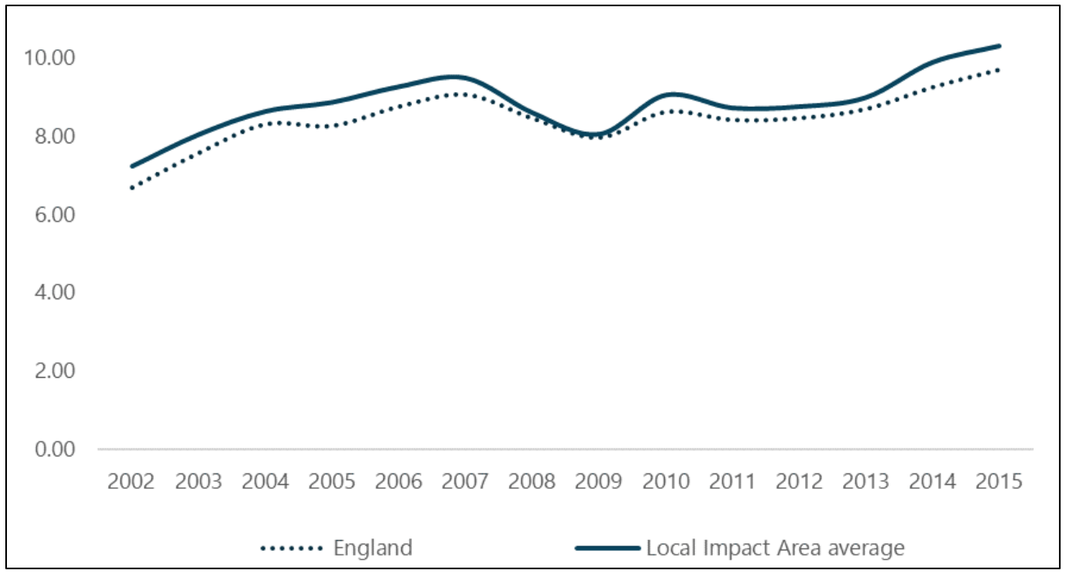

Figure 3.5: Affordability ratio over time (2002 to 2015).

Source: ONS, 2015b

3.17 Key parameters for assessment

3.17.1 Table 3.26 below sets out each of the five receptors for the socio-economic assessment and the relevant details from Project Description (Offshore) (Volume 2, Chapter 1: Project Description (Offshore)) that would lead to a maximum adverse scenario in each case.

3.17.2 The proposed development has potential to affect socio-economic conditions in each of the three main phases of its lifecycle – construction, O&M and decommissioning, however it is considered that the maximum design scenario will be the same in each case, so these have been grouped together in the table.

Table 3.26: Maximum design scenario assessed

Potential effect	Maximum design scenario assessed	Justification
Construction, O&M and Decommissioning		
Direct and indirect employment creation (Kent and UK study areas)	Cost assumptions for all phases are based on benchmarks associated with Thanet Extension consisting of 34 WTGs of 8 MW each. (Please note: this scenario generates the lowest amount of possible spend and the fewest socio-economic benefits to the local supply chain). Scenarios are used to assess the likely potential range of geographic sourcing assumptions for the purchase of supply chain goods and services. For these receptors, the low scenario would represent the maximum adverse scenario. The high scenario would represent the maximum positive scenario The assessment considers all three scenarios. An offshore construction period of 28-months is assumed. O&M phase of Thanet Extension will extend over a 30-year period.	The use of three supply chain sourcing scenarios allows for an assessment of maximum positive impacts as well as minimum positive impacts (i.e. maximum adverse scenario).
Direct and indirect GVA creation (Kent and UK study areas)		
Access to employment for local people as a result of employment creation (Kent study area)	Cost and sourcing assumptions as above.	The use of three supply chain sourcing scenarios allows for an assessment of maximum positive impacts as well as minimum positive impacts (i.e. maximum adverse scenario).
Potential for the employment created during the construction O&M, and decommissioning phases to lead to displacement of workers currently employed in other industries (Kent study area)	Cost and sourcing assumptions as above, however the high sourcing scenario will represent the maximum adverse scenario.	The higher local sourcing scenario will imply more local workers are required, and will hence increase the risk that there could be displacement of workers from other industries.
Demand for housing, accommodation and local services (Kent study area)	Cost and sourcing assumptions as above, however the high sourcing scenario will represent the maximum adverse scenario.	The higher sourcing scenario will imply more local workers are required, which could increase pressure on housing and local services.

3.18 Embedded mitigation

3.18.1 For the purposes of socio-economic assessment, many of the receptors relate to potential positive impacts (such as employment and GVA creation), and as such no embedded mitigation measures have been included with regards to socio-economics.

3.19 Environmental assessment: construction phase

Direct and indirect employment creation

UK study area

3.19.1 The need to support the creation of employment is a central strategic priority nationally, and the focus of numerous policies and strategies. When the economic downturn started in 2008, the national unemployment rate rose sharply. Although this trend has now been reversed, the national unemployment rate remains at around 5% of the economically active population.

3.19.2 In light of the continued strategic importance attached to the creation of employment, and the vulnerability of this receptor to external influence, this receptor is deemed to be of high value and high vulnerability. The sensitivity of the receptor is therefore considered to be High.

3.19.3 Table 3.27 below sets out the predicted levels of direct and indirect employment that the proposed development would deliver across the UK study area during the construction phase, based on the methodology and assumptions set out in section 3.10.

Table 3.27: Summary of predicted levels of employment during construction of Thanet Extension

	Person Years of Employment			Average Annual Employment Impact During Construction Period (FTEs)		
Impact type	Low Scenario	Middle Scenario	High Scenario	Low Scenario	Middle Scenario	High Scenario
Direct	115	930	1,570	50	400	675
Indirect	115	1,230	2,205	50	525	945
Total	230	2,160	3,770	100	925	1,620

Source: Socio-economic impact calculations by Regeneris Consulting, 2017

3.19.4 At the UK-level, the potential employment impact, taking into account direct and indirect effects ranges from 230-person years of employment for the lowest impact scenario to 3,770 person years of employment for the highest impact scenario.

3.19.5 The average annual number of FTEs supported during the construction phase is a more useful figure to use to assess the magnitude of impacts on baseline conditions. The annual average can be readily compared to the current baseline level of employment in the UK study area. It should however be noted that while the average annual figures are helpful, the actual level of employment supported is likely to fluctuate across the construction activity required at any one time.

3.19.6 On average, during the construction period, it is estimated that the development would support an average annual employment impact of between 100 FTEs per year under the lowest scenario to 1,620 FTEs under the highest impact scenario.

3.19.7 As outlined in the baseline section of this chapter, the direct employment effects can reasonably be expected to be concentrated in a relatively small number of employment sectors, namely:

- Manufacturing and engineering: particularly the manufacture of fabricated metal products, electric motors, wiring, and general-purpose machinery;
- Construction: particularly the building of ships and boats, and civil engineering projects;
- Transport: particularly freight transport by road, sea and coastal freight, and support activities for transportation;
- Professional services: notably management consultancy activities, architectural and engineering consultancy, and other professional, scientific and technical sectors; and
- Other sectors: which include accommodation, food and beverage service activities, as well as electric generation, transmission and distribution.

3.19.8 As set out in the baseline section of this chapter, these sectors currently employ around 4.1 million FTEs nationally. During the construction period, the maximum average annual direct employment impact in these sectors would be 675 (under the high impact scenario) which would represent 0.02% of the current baseline level of employment in these sectors nationally.

3.19.9 The indirect effects would be spread across a much wider set of sectors. Under the highest impact scenario, the indirect employment effects (945 FTEs per year on average) would represent around 0.01% of the national employment.

3.19.10 Given the small percentage changes that the direct and indirect effects would stimulate, even under the highest impact scenario, the construction of Thanet Extension is not expected to result in a noticeable change in baseline conditions within the UK study area. The impact is predicted to be of a national spatial extent, medium-term duration and temporary. The magnitude is assessed to be Negligible for all scenarios.

3.19.11 With sensitivity assessed as High, but with an impact magnitude classified as Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Kent study area

3.19.12 Sub-regional (i.e. SE LEP and Kent County Council) and local (i.e. Thanet, Dover and Canterbury) policy emphasises the ambition for new jobs to be created within the Kent study area. The socio-economic baseline shows whilst both unemployment rate and claimant count rate have fallen considerably since the economic downturn, overall unemployment within the Kent study area remains higher than the national unemployment rate. Furthermore, the claimant rate in Kent has experienced a slight increase since the middle of 2015.

3.19.13 In light of the strategic importance attached to the creation of employment in sub-regional and local policy, the construction employment receptor is deemed to be of high value and very high vulnerability. The sensitivity of the receptor is therefore considered to be High.

3.19.14 Table 3.28 sets out the predicted levels of direct and indirect employment that the proposed development would deliver across the Kent study area during the construction phase, based on the methodology and assumptions set out in section 3.10.

Table 3.28: Summary of predicted levels of employment in Kent during construction of Thanet Extension

	Person Years of Employment			Average Annual Employment Impact During Construction Period (FTEs)		
Impact type	Low Scenario	Middle Scenario	High Scenario	Low Scenario	Middle Scenario	High Scenario
Direct	20	205	305	10	90	130
Indirect	5	30	45	0	15	20
Total	25	235	350	10	105	150

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

3.19.15 Across the Kent study area, the total potential employment impact, taking into account the direct and indirect effects, ranges from 25-person years under the lowest impact scenario to 350-person years under the highest impact scenario.

3.19.16 To assess the magnitude of the impact on baseline conditions for this receptor, the average annual number of FTEs supported during the construction phase is a more useful figure, as this can be readily compared to the current baseline level of employment in the Kent study area. It should however be noted that while the average annual figures are helpful, the actual level of employment support is likely to fluctuate across the construction period in accordance to the scheduling of the programme and the intensity of construction activity required at any one time.

3.19.17 During the construction period, the development would support an average annual direct and indirect employment of between ten FTEs per year under the lowest impact scenario and 150 FTEs per year under the highest impact scenario.

3.19.18 As with the UK level impact assessment, the direct employment effects would be expected to concentrate in the following sectors:

- Manufacturing and engineering;
- Construction;
- Transport;
- Professional services; and
- Other sectors: such as the accommodation, food and beverage service activities; and electric generation, transmission and distribution.

3.19.19 The uplift on the baseline level of employment in these sectors will differ across the three scenarios as shown in Table 3.27 (i.e. ten FTEs under the low scenario, 90 FTEs under the middle scenario, and 130 FTEs under the high scenario). This would represent an uplift on the current baseline of between less than 0.01% under the low impact scenario to 0.1% under the high impact scenario.

3.19.20 The indirect effects would be spread across a much wider set of sectors than the direct effects, so the most appropriate benchmark against which to measure the magnitude of impact is total employment across the whole economy in Kent. Under all scenarios assessed, the overall impact of employment generated during the construction period will be less than 0.01% of the total employment in the study area (i.e. 623,000 jobs in 2015).

3.19.21 For all scenarios, the combined direct and indirect effects on employment are expected to result in only a very slight (negligible) change in baseline conditions within Kent. The impact is predicted to be of local spatial extent, medium-term duration and temporary (i.e. only throughout the expected 28-month construction period). In the context of the current level of employment in relevant sectors in the Kent study area, the magnitude is considered to be Negligible for all scenarios.

3.19.22 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Direct and indirect GVA creation

UK study area

3.19.23 GVA is an important measure of wealth creation within the economy, and provides a measurement of the difference between the value of goods and services produced in the economy (i.e. the output) and the cost of producing them (i.e. goods, services and labour inputs required).

3.19.24 Nationally, GVA is an important measure of productivity, and the amount of wealth that economic activity is creating. The latest evidence available shows that UK-wide GVA for 2015 was around £1,666.3 billion.

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

3.19.26 Table 3.29 below sets out the predicted levels of cumulative GVA impacts of construction activity on the UK for the three impact scenarios during the construction phase of Thanet Extension, based on the methodology and assumptions set out in section3.10.

Table 3.29: Summary of construction impact on GVA at the UK level

	Low Scenario (£ million)	Middle Scenario (£ million)	High Scenario (£ million)
Direct	8.3	91.7	166.0
Indirect	6.7	80.5	144.9
Total	15.0	172.2	310.9

Source: Socio-economic impact calculations by Regeneris Consulting, 2017

3.19.27 Construction activity on Thanet Extension is expected to deliver a cumulative GVA impact of between £15.0 million under the low scenario and £310.9 million under the high scenario. The annual estimated GVA impact is a more useful means of assessing the magnitude of impact on baseline conditions, as this can be used to estimate the percentage uplift in annual GVA that the impact would represent. This is presented below in Table 3.30, along with the percentage uplift on national GVA that it would represent.

Table 3.30: Summary of construction impact on annual GVA at the UK level

	Low Scenario	Middle Scenario	High Scenario
Estimated annual GVA impact (£ million)	6.4	73.8	133.3
% of UK GVA (£1,666 billion)	< 0.01%	< 0.01%	0.01%

Source: Socio-economic impact calculations by Regeneris Consulting, 2017

3.19.28 For the low and middle scenarios, the GVA impacts would deliver significantly less than a 0.01% increase on top of the UK GVA baseline. Under the high scenario, the GVA impact is expected to be around 0.01% of the current baseline reflecting a very small (negligible) change in the baseline.

3.19.29 The impact is predicted to be of national spatial extent, medium-term duration and temporary (i.e. through the construction period). The magnitude is therefore, considered to be Negligible for all impact scenarios.

3.19.30 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Kent study area

3.19.31 At the sub-regional and local levels, improvements in productivity are identified as a key ambition for growth over the next few years. There is evidence of considerable challenge with regards to GVA creation across Kent. As outlined earlier in this chapter, GVA per head in the Kent study area falls significantly below the national average (£21,600 GVA per head vs £25,800 GVA per head).

3.19.32 In light of the strategic importance attached to the creation of economic growth and GVA output, and Kent's lagging performance (behind the national average), the receptor is deemed to be of high value and high vulnerability. The sensitivity of the receptor is therefore, considered to be High.

3.19.33 Table 3.31 below sets out the predicted levels of cumulative GVA impacts of construction activity on the Kent study area for the three impact scenarios during the construction phase of the proposed development, based on the methodology and assumptions set out in section 3.10.

Table 3.31: Summary of construction impact on GVA at the Kent level

	Low Scenario (£ million)	Middle Scenario (£ million)	High Scenario (£ million)
Direct	1.7	19.0	26.8
Indirect	0.2	2.4	3.4
Total	2.0	21.4	30.2

Source: Socio-economic impact calculations by Regeneris Consulting, 2017

3.19.34 Construction activity on Thanet Extension is expected to deliver a cumulative GVA impact in Kent of between £2.0 million under the low scenario and £30.2 million under the high scenario. The GVA impact data presented in Table 3.32 below has been used to estimate annual average GVA impacts during the construction period as well as the uplift on Kent's GVA.

Table 3.32: Summary of construction impact on annual GVA at the UK level

	Low Scenario	Middle Scenario	High Scenario
Estimated annual GVA impact (£ million)	0.8	9.2	12.9
% of UK GVA (£33.0 billion)	< 0.01%	0.03%	0.04%

Source: Socio-economic impact calculations by Regeneris Consulting, 2017.

3.19.35 Based on the estimates above, with an annual GVA uplift of £0.8 million the low impact scenario is not expected to produce a noticeable change in the baseline level of GVA across the Kent study area. The middle and high impact scenarios are expected to result in higher GVA uplift of between £9.2 million and £12.9 million per annum, albeit a minor shift in the baseline level of GVA (of 0.03% and 0.04% respectively) reflecting a small (negligible) change in the baseline.

3.19.36 The impact is predicted to be of local spatial extent, medium-term duration and temporary (during the construction period). The magnitude is therefore considered to be Negligible.

3.19.37 With sensitivity assessed as High, but with an impact magnitude classified as Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Access to employment for local people as a result of employment creation

Kent study area

3.19.38 Concentration of high levels of unemployment and economic inactivity within Kent points towards this receptor being very sensitive. Taking the Kent study area as a whole, the unemployment rate (5.4% of economically active population) is slightly above the national rate of 5%. However, the Kent average masks significant concentrations of unemployment within some of the local authority areas (Canterbury's unemployment is 6.1%, whilst Dover's is 7.7%).

3.19.39 In light of the strategic importance attached to the creation of employment opportunities for local residents, and the role this plays in supporting wider socio-economic benefits, the access to local employment receptor is deemed to be of high value. The sensitivity of the receptor is therefore considered to be High.

3.19.40 The scenario analysis indicates that the direct and indirect employment impacts associated with construction phase activity would range from 10 to 150 annual FTEs. The analysis assumes that most of the opportunities that would occur in the Kent study area would be related primarily to:

- Lower tier manufacturing contracts (for example the supply of steel for the turbine towers, manufacture of cables);
- Specialist construction activities;
- Land and water-based transport; and
- Accommodation and food services.

3.19.41 While it is important to note that the potential for local people to access employment opportunities generated will be dependent on the match between the type of employment generated and the skills and occupational profile of local residents, the socio-economic baseline highlighted considerable local employment in these sectors within Kent, and significant capacity within the labour market, with 39,400 unemployed residents, of whom at least 1,000 are seeking employment in these sectors.

3.19.42 While the locally created employment opportunities may need to draw some labour from outside of the Kent study area, in light of the level of capacity that exists and local travel to work patterns, it is reasonable to expect that a large proportion of employment will be taken up by people living within the Kent study area.

3.19.43 While this locally created employment, will be beneficial, as shown in the Table 3.33 below, the employment effects would not deliver a substantial change in the baseline number of residents seeking employment.

Table 3.33: Summary of predicted change in unemployment as a result of construction activity by Thanet Extension

	Low Scenario	Middle Scenario	High Scenario
Average annual direct and indirect employment impact during construction	10	105	150
% of baseline (39,400 unemployed residents in Kent)	<0.03%	0.27%	0.38%

Source: Socio-economic calculations by Regeneris Consulting, 2017.

3.19.44 The impact is predicted to be of local spatial extent, medium duration and temporary (throughout the construction period). The magnitude is therefore considered to be Negligible.

3.19.45 With sensitivity assessed as High, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Potential for the employment created to lead to displacement of workers currently employed in other industries

Kent study area

3.19.46 Sub-regional (i.e. SE LEP and Kent County Council) as well as local (i.e. Thanet, Dover and Canterbury) policy emphasises the ambition for new jobs to be created within the Kent study area. If jobs created displace workers in other sectors in Kent however, this could have adverse effects on other firms and overall employment.

3.19.47 In light of this, and the importance attached to jobs creation in local and sub-regional policy, the receptor is deemed to be of medium value and vulnerability. As such, the sensitivity of the receptor is considered to be Medium.

3.19.48 Under the high scenario, there would be around 150 annual FTE posts supported by construction phase activity.

3.19.49 Evidence presented in the baseline (see paragraph 3.16.9) indicates that there are around 1,000 JSA claimants seeking employment in occupations which are relevant to the offshore wind sector and supply chain. As explained in the baseline, this figure is also likely to be an underestimate of the number of people seeking work in these fields.

3.19.50 While it is important to note that the potential for currently unemployed people to access employment opportunities generated will be dependent on the match between the type of employment generated and the skills and occupational profile of these residents, it is anticipated that the large number of people seeking employment in relevant occupations will mean that any displacement effects are Negligible.

3.19.51 The impact on the receptor is therefore predicted to be of local spatial extent, medium-term duration and temporary. The magnitude is therefore considered to be Negligible.

3.19.52 With sensitivity assessed as Medium, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** adverse significance, which is not significant in terms of the EIA Regulations.

Demand for housing, accommodation and local services

Kent study area

3.19.53 Although the provision of housing and other services is important locally, local policy does not highlight any significant challenges with regards to the in-migration of labour affecting housing provision or other services. In fact, various policies across the Thanet, Dover and Canterbury local authorities acknowledge the link between in-migration and growth, with the Thanet Local Plan consultation draft (Thanet District Council. 2015) stating that "further in-migration will be needed to provide an adequate labour supply to deliver the economic growth strategy". Based on this, the sensitivity of the receptor on the Kent study area is considered as Medium.

3.19.54 The effect of the development on demand for housing and other services during the construction phase is dependent on the number of direct and indirect jobs generated during the construction phase, and the extent to which the workforce utilised is local to the Kent study area.

3.19.55 In the case that all jobs created were taken by existing local residents, this would cause no additional effects on local housing and services. If all jobs created were taken up by people moving into the area, this would create additional need for housing and other services.

3.19.56 In the high scenario, there would be around 150 additional annual jobs in Kent over the course of the construction phase. As described under the previous receptors, the strong representation of relevant sectors and the large pool of unemployed people seeking employment in relevant occupations suggests that the majority of those local jobs would be taken up by existing local residents. The housing and local service impacts of this job creation is therefore expected to be Negligible.

3.19.57 For any new employees moving into the area, there is already a large supply of existing houses to buy and rent in Kent, with data from rightmove.co.uk showing around 18,530 homes currently for sale and around 6,220 homes currently available to rent across Kent (www.rightmove.co.uk, March 2018, based on the whole of Kent, Medway and parts of south-east London).

3.19.58 In addition to the annual 150 jobs which could be supported locally, it is possible that there could be jobs based elsewhere in the UK or overseas which need to be based for short periods in the Kent study area, which are not included in the 150 figure. These posts would be anticipated to be based locally only for short periods and at intermittent times. As such it is anticipated that these individuals would use local temporary accommodation, such as hotels.

3.19.59 Data on the number of bedrooms by type of accommodation (i.e. serviced, self-catering, camping, boat moorings, etc.) is not available. However, an estimate of the number of serviced accommodation rooms across Kent can be derived from the data available. On the basis that approximately 3.98m visitor nights were spent in serviced accommodation in 2015, with an average of 70.5% occupancy across the year, it can be estimated that this equates to a figure of the order of 15,000 serviced accommodation rooms across Kent (Destination Research, 2016). As such, it is assessed that there is sufficient capacity to meet the accommodation needs of these individuals.

3.19.60 The impact is predicted to be of local spatial extent, medium-term duration and temporary. The magnitude of the impact is therefore considered to be Negligible.

3.19.61 With sensitivity assessed as Medium, but an impact of magnitude Negligible, the effect will therefore be of **Minor** adverse significance, which is not significant in terms of the EIA Regulations.

3.20 Environmental assessment: O&M phase

Direct and indirect employment creation

UK study area

3.20.1 The evidence underpinning the assessment of the sensitivity of the receptor is as for the construction phase (see paragraph 3.19.1 to 3.19.2). The O&M employment receptor is deemed to be of high value and high vulnerability, and as a result is considered to be High.

3.20.2 Table 3.34 sets out the predicted levels of employment that the proposed development would deliver in the UK during the O&M phase.

Table 3.34: Summary of predicted levels of UK-based employment during O&M phase of Thanet Extension

	Annual Employment Impact during O&M phase (FTEs)		
	Low Scenario	Middle Scenario	High Scenario
Direct	40	40	40
Indirect	10	80	110
Total	50	120	150

Source: Socio-economic calculations by Regeneris Consulting, 2017.

3.20.3 At the UK-level, the potential employment impact ranges from 50 FTE posts each year for the lowest impact scenario to 150 FTE posts each year for the highest impact scenario.

3.20.4 The direct employment impact would be 40 FTE posts each year under all scenarios, as it is assumed that all direct O&M employment would be UK-based. As these positions would be directly employed by Thanet Extension, all jobs would be within the electric power generation sector (SIC 351) which currently supports around 80,000 jobs. The addition of 40 FTE posts across the UK would have a very small impact on the level of employment in this sector nationally (the percentage increase would be 0.05%).

3.20.5 It can reasonably be expected that the indirect employment effects would be focussed on a smaller number of sectors than during the construction phase, as activities would be related primarily to (i) manufacture and installation of spare components, (ii) engineering activities associated with maintenance, and (iii) land and marine transport of components. The main sectors considered in this assessment have therefore been limited to the following:

- Relevant manufacturing and engineering sectors;
- Specialist construction activities;
- Marine and land transport; and
- Professional services.

3.20.6 Together these sectors support around 1.8 million positions nationally. Under the highest impact scenario, the annual indirect employment impact of 100 FTE posts would represent less than 0.01% of the employment in these sectors nationally, and therefore would have no discernible impact on overall levels of employment.

3.20.7 Given that the percentage changes in employment in relevant sectors for direct and indirect effects would be so low, even under the highest impact scenario, it is not expected that the O&M phase of Thanet Extension would lead to a noticeable change in baseline conditions in the UK study area.

3.20.8 In light of this, the impact is predicted to be of a national spatial extent, long-term duration and permanent. The magnitude is therefore considered to be Negligible for all impact scenarios.

3.20.9 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Kent study area

3.20.10 The evidence underpinning the assessment of the sensitivity of the receptor is the same as for the construction phase (see paragraph 3.19.12 - 3.19.13). The O&M employment receptor is deemed to be of high value and high vulnerability, and as a result the sensitivity of the receptor in the Kent study area is considered to be High.Table 3.35 sets out the predicted levels of employment that the proposed development would deliver in the Kent study area during the O&M phase. The total potential employment impact during the O&M phase of Thanet Extension is between 40 and 50 FTE posts each year.

Table 3.35: Summary of predicted levels of Kent-based employment during O&M phase of Thanet Extension

	Annual Employment Impact during O&M phase (FTEs)		
	Low Scenario	Middle Scenario	High Scenario
Direct	40	40	40
Indirect	0	5	10
Total	40	45	50

Source: Socio-economic calculations by Regeneris Consulting, 2017.

3.20.11 As with the UK-level impact assessment, the direct employment impact would be focussed on the electric power generation sector which supports around 1,500 jobs within the Kent study area. Under all scenarios (i.e. 40 FTE jobs), this would represent an increase of around 3% on the baseline.

3.20.12 Indirect employment would be focussed on the same sectors outlined under the assessment of the receptor for the UK study area. Within Kent, these sectors support around 34,000 jobs. Under the high scenario, the maximum increase would represent an increase of 0.03% on the current baseline.

3.20.13 Whilst the direct employment generated by O&M activity within the Kent study area is expected to have a limited effect, the indirect effects are not expected to result in a discernible change in baseline conditions.

3.20.14 The impact of O&M activity is predicted to be of local spatial extent, long-term in duration and permanent, and the magnitude of the impact is considered to be Negligible.

3.20.15 With sensitivity assessed as High, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Direct and indirect GVA creation

UK study area

3.20.16 The evidence underpinning the assessment of the sensitivity of the receptor is as for the construction phase (see paragraph 3.19.23 to 3.19.25). The O&M GVA receptor is deemed to be of high value and moderate vulnerability. The sensitivity of the receptor is therefore considered to be High.

3.20.17 Table 3.36 sets out the predicted levels of annual GVA impacts of O&M activity on the UK for the three scenarios assessed. Annually, O&M activity is predicted to support between £4.9 million GVA under the low scenario and £11.3 million GVA under the high scenario.

Table 3.36: Summary of predicted levels of UK-based GVA impact during O&M phase of Thanet Extension

	Annual GVA Impact during O&M phase		
	Low Scenario (£ million)	Middle Scenario (£ million)	High Scenario (£ million)
Direct	4.1	4.1	4.1
Indirect	0.8	5.2	7.2
Total	4.9	9.3	11.3

Source: Socio-economic calculations by Regeneris Consulting, 2017.

3.20.18 As per the baseline, the UK's GVA is estimated to be around £1,666 billion. This means that the annual GVA created across the UK as a result of O&M activity would deliver no discernible change (<0.01% under the high scenario) on baseline conditions.

3.20.19 The impact is predicted to be of national spatial extent, long-term duration and permanent. The magnitude is therefore considered to be Negligible for all impact scenarios.

3.20.20 With sensitivity assessed as High, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Kent study area

3.20.21 The evidence underpinning the assessment of the sensitivity of the receptor is as for the construction phase (see paragraph 3.19.1 - 3.19.32). The O&M GVA receptor is deemed to be of high value and high vulnerability, and the sensitivity of the receptor is therefore considered to be High.

3.20.22 Table 3.37 below sets out the predicted levels of annual GVA impacts of O&M activity in the Kent study area. Annually, O&M activity is predicted to generate between £4.1 million GVA under the low scenario to £4.9 million GVA under the high scenario.

Table 3.37: Summary of predicted levels of Kent-based GVA impact during O&M phase of Thanet Extension

	Annual GVA Impact during O&M phase		
	Low Scenario (£ million)	Middle Scenario (£ million)	High Scenario (£ million)
Direct	4.1	4.1	4.1
Indirect	0.0	0.4	0.8
Total	4.1	4.5	4.9

Source: Socio-economic calculations by Regeneris Consulting, 2017.

3.20.23 The most recent estimate for Kent's GVA is £32,989 million. It is expected that the annual GVA created across the Kent study area as a result of O&M activity would deliver no discernible change (<0.01% under the high scenario) on baseline.

3.20.24 The impact is predicted to be of local spatial extent, long-term duration and permanent. The magnitude is therefore considered to be Negligible.

3.20.25 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Access to employment for local people as a result of employment creation

Kent study area

3.20.26 The evidence underpinning the assessment of the sensitivity of the receptor is as for the construction phase (see paragraph 3.19.38 to 3.19.39). The importance attributed to employment creation, and the role this plays in supporting wider socio-economic benefits is deemed to be of high value. As such, the sensitivity of the receptor is therefore considered to be High.

3.20.27 Table 3.38 shows the predicted change in unemployment as a result of O&M activity by Thanet Extension.

Table 3.38: Summary of predicted change in unemployment as a result of O&M activity by Thanet Extension

	Low Scenario	Middle Scenario	High Scenario
Average annual direct and indirect employment impact during construction	40	45	50
% of baseline (39,400 unemployed residents in Kent)	0.10%	0.11%	0.13%

Source: Socio-economic calculations by Regeneris Consulting, 2017.

3.20.28 The socio-economic baseline highlighted considerable capacity within the labour market locally. The table above shows that the expected impacts of O&M activity on local unemployment is expected to be negligible and would vary from 0.10 - 0.13%.

3.20.29 The impact is predicted to be of local spatial extent, long-term duration and continuous. The magnitude for all scenarios assessed is considered to be Negligible.

3.20.30 With sensitivity assessed as High, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Potential for the employment created to lead to displacement of workers currently employed in other industries

Kent study area

3.20.31 The evidence underpinning the assessment of the sensitivity of the receptor is as for the construction phase (see paragraph 3.19.46 to 3.19.47). The receptor is deemed to be of medium value and vulnerability. As such, the sensitivity of the receptor is considered to be Medium.

3.20.32 The impact of Thanet Extension on the potential for displacement within the Kent study area is dependent on the number of jobs created, and the extent to which the local workforce is utilised. Under the high scenario there would be around 150 FTE jobs supported locally by O&M phase activity.

3.20.33 Evidence presented in the baseline (see paragraph 3.16.9) indicates that there are around 1,000 JSA claimants seeking jobs in occupations which are complimentary to the offshore wind sector. As explained in the baseline, this figure is also likely to be an underestimate of the number of people seeking work in these fields.

3.20.34 As for the construction phase, while it is important to note that the potential for currently unemployed people to access employment opportunities generated will be dependent on the match between the type of employment generated and the skills and occupational profile of these residents, it is anticipated that the large number of people seeking employment in relevant occupations will mean that any displacement effects are negligible.

3.20.35 The impact on the receptor is therefore predicted to be of local spatial extent, long-term duration and intermittent. The magnitude is therefore considered to be Negligible.

3.20.36 With sensitivity assessed as Medium, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** adverse significance, which is not significant in terms of the EIA Regulations.

Demand for housing, accommodation and local services

Kent study area

3.20.37 The evidence underpinning the assessment of the sensitivity of the receptor is as for the construction phase (see paragraph 3.19.53). The receptor is deemed to be of medium value and vulnerability. The sensitivity of the receptor is therefore considered to be Medium.

3.20.38 The effect of the O&M phase on demand for housing and other services is dependent on the number of direct and indirect jobs generated, and the extent to which the workforce utilised is local to the Kent study area.

3.20.39 In the case that all jobs created were taken by existing local residents, this would cause no additional effects on local housing and services. If all jobs created were taken up by people moving into the area, this would create additional need for housing and other services.

3.20.40 In the high scenario, there would be around 150 additional jobs in Kent over the O&M phase. As described under the previous receptors, the strong representation of relevant sectors and the large pool of unemployed people seeking employment in relevant occupations suggests that the majority of those local jobs would be taken up by existing local residents. The housing and local service impacts of this job creation is therefore expected to be negligible.

3.20.41 For any new employees moving into the area, there is already a large supply of existing houses to buy and rent in Kent. Data quoted in paragraph 3.19.57 indicates there is already considerable capacity within the local market to accommodate the additional demand.

3.20.42 The impact is predicted to be of local spatial extent, long-term in duration and permanent. The magnitude is therefore considered to be Negligible.

3.20.43 With sensitivity assessed as Medium, but an impact magnitude of Negligible, the effect will therefore be of **Minor** adverse significance, which is not significant in terms of the EIA Regulations.

3.21 Environmental assessment: decommissioning phase

3.21.1 The impacts of the decommissioning phase of Thanet Extension have been assessed on the socio-economics of the Kent and UK study areas. There is considerable uncertainty with regards to the potential effects of the decommissioning process of the proposed development. This is because the approach to decommissioning Thanet Extension, the available technology which could be used, and the associated costs are not yet known.

3.21.2 A description of the significance of impacts upon socio-economic receptors caused by each identified impact is given below.

Direct and indirect employment creation

UK study area

3.21.3 As for the construction and O&M phases, the sensitivity of the employment receptor is based on current policy and socio-economic conditions, and is considered to be High.

3.21.4 Given the unknown nature of the decommissioning phase and position of the UK sector at that point in time, it is not possible to estimate the employment impacts associated with the decommissioning phase.

3.21.5 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.6 On that basis, it is concluded that the magnitude of impact would be Negligible**.**

3.21.7 With sensitivity assessed as High, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Kent study area

3.21.8 As for the construction sector, the employment receptor is deemed to be of high value and very high vulnerability. The sensitivity of the receptor is therefore considered to be High.

3.21.9 As above, given the unknown nature of the decommissioning phase and position of the Kent sector at that point in time, it is not possible to estimate the employment impacts associated with the decommissioning phase.

3.21.10 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.11 On that basis, it is concluded that the magnitude of impact would be Negligible**.**

3.21.12 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Direct and indirect GVA creation

UK study area

3.21.13 As for the construction and O&M phases, the sensitivity of the GVA receptor, based on the current policy context, and socio-economic conditions, is considered to be High.

3.21.14 Given the unknown nature of the decommissioning phase and position of the UK sector at that point in time, it is not possible to estimate the employment impacts associated with the decommissioning phase.

3.21.15 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.16 On that basis, it is concluded that the magnitude of impact would be Negligible**.**

3.21.17 With sensitivity assessed as High, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Kent study area

3.21.18 As for the construction and O&M phases, the sensitivity of the GVA receptor, based on the current policy context and socio-economic conditions, is considered to be High.

3.21.19 Given the unknown nature of the decommissioning phase and position of the Kent sector at that point in time, it is not possible to estimate the employment impacts associated with the decommissioning phase.

3.21.20 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.21 On that basis, it is concluded that the magnitude of impact would be Negligible**.**

3.21.22 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Access to employment for local people as a result of employment creation

Kent study area

3.21.23 As for the construction and O&M phases, the sensitivity of the employment receptor, based on current policy and socio-economic conditions, is considered to be High.

3.21.24 Given the unknown nature of the decommissioning phase and position of the Kent economy and unemployment levels at that point in time, it is not possible to estimate the access to employment impacts associated with the decommissioning phase.

3.21.25 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.26 On that basis, it is concluded that the magnitude of impact would be Negligible**.**

3.21.27 With sensitivity assessed as High, but an impact magnitude of Negligible, the effect will therefore be of **Minor** beneficial significance, which is not significant in terms of the EIA Regulations.

Potential for the employment created to lead to displacement of workers currently employed in other industries

Kent study area

3.21.28 As per the assessment of displacement during the construction and O&M phases, the sensitivity of the receptor is considered to be Medium**.**

3.21.29 Given the unknown nature of the decommissioning phase and position of the Kent economy at that point in time, it is not possible to estimate the potential employment displacement impacts associated with the decommissioning phase.

3.21.30 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.31 On that basis, it is concluded that the magnitude of impact would be Negligible**.** This would equate to the displacement of between five person years and 30 person years from within the Kent Study area. In the context of the number of JSA claimants within the Kent study area, the scale of displacement effect is deemed to be Negligible**.**

3.21.32 With sensitivity assessed as Medium, but with an impact magnitude of Negligible, the effect will therefore be of **Minor** adverse significance, which is not significant in terms of the EIA Regulations.

Demand for housing, accommodation and local services

Kent study area

3.21.33 As for the construction and O&M phases, the sensitivity of the receptor on the pressures on the housing sector is considered to be of Medium sensitivity.

3.21.34 Given the unknown nature of the decommissioning phase and position of the Kent housing market at that point in time, it is not possible to estimate the demand for housing and services impacts associated with the decommissioning phase.

3.21.35 However, it can be assumed that these will be of a similar nature but lower than the impacts relating to the construction phase.

3.21.36 On that basis, it is concluded that the magnitude of impact would be Negligible**.**

3.21.37 With sensitivity assessed as Medium, but an impact magnitude of Negligible, the effect will therefore be of **Minor** adverse significance, which is not significant in terms of the EIA Regulations.

3.22 Environmental assessment: cumulative effects

3.22.1 Cumulative effects refer to effects upon receptors arising from Thanet Extension when considered alongside other proposed developments and activities and any other reasonably foreseeable project(s) proposals. In this context, the term projects is considered to refer to any project with comparable effects and is not limited to offshore wind projects.

3.22.2 The approach to cumulative assessment for Thanet Extension takes into account the Cumulative Impact Assessment Guidelines issued by RenewableUK in June 2013 together with the Cumulative Effects Assessment 'Advice Note 17' issued by PINS in 2015, in addition to comments made in response to other renewable energy developments within the Southern North Sea, and PINS 'Advice Note 9: Rochdale Approach'. The developments the suggested tiers, and the Cumulative Impact Assessment approach that have informed this assessment have been agreed with stakeholders via the EIA Evidence Plan (Document Ref: 8.5), .

3.22.3 In assessing the potential cumulative impact(s) for Thanet Extension, it is important to bear in mind that for some projects, predominantly those 'proposed' or identified in development plans etc. may or may not actually be taken forward. There is thus a need to build in some consideration of certainty (or uncertainty) with respect to the potential impacts which might arise from such proposals. For example, relevant projects/ plans that are already under construction are likely to contribute to cumulative impact with Thanet Extension, whereas projects/ plans not yet approved or not yet submitted are less certain to contribute to such an impact, as some may not achieve approval or may not ultimately be built due to other factors.

3.22.4 For this reason, all relevant projects/ plans considered cumulatively alongside Thanet Extension have been allocated into 'Tiers' reflecting their current stage within the planning and development process. This allows the cumulative impact assessment to present several future development scenarios, each with a differing potential for being ultimately built out. Appropriate weight may therefore be given to each scenario (Tier) in the decision-making process when considering the potential cumulative impact associated with the proposed development (for instance, a greater weight can be placed on the Tier 1 assessment relative to Tier 2). In practice, all projects shortlisted for the cumulative assessment of socio-economic impacts fall into Tier 1. This means that Thanet Extension is considered alongside other projects under construction, where data confidence for the projects is high. Built and operational projects are included within the cumulative assessment where they have not been included within the baseline (i.e. they were not operational when the baseline was undertaken).

3.22.5 The projects and plans selected as relevant to the assessment of impacts to socio-economics are based upon an initial screening exercise undertaken on a long list. Each project, plan or activity has been considered and scoped in or out on the basis of effect–receptor pathway, data confidence and the temporal and spatial scales involved.

3.22.6 The method for assessing the cumulative effects of construction, O&M and decommissioning of Thanet Extension has followed the four-step process identified by PINS (2015), namely the identification the zone of impact and temporal overlap with the proposed development, the identification of a long-list of projects to be considered, information gathering on a short-list of relevant projects, and assessment of the cumulative effects.

3.22.7 For socio-economic impacts the potential for cumulative effects extends to the proposed infrastructure developments of other energy developments within the local study area (Kent), and other developments that would draw on a similar supply chain or labour market to Thanet Extension.

3.22.8 The direct and indirect effects of Thanet Extension (in the construction, O&M and decommissioning phases) would be focused on a relatively small number of sectors including:

- Manufacturing and engineering sectors – In particular, the manufacture of fabricated metal products (for example as part of the supply chain for the turbine towers and foundations), manufacture of electric wires and cables, manufacture of electric motors, generators (for example to supply components for substations) and WTGs;
- Construction sectors – The more specialist construction activities (such as energy-related construction and/ or installation), and those relating to construction of floating structures, ships and boats are most likely to be affected by the development of Thanet Extension;
- Land and marine-based transport sectors – Sea and coastal water transport as well as ancillary services will be key sectors along with other land-based forms of transport;
- Accommodation and food services – These sectors are likely to experience an increase in demand to cater for workers coming into the area from elsewhere, during the construction period in particular; and
- Professional services – A range of technical consultancy services will be required throughout the construction, O&M and decommissioning of the development (which includes remotely monitoring the wind farm once completed).

3.22.9 Selected developments have therefore been identified based on the extent to which these developments' supply chains might draw on companies in similar sectors and the extent to which the skills requirements of the labour markets may overlap.

3.22.10 For the purposes of assessing the impact of Thanet Extension on socio-economics in the region the cumulative impact technical note forming Volume 1, Annex 3-1: Cumulative Impact Assessment - Methodology and Project List (Document Ref: 6.1.3.1) is used to screen a long-list of projects and activities considered.

3.22.11 Table 3.39 below identifies the projects considered as part of the cumulative assessment, including construction of the Nemo link, the Richborough Connection, construction of a biomass Combined Heat and Power (CHP) plant, and construction of a 5MW solar farm. More detail about each project is presented below:

- Nemo Link – The construction of a new interconnector cable connecting the UK and Belgian grids allowing both countries to start trading electricity. Although onshore construction for the Nemo link is completed, delays resulting from baseline data lag (discussed in section 3.9) mean that the project is not included in the baseline and as such should be considered in the cumulative assessment.
- Richborough Connection – A proposed 400kV electricity transmission connection between Richborough and Canterbury to connect the new Nemo link to the UK's electrical grid.
- Biomass CHP plant – the construction of a biomass CHP plant with fuel storage and associated works on the North East side of Discovery Park. The biomass plant will have capacity to generate up to 28 MW, and is expected to become operational in the Summer of 2018.
- 5 MW Solar Farm – the creation of a 5 MW solar farm with associated solar panels, invertors, sub-stations, security fencing, access, infrastructure and associated works.

3.22.12 Please note that the Thanet Cable Replacement project is no longer being pursued, and as such a cumulative impact assessment is not required.

Table 3.39: Short-list of projects considered for the cumulative assessment of socio-economic impacts for Thanet Extension

Development type	Project	Status (as of March 2018)	Data confidence assessment / phase	Tier
Cables and Pipelines	Nemo Interconnector Cable	Construction finished	High - Project details published in the public domain and confirmed as being 'accurate' by developer.	Tier 1
Grid	Richborough Connection: Proposed 400 kW electricity transmission connection	Permission granted	High – Project details published in the public domain and confirmed as being 'accurate' by developer.	Tier 1
Energy	Biomass combined heat and power plant	Under construction	High – Project details published in the public domain and confirmed as being 'accurate' by developer.	Tier 1
Energy	5 MW Solar Farm	Under construction	High – Project details published in the public domain and confirmed as being 'accurate' by developer.	Tier 1

3.22.13 The following table presents details of the projects considered for the cumulative assessment and the extent to which they overlap with Thanet Extension.

Table 3.40: Temporal overlap of projects considered for the cumulative assessment

Project	Status (as of August 2017)	Construction Phase		O&M Phase	
		Overlap in Timing	Overlap in Supply Chain and Labour Market Requirements	Overlap in Timing	Overlap in Supply Chain and Labour Market Requirements
Nemo Interconnector Cable – 1GW Interconnector Cable	Construction finished	No	No construction overlap	Yes	Limited – once installed O&M requirements will be very low.
Richborough Connection: Proposed 400 kV electricity	Permission granted	No – new overhead link will be ready to connect to Nemo Link towards late 2018	No construction overlap	Yes	Limited – once installed O&M requirements will be very low.
Biomass combined heat and power plant	Permission granted	No – construction expected to be completed by 2018	No construction overlap	Yes	Limited – O&M requirements will be very low.
5 MW Solar Farm	Permission granted	No	No construction overlap expected	Yes	Limited – O&M requirements will be very low.

Cumulative impact on direct and indirect employment and GVA creation

3.22.14 The assessment of the construction, O&M and decommissioning of Thanet Extension above identifies a High level of sensitivity for direct and indirect employment and GVA creation within the Kent study area. This is based on the strategic importance attached to the creation of wealth and economic growth within the local and sub-regional policy context.

3.22.15 The projects identified for cumulative impacts are not expected to overlap with Thanet Extension during the construction phase, however all projects are expected to overlap the O&M phase. Employment relating to the new cables is expected to be limited to intermitted maintenance whilst research in Bryan *et al.* (2017) identifies an overall employment rate of 0.4 jobs per MW in operation for solar farms, and 0.7 jobs per MW in operation for biomass plans. This means that the O&M of the 5 MW solar farm and biomass CHP plant will support around two and 20 FTE jobs respectively. Based on this, the cumulative effect on the receptor is assessed to be Negligible.

3.22.16 With sensitivity assessed as High, but an impact magnitude of Negligible, the cumulative effect of these projects on employment and GVA creation alongside Thanet Extension is assessed to be of **Minor** significance, which is not significant in terms of the EIA regulations.

Cumulative impact on access to employment for local people

3.22.17 The assessment of the construction, O&M and decommissioning of Thanet Extension assigns a High level of sensitivity for the receptor. This is based on the strategic importance attached to the creation of employment opportunities for local residents and the role this plays in supporting wider socio-economic benefits within the Kent study area.

3.22.18 As per the previous section, none of the projects identified for cumulative impact assessment are not expected to overlap with Thanet Extension during the construction phase, whilst employment impacts of these projects during the O&M phase are expected to be negligible, and the magnitude of the impact is assessed to be Negligible.

3.22.19 With sensitivity assessed as High, but an impact magnitude of Negligible, the cumulative effect of these projects on access to employment for local people alongside Thanet Extension is assessed to be of **Minor** significance, which is not significant in terms of the EIA regulations.

Cumulative impact on potential for the employment created to lead to displacement of workers currently employed in other industries

3.22.20 Sub-regional as well as local policy emphasises the desire for new jobs to be created within the Kent study area. If jobs created displace workers from other employment sectors in Kent however, this could have adverse effects on other firms and overall employment.

3.22.21 In light of this, and the importance attached to jobs creation in local and sub-regional policy, the receptor is deemed to be of Medium sensitivity.

3.22.22 The analysis presented in Table 3.40 indicates that none of the projects identified for cumulative assessment are expected to overlap with Thanet Extension during the construction phase, and that any overlap will occur during the O&M phase.

3.22.23 The assessment of the magnitude of impact on direct and indirect employment and GVA creation indicates that cumulative demand for employment during the O&M period is expected to be minimal. Evidence presented in the baseline (see paragraph 3.16.9) indicates that there are around 1,000 claimants seeking employment in occupations which are relevant to the offshore wind sector and supply chain. Whilst not all claimants may be able to apply for the O&M jobs on offer (due to skills mismatch or occupational profile of these residents), it is anticipated that the large number of people seeking employment in relevant occupations will mean that the magnitude of any displacement effects are Negligible.

3.22.24 With sensitivity assessed as Medium, but an impact magnitude of Negligible, the cumulative effect of these projects on the displacement of workers alongside Thanet Extension is therefore expected to be of **Minor** significance, i.e. not significant in terms of the EIA regulations.

Cumulative impact on demand for housing, accommodation and local services

3.22.25 Whilst the provision of local housing and associated services is considered to be an important issue locally, local policy does not highlight any significant challenges with regards to the in-migration of labour, and its effect on the receptor's availability. In fact, several policies from within the Kent study area highlight the link between in-migration and the area's ability to sustain an adequate supply of labour to deliver economic growth. Based on this, the sensitivity of the receptor on the Kent study area is assessed to be Medium.

3.22.26 The projects identified for cumulative impacts at all levels are not expected to overlap during the construction phase, and any overlap will occur during the O&M phase.

3.22.27 Given that the number of additional jobs supported by the O&M of these projects is expected to be low, the demand for housing and associated services within the Kent study area is also expected to be low. Based on this, the magnitude of the impact on the receptor is assessed to be Negligible.

3.22.28 With sensitivity assessed as Medium, but an impact magnitude of Negligible, the cumulative effect of these projects on demand for housing, accommodation and other services alongside Thanet Extension is assessed to be of **Minor** significance, which is not significant in terms of the EIA regulations.

3.23 Inter-relationships

3.23.1 In order to address the environmental impacts of the proposed project as a whole, this section establishes the inter-relationships between socio-economics and other physical, environmental and human receptors. The objective is to identify where the accumulation of impacts on a single receptor, and the relationship between those impacts, may result in the need for additional mitigation.

3.23.2 Table 3.41 summarises the inter-relationships that are considered of relevance to socio-economics and identifies where these have been considered within this EIA. Some of the jobs and GVA effects considered in here during the construction phase will support the tourism sector over the short term. The wider effects on the tourism economy are considered in Volume 3, Chapter 4: Tourism and Recreation (Document Ref: 6.3.4).

Table 3.41: Inter-relationships

Topic and description	Related chapter	Where addressed in this chapter
The relationship between employment and GVA impacts of tourism and recreation activities and Thanet Extension	Volume 3, Chapter 4: Tourism and Recreation (Document Ref: 6.3.4).	Reference to tourism and recreation activity is included in section 3.16 and is included in baseline employment figures.

3.24 Mitigation

3.24.1 Given the generally low level of significance ascribed to the predicted impacts on the socio-economics as a result of the construction, O&M and decommissioning of Thanet Extension, it is concluded that no further mitigation measures are required. Additional measures VWPL could take to maximise the socio-economic benefits of construction, O&M and decommissioning of Thanet Extension are discussed in section 3.25 below.

3.25 Enhancement Measures and Strategies

3.25.1 Table 3.26 below outlines the relevant measures that VWPL can take to enhance and maximise the benefits generated by the construction, O&M and decommissioning of Thanet Extension. These measures could help push the development's effects towards medium/ high impacts for employment and GVA receptors. That said, we do not anticipate these to affect the magnitude (and significance) of the effects.

3.25.2 As discussed in section 3.16, VWPL already engages with the supply chain at the local and national level and would seek to maintain and increase the level of engagement during the construction, O&M and decommissioning phases of Thanet Extension.

Table 3.42: Enhancement measures and strategies VMPL could undertake to maximise socio-economic benefits

Parameter	Mitigation measures embedded into the project design
General	
Access to supply chain opportunities	There is a strong recognition of policy emphasis placed on securing local economic benefits through developments such as Thanet Extension. VWPL has already undertaken a number of supply chain events as part of its preliminary engagement with the local supply chain. This builds on similar work undertaken as part of its original planning activities for Thanet Offshore Wind Farm (TOWF), and KFE. Should consent be granted, VWPL will work with key stakeholders and local partners (including Kent County Council, and Kent Wind Energy) to ensure that local businesses are able to benefit from and exploit any opportunities that arise. This will be achieved by being as open and transparent as (commercially) possible in advertising procurement opportunities within the Kent study area. In addition, VWPL will encourage its tier-one suppliers to, whenever possible procure goods and services from within the Kent and UK study areas.
Access for local employment opportunities	VWPL will work with key stakeholders and local partners to ensure the following: - communicate skills requirements for direct job roles effectively; - communicate strategic messages about general skills demands to inform the development of any local skills strategies; - promote job opportunities locally; and - communicate with businesses to identify skills needs.

3.26 Summary of effects

3.26.1 The approach considers the impacts of the construction, O&M and decommissioning phases of the development on the UK as a whole and the Kent study area.

3.26.2 The overall magnitude of impact and significance of effects varies across the different scenarios assessed, and the different receptors under consideration. The largest change in socio-economic conditions is associated with the employment and GVA that the scheme would potentially deliver, and the access to jobs for residents in the Kent study area.

3.26.3 The assessment of the socio-economic impacts of Thanet Extension has not identified any significant effects for either the Kent study area and/ or the UK study area.

3.26.4 Given the uncertainty that exists in relation to the costs of decommissioning activity, and the notion of the decommissioning supply chain, the assessment of the effects associated with this phase is largely qualitative. It is anticipated that the nature of the socio-economic impact would be similar to that occurring during the construction and O&M phases, although the magnitude of impact and significance of effects are likely to be more limited.

3.26.5 The cumulative effects of other developments which are expected to be constructed and/ or operated in a similar period to Thanet Extension would result in beneficial effects across a number of receptors (most notably in relation to the employment generated as a result of construction activity in addition to the GVA generated). A summary of the potential effects on socio-economics is provided in Table 3.42 below.

Table 3.43: Summary of predicted impacts of Thanet Extension

Description of impact	Impact	Additional enhancement or mitigation measures	Residual impact
Construction			
Impact of construction activity on direct and indirect employment creation in the construction supply chain.	*UK study area* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance	Access to supply chain opportunities for businesses based within the Kent study area. Access for local employment opportunities for residents within the Kent study area. Both enhancement strategies would ensure that the socio-economic benefits of the construction of Thanet Extension are maximised.	*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance
Impact of construction activity on direct and indirect GVA creation in the construction supply chain.	*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance		*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance
Impact on access to construction-related employment for local residents.	*Kent study area:* **Minor** beneficial significance		*Kent study area:* **Minor** beneficial significance
Impact on the potential for employment to result in displacement of workers in other industries.	*Kent study area:* **Minor** adverse significance	No mitigation measures are required.	*Kent study area:* **Minor** adverse significance
Impact on the demand for housing accommodation and local services.	*Kent study area:* **Minor** adverse significance	No mitigation measures are required.	*Kent study area:* **Minor** adverse significance
O&M			
Impact of O&M activity on direct and indirect employment creation in the O&M supply chain.	*UK study area* **Minor** beneficial significance *Kent study area:* Minor beneficial significance	Access to supply chain opportunities for businesses based within the Kent study area. Access for local employment opportunities for residents within the Kent study area. Both enhancement strategies would ensure that the socio-economic	*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance
Impact of O&M activity on direct and indirect GVA creation in the O&M supply chain.	*UK study area:* **Minor** beneficial significance		*UK study area:* **Minor** beneficial significance

Description of impact	Impact	Additional enhancement or mitigation measures	Residual impact
	Kent study area: **Minor** beneficial significance	benefits of the construction of Thanet Extension are maximised.	*Kent study area:* **Minor** beneficial significance
Impact on access to O&M-related employment for local residents.	*Kent study area:* **Minor** beneficial significance		*Kent study area:* **Minor** beneficial significance
Impact on the potential for employment to result in displacement of workers in other industries.	*Kent study area:* **Minor** adverse significance	No mitigation measures are required.	*Kent study area:* **Minor** adverse significance
Impact on the demand for housing accommodation and local services.	*Kent study area:* **Minor** adverse significance	No mitigation measures are required.	*Kent study area:* **Minor a**dverse significance
Decommissioning			
Impact of decommissioning activity on direct and indirect employment creation in the supply chain.	*UK study area* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance	Access to supply chain opportunities for businesses based within the Kent study area. Access for local employment opportunities for residents within the Kent study area. Both enhancement strategies would ensure that the socio-economic benefits of the construction of Thanet Extension are maximised.	*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficial significance
Impact of decommissioning activity on direct and indirect GVA creation in the supply chain.	*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficia**l** significance		*UK study area:* **Minor** beneficial significance *Kent study area:* **Minor** beneficia**l** significance
Impact on access to decommissioning -related employment for local residents.	*Kent study area:* **Minor** beneficia**l** significance		*Kent study area:* **Minor** beneficial significance
Impact on the potential for employment to result in displacement of workers in other industries.	*Kent study area:* **Minor** adverse significance	No mitigation measures are required.	*Kent study area:* **Minor** adverse significance
Impact on the demand for housing accommodation and local services.	*Kent study area:* **Minor a**dvers**e** significance	No mitigation measures are required.	*Kent study area:* **Minor** adverse significance
Cumulative effects			

Description of impact	Impact	Additional enhancement or mitigation measures	Residual impact
Cumulative impact across all receptors at Kent study area.	The projects identified for cumulative impacts at all levels are not expected to overlap at construction stage, and any employment effects at O&M phase are expected to be of Negligible magnitude. Sensitivity for the receptors varies from Medium (for local displacement and demand on housing and accommodation) to High (for direct and indirect employment and GVA creation and access to employment for local people). Based on this, the cumulative effects of these projects alongside Thanet Extension is therefore assessed to be of **Minor** significance, i.e. not significant in EIA terms.	Access to supply chain opportunities for businesses based within the Kent study area. Access for local employment opportunities for residents within the Kent study area. Both enhancement strategies would ensure that the socio-economic benefits of the construction of Thanet Extension are maximised. No mitigation measures required.	**Negligible** cumulative impact across all receptors.

3.27 References

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Term	Definition
Direct Economic Impact	Increases in economic output and/ or employment generated by the VWPL as a result of the project going ahead, plus increases in economic output and employment among suppliers who provide goods and services directly to the project.
Direct GVA	The contribution of individual businesses, industries or sectors to the economy as a result of the direct expenditure associated with Thanet Extension.
Economic Activity Rate	The proportion of an area's working age population who are either in employment or actively seeking work. This includes self-employed and part-time workers.
Full Time Equivalent (FTE)	A unit for measuring employment which indicates the workload associated with each post. One FTE is the equivalent of a full-time post. An FTE of 0.5 indicates that a post is half-time.
GVA	The value of the economy of activity generated through construction and O&M of the scheme. GVA is effectively a measure of the additional profits generated in businesses benefitting from the activity plus additional salaries that are paid to their employees.
Indirect Economic Impact	As suppliers to the project increase output to meet the additional demand for their goods and services associated with the project, there will also be a corresponding increase in demand on their own suppliers, and down their supply chains – the resulting increase in economic output and employment is termed the "indirect effect".
Indirect GVA	Incremental increase in the value of economic output as a result of additional business activity among businesses supplying goods and services to support the development and O&M of a proposed development.
Induced Economic Impact	An injection of additional expenditure that will recirculate throughout the economy as a result of direct economic impacts, and indirect economic impacts.
Induced GVA	The value to the economy that is realised as a result of the additional expenditure that will recirculate throughout the economy as a result of direct economic impacts and indirect economic impacts.
Location Quotient (LQ)	An index through which the concentration of employment in a particular sector within a particular area is assessed. Put simply, this is a measure of relative specialisation and can be used to compare a region to a larger reference region. For example, a LQ equal to one would mean that representation locally is equal to the representation in the larger reference area as a whole. The sectors with scores above one are over-represented within the study areas' economies, and those below one are under-represented.
Person Years	A unit of measurement used to capture temporary employment impact. One-person year is the equivalent of one FTE post, but may in practice be made up of a number of temporary posts which add up to a person year.
Standard Industrial Classification (SIC)	The standard framework used for the collection, tabulation, presentation and analysis of information relating to the sectoral structure of the employment and business base.