

Chapter 14

Socio-Economics

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14. Socio-Economics

14.1 Introduction

14.1.1 This chapter provides a preliminary assessment of the likely socio-economic effects arising from construction, operation, maintenance and decommissioning of the Project.

14.1.2 A detailed description of the Project Site and the Project is provided in **Chapter 3: Project and Site Description**. Appendix 14 includes further detail to accompany this chapter.

a) Objectives of the assessment

14.1.3 The objectives of the assessment were to assess the likely significant effects on the labour market, tourism economy, and community infrastructure arising from the construction; and the operation, maintenance and decommissioning phases of the Project.

14.2 Changes since the 2014 PEIR

14.2.1 There have been changes to the Project as a result of design evolution and consultation as detailed in **Chapter 3: Project and Site Description**. To aid the reader, Table 14-1 below outlines the changes to this assessment compared with the 2014 PEIR.

Table 14-1: A summary of Changes since the 2014 PEIR to the Socio-Economic Assessment

Section	Changes since the 2014 PEIR	Section Reference
Baseline	Socio-economic: The socio-economic baseline has been updated. Tourism: Audit of tourism receptors updated with Paintball Activity Centre added. Tourism volume and value updated using most recently available data, Community Infrastructure: Audit of community infrastructure receptors updated using most recently available data.	Section 14.5
Methodology	Approach to assessing socio-economic and tourism, and associated impacts is consistent with the 2014 PEIR assessment.	Section 14.4
Significance of Effect	No significant labour market or tourism and recreation or community infrastructure effects are expected. This is consistent with the 2014 PEIR.	Section 14.7

14.3 Legislation, policy and guidance

14.3.1 This section identifies and describes legislation, policy and guidance of relevance to the assessment of the potential socio-economic impacts associated with the construction, operation & maintenance and decommissioning of the Project.

14.3.2 Legislation and policy has been considered on an international, national, regional, and local level. The following is considered to be relevant to the socio-economic assessment as it has influenced the sensitivity of receptors and requirements for mitigation or the scope and/or methodology of the PEIR.

a) National Policy

14.3.3 National Policy Statement for Energy (Ref. 14.1) (NPS EN-1) acknowledges “the construction, operation and decommissioning of energy infrastructure may have socio-economic impacts at local and regional levels”. Paragraph 4.2.2 states that the Secretary of State “*will find it helpful if the applicant sets out information on the likely significant social and economic effects of the development, and shows how any likely significant negative effects would be avoided or mitigated. This information could include matters such as employment, equality, community cohesion and well-being.*” Paragraphs 5.12.2 and 5.12.3 identify that where the Project is likely to have socio-economic impacts at local or regional levels, the Applicant should undertake and include in their application an assessment of relevant socio-economic impacts, which may include: creation of jobs and training opportunities; provision of additional local services and improvements to local infrastructure including provision of educational and visitor facilities; effects on tourism; the impacts of a changing influx of workers during different phases and cumulative effects.

14.3.4 NPS EN-1 (Paragraph 5.12.7 and 5.12.8) further notes that in making a decision on energy NSIPs, the Secretary of State may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence and may take into account positive provisions and mitigation such as planning obligations and in particular options as to phasing the development in relation to impacts.

14.3.5 NPS EN-2, Paragraph 1.72 details the benefits of a low carbon economy including the likely “*positive effects on the Economy and Skills, and Health and Well-being as secondary benefits and positive effects in the medium/long term on climate change.*”

b) Welsh Policy/Guidance

14.3.6 Planning Policy Wales (PPW), Edition 9 (Ref. 14.2), promotes sustainable development and sets out a vision, some of which is relevant to this socio-economic assessment, including at paragraph 4.1.4:

- “*A Prosperous Wales - An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.*”

14.3.7 Chapter 7 of PPW defines economic development as “*development of land and buildings for activities that generate wealth, jobs and incomes.*” Paragraph 7.1.1 of Chapter 7 of PPW states that the construction and energy sectors are important to the economy.

14.3.8 Furthermore, Chapter 7 Paragraph 7.6.1 states that “local authorities should adopt a positive and constructive approach to applications for economic development”. PPW states that planning authority decisions should be based on a robust evidence base and should take account of factors such as the number and types of job created and whether a development enhances employment opportunities.

c) Welsh Local Policy/Guidance

14.3.9 The City and County of Swansea Unitary Development Plan (Ref. 14.3) sets out the plans and policies for development in the area, up to 2016. The goals relevant to this chapter are, “help promote the sustainable growth of the local and regional economy,” and “make more efficient and sustainable use of the area’s resources”.

14.3.10 The Swansea Local Development Plan 2010-2025: Deposit Plan July 2016 (Ref. 14.4) outlines a number of strategic objectives for the area, including delivering economic growth and prosperity and of particular relevance is the aim to “facilitate growth and diversification of the local economy and an increase in high value, skilled employment”. Policy IO 2 Employment and Training Opportunities requires that developers maximise added benefits from developments through the creation of jobs and training opportunities with particular focus on economically inactive people.

14.4 Methodology

a) Scope of the assessment

14.4.1 The scope of this assessment has been determined through a formal Environmental Impact Assessment (EIA) scoping process undertaken with The Planning Inspectorate. Comments raised on the EIA Scoping Report have been taken into account in the development of the assessment methodology and these are detailed where relevant in this chapter. Responses to the comments raised in the EIA Scoping Opinion and further consultation can be found in Table 14-2.

b) Consultation

14.4.2 The scope of the assessment has also been informed by ongoing consultation with statutory consultees throughout the design and assessment process. The purpose of this consultation was to: agree or refine a methodology; to secure relevant data; to ensure accurate interpretation of relevant policy; and to enable stakeholder views to inform the assessment.

14.4.3 A summary of the comments raised and responses are detailed in Table 14-2.

Table 14-2: Summary of consultation responses that have informed the scope and methodology of the socio-economic assessment

Consultee	Date	Comment	Response
SoS (Secretary of State)	August 2014	The SoS welcomes that the assessment will be carried out in accordance with NPS EN-1 and will consider all relevant socioeconomic impacts, such as tourism, influxes of workers, and cumulative impacts.	Noted, No further action required

Consultee	Date	Comment	Response
		<p>The SoS welcomes that at paragraph 5.11.14 of the Scoping Report, the Applicant confirms that during construction, operation, and decommissioning an effort will be made to use local goods and services, wherever possible.</p>	<p>No further action required</p>
<p>Swansea Economic Regeneration Partnership (SERP)</p>	<p>5th November 2014</p>	<p>We are an umbrella body, representing 3rd sector organisations in the City and County of Swansea. We are unclear at this stage quite what we can contribute to your proposed approach but please do get in touch should you wish, for an initial discussion at the consultation stage.</p>	<p>Noted, and welcome input during the consultation stage.</p>
		<p>We would be very happy to answer any specific questions that you have, in particular in relation to community infrastructure and are able to provide contact details for local 3rd sector organisations who you may wish to contact.</p>	<p>Noted, and welcome input during the consultation.</p>
<p>City and County of Swansea</p>	<p>4th November 2014</p>	<p>From our perspective, we would be particularly interested in impacts being assessed at two geographical levels – “City and County of Swansea” (the local authority boundary area) and the “Swansea Bay City Region” (encompassing the four local authority areas of Carmarthenshire, Neath Port Talbot, Pembrokeshire, and Swansea areas) – in addition to the study areas you have defined. Our Unitary/Local Development Plan and the economic regeneration strategy we have adopted relate to these two areas respectively.</p>	<p>The socio-economic study area is defined as the area within a 60-minute drive time of the Project Site. Direct employment impacts are unlikely to occur outside this area. This study area does however cover the vast majority of the Swansea Bay City Region. See Figure 14.1.</p>
		<p>In relation to labour market impacts, we would wish to see the professional skills profile of the jobs created during the construction and operational phases to better gauge the Project’s employment value, as well as identify opportunities locally/regionally for developing suitably skilled people to compete</p>	<p>An assessment of construction skills is provided in Section 14.7. The Project will provide opportunities for people to obtain work experience, training, and apprenticeships.</p>

Consultee	Date	Comment	Response
		for jobs created by the Project. Also, will the Project provide opportunities for people to obtain work experience, training, or apprenticeships?	
		Beyond visual impacts on sectors, and in addition to labour market and any specific community economic impacts, we would be interested in potential economic impacts on businesses and particularly on relevant supply chain service providers in Swansea, the City Region, and the other study area.	The Applicant aims to provide mechanisms to encourage local businesses in supply chain opportunities.

c) Defining the Baseline

14.4.4 The study area’s socio-economic position (provided in Section 14.4 (f)) has been described using standard indicators, such as population, economic activity, skills, education, and availability of relevant workforce. This provides a baseline from which potential impacts can be assessed, as follows:

- Economic/Labour Market: The area has been defined using a combination of 2001 (Ref. 14.5) and 2011 (Ref. 14.6) Census data, indicators research available at study area level, and research into the business and labour market structure of the local economy;
- Tourism: The area’s visitor attraction has been profiled including, visitor attractions; visitor accommodation; tourism volume and value; and the local tourism economy (based on Welsh Government and VisitWales data); and
- Community Infrastructure: The area’s demographic structure has been examined. An audit of community infrastructure has been prepared.

d) Assessment of Socio-economic Effects

14.4.5 A detailed assessment of likely effects on the local, regional, and national economy has been prepared. The assessment is consistent with HM Treasury Green Book Appraisal Guidance (Ref. 14.7) and the Homes and Communities Agency (HCA) Additionality Guide (Ref 14.8).

14.4.6 The assessment evaluates the scale of:

- Direct economic impacts: Jobs and Gross Value Added (GVA) that are wholly or largely related to construction, operation and decommissioning of the Project;
- Indirect economic impacts (beneficial and adverse): Jobs and GVA generated in the study area in the chain of suppliers of goods and services to the direct activities;
- Induced economic impacts: Jobs and GVA created by direct and indirect employees’ spending in the study area or in the wider economy; and

- Wider economic (catalytic) impacts (beneficial and adverse): Employment and income generated in the economy related to the wider role of the Project in influencing economic activities (including wider socio-economic effects).

14.4.7 The availability of appropriate labour and skills to meet the Project's construction and operational requirements is a critical consideration in examining economic impacts. Adequate capacity results in a low sensitivity to economic impacts while a shortfall or constrained capacity yields a high sensitivity.

14.4.8 The key socio-economic indicators for the study area include:

- The proportion of skilled workers in the study area relative to national averages;
- Educational attainment levels compared with national averages;
- The proportion of employment in relevant sectors (i.e. manufacturing and construction workers) in the study area;
- The availability of labour (including the unemployed workforce); and
- Relevant education and training provision, including existing and proposed programmes provided by institutions serving the study area.

e) Assessment of Tourism Effects

14.4.9 Tourism behaviour will only be detrimentally affected where the effects of the Project either change the visitor or user patterns in terms of numbers, and/or their patterns of expenditure for the worse. As such, opportunities for tourist and visitor expenditure, any potential variation in expenditure or visitor numbers, and consequent effects on turnover or employment are of key importance.

14.4.10 A business survey was carried out to gain a more detailed understanding of the local tourism economy and its current performance. The business survey findings are summarised in Section 14.5 (c). Businesses contacted include key visitor accommodation providers, leisure activity providers, and other relevant tourism businesses.

14.4.11 The survey sought respondents' perceptions of the potential impacts of the Project on their business performance (turnover and customer base) and on tourism in the wider South-West Wales area. Impacts were categorised as follows:

- Low Impact = <10 %;
- Medium Impact = 10-15 %; and
- High Impact =>15 %.

14.4.12 The definitions of perceived impact (both beneficial and adverse) are based on market experience. In tourism-related business surveys across the UK, respondents have generally stated that reductions in turnover of in excess of 15% are critical to business sustainability/survival, while reductions of 10%-15% represent a moderate impact which can be recouped through marketing, cost saving and similar market responses. Reductions of less than 10% are seen as being within the parameters of general changes in trading conditions.

14.4.13 Visitor facilities¹ and notable points of focus² in the study area have been identified through carrying out web-based research³. The assessment reports on the

¹ E.g. Outdoor activity centre or cultural attraction with a visitor centre

likelihood of the Project influencing visitor and tourist attitudes and behaviour towards them.

14.4.14 The significance of effects on tourism is assessed by reference to the sensitivity of the receptor and the anticipated magnitude of impact which represents the extent of change to that receptor.

14.4.15 In considering the level of tourism sensitivity, the standing⁴ of the receptor or resource is the defining factor. This is established against:

- Tourism business' relative attraction to customers from outside the study area and the Project's potential to influence broader perceptions of the area. Where a majority of trade is non-local this is more likely to be the case; and
- The relative importance of tourism as a business sector. Where tourism is more important relative to other sectors, impacts may have the potential to generate broader impacts (as the receptor is highly sensitive). Similarly, where it is of relatively low sensitivity, impacts on tourism and related sectors are unlikely to generate a significant adverse effect across the broader economy.

f) Community infrastructure

14.4.16 An assessment of the likely significant effects on local, regional and national community receptors during construction, operation and decommissioning of the Project has been carried out. This assessment also includes an audit of community infrastructure facilities/receptors within the local area and its associated effects (i.e. effects on local schools, local authority services and other infrastructure).

14.4.17 The residual effects of the Project include whether the Project will have effects on its local and wider socio-economic context, tourism or community infrastructure facilities on its own and the potential cumulative effects of the Project when combined with other development proposals in the area.

g) Study areas

14.4.18 The socio-economic study area is based on drive time catchment areas from the Project. The 'local area' is defined within a 30-minute drive time; 'wider area' within a 45-minute drive time; and 'wider region' within a 60-minute drive time (Figure 14.1). The wider study area covers most of the Swansea Bay City Region (excluding the Pembrokeshire county area). The majority of employment impacts will occur within a 60-minute drive time area.⁵ Smaller geographies (30 and 45-minute drive times) are also provided to show the effects of sourcing labour from smaller areas. This approach has been accepted as valid for similar DCO projects.

14.4.19 The tourism/business survey study area is limited to a 10 km radius of the Project as this is where the majority of impacts are anticipated. This is based on professional judgement. However, some tourism receptors within this radius have been excluded as they are either screened by roads and/or situated in an urban area where visual impacts are unlikely to be experienced, such as:

² E.g. A prominent visitor or recreational asset

³ Carried out from September 2014-December 2014. This follows PBA's standard approach which has been employed in a number of nationally significant projects.

⁴ Based on published visitor numbers, available data and professional judgement

⁵ 60 minutes is considered the upper threshold at which workers will commute on a regular basis

- Businesses/receptors to the south of the M4 have been excluded as they will be physically separated from the Project Site by the M4. This separation will significantly diminish any potential visual, noise, traffic/accessibility or air quality effects on businesses

14.4.20 Businesses/receptors in the settlements north of the M4, such as Pontarddulais, Clydach, and Pontardawe, have been included due to their relative proximity to the Project. Businesses/receptors have also been included in settlements such as Pantyffynnon and Tycroes because of the relative flat environment to the north of the Project (Figure 14.2).

14.4.21 The community infrastructure assessment is focussed on the area defined within an approximate 5 km radius from the Project (Figure 14.3). This is based on professional judgement. As proximity is likely to be the main determinant of impacts and their magnitude, the status (or catchment) of community facility receptors in an area determines the scale and significance of any effects.

h) Sensitivity

14.4.22 In addition to quantitative and qualitative assessment, significance of effects is defined by the combination of the sensitivity of receptors and the magnitude of impacts upon them. The criteria set out below are specific to socio-economic, tourism and community infrastructure factors and have been adopted to assess receptor sensitivity and impact magnitude. They therefore differ slightly from those in **Chapter 4: Approach to Environmental Impact Assessment** of this PIER.⁶

14.4.23 Socio-economic sensitivity is outlined in Table 14-3.

Table 14-3 Socio-economic Sensitivity Criteria

Value/ sensitivity	Guidelines
Very High	The area has a shortfall of appropriate labour and skills. The Project will lead to excessive labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation).
High	The area has constrained supply of labour and skills. The Project will lead to labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation).
Medium	The area has a low/limited supply of labour and skills. The Project could lead to labour market pressure or distortions.
Low	The receptor has a readily available labour force. The Project is unlikely to lead to labour market pressure or distortions.
Negligible	The area has a surplus of readily available labour with directly relevant and transferable skills. The Project will not lead to labour market pressure or distortions.

14.4.24 Tourism sensitivity is outlined in Table 14-4.

⁶ The magnitude of impact criteria differs in that it is split into beneficial and adverse impacts.

Table 14-4 Tourism Sensitivity Criteria

Value/ sensitivity	Guidelines
Very High	International status and/or high visitor numbers.
High	National status and/or high visitor numbers.
Medium	Regional status and/or medium visitor numbers.
Low	Local status and/or few visitor numbers.
Negligible	Sub-local and/or minimal numbers.

14.4.25 Community Infrastructure sensitivity is outlined in Table 14-5.

Table 14-5 Community Infrastructure Sensitivity Criteria

Value/ sensitivity	Guidelines
Very High	Facility is of international importance, e.g. Major research or academic centre
High	Facility is of national importance, e.g. University, Centre of Excellence for health care
Medium	Facility is of regional importance, e.g. hospital.
Low (or lower)/Negligible	Facility is of local importance, e.g. GP facility, local schools, community centre

i) Magnitude

14.4.26 The assessment of magnitude of impact is defined using the criteria in the tables below and professional judgement relating to similar projects.

14.4.27 Socio-economic magnitude is set out in Table 14-6.

Table 14-6 Socio-economic Magnitude of Impact Criteria

Magnitude	Adverse/ Beneficial	Guidelines
High	Adverse	Impacts will be observed on an international, national or regional scale; where the number of jobs lost in the study area will be greater than 250 (based upon the EU definition of small and medium enterprises) (Ref. 14.9). and/or Impacts will be of long-term duration (i.e. greater than 5 years).
	Beneficial	Impacts will be observed on an international, national or regional scale; where the number of jobs created in the study area will be greater than 250 (based upon EU definition of small and medium enterprises). and/or Impacts will be of long-term duration (i.e. greater than 5 years).

Magnitude	Adverse/ Beneficial	Guidelines
Medium	Adverse	Noticeable impacts will arise that may be judged to be important at a local scale, either because there are large impacts on few receptors or smaller impacts on a larger proportion of receptors; where the number of jobs lost in the study area will be greater than 50, but fewer than 250. and/or Impacts will be medium-term (i.e. 3-5 years).
	Beneficial	Noticeable impacts will arise that may be judged to be important at a local scale, either because there are large impacts on few receptors or smaller impacts on a larger proportion of receptors; where the number of jobs created in the study area will be greater than 50, but fewer than 250. and/or Impacts will be medium-term (i.e. 3-5 years).
Low	Adverse	Small scale impacts will arise, with a limited number of affected receptors; and/or where the number of jobs lost in the study area will be greater than 10, but fewer than 50. and/or Impacts will be short-term (i.e. 1-2 years).
	Beneficial	Small scale impacts will arise, with a limited number of affected receptors; and/or where the number of jobs created in the study area will be greater than 10, but fewer than 50. and/or Impacts will be short-term (i.e. 1-2 years).
Negligible	Adverse	Very minor loss. Less than 10 jobs for 1 year
	Beneficial	Very minor benefit. More than 10 jobs for 1 year

14.4.28 Tourism magnitude criteria are set out in Table 14-7.

Table 14-7 Tourism Magnitude of Impact Criteria

Magnitude	Adverse/ Beneficial	Guidelines
High	Adverse	A permanent or long-term adverse impact on the value of receptor.
	Beneficial	Large scale or major improvement of the facilities quality; extensive restoration or enhancement; major improvement of receptor quality.
Medium	Adverse	An adverse impact on the value of receptor, but

Magnitude	Adverse/ Beneficial	Guidelines
		recovery is possible in the medium-term and no permanent impacts are predicted.
	Beneficial	Benefit to, or addition of, key characteristics, features, or elements or improvement of receptors quality.
Low	Adverse	An adverse impact on the value of receptor, but recovery is expected in the short-term and there will be no impact on its integrity.
	Beneficial	Minor benefit to, or addition of key characteristics, features or elements; some beneficial impact on receptor.
Negligible		Change is barely distinguishable, approximating to a “no change” situation.

14.4.29 Community infrastructure magnitude criteria are set out in Table 14-8.

Table 14-8 Community Infrastructure Magnitude of Impact Criteria

Magnitude	Adverse/ Beneficial	Guidelines
High	Adverse	A permanent or long term adverse impact on the integrity and value of a facility
	Beneficial	Large scale or major improvement of the facilities quality; extensive restoration or enhancement; major improvement of facilities quality.
Medium	Adverse	An adverse impact on the value of a facility, but recovery is possible in the medium term and no permanent impacts are predicted.
	Beneficial	Benefit to, or addition of, key characteristics, features, or elements or improvement of a facilities quality.
Low	Adverse	An adverse impact on the value of a facility, but recovery is expected in the short-term and there will be no impact on its integrity.
	Beneficial	Minor benefit to, or addition of key characteristics, features or elements; some beneficial impact on attribute or a reduction in the risk of an adverse impact occurring.
Negligible		Change is barely distinguishable, approximating to a “no change” situation.

j) Effect definitions

14.4.30 In line with standard EIA practice, the sensitivity of receptors, as defined in the tables above (Table 14-3, Table 14-4, and Table 14-5), are considered against the

Magnitude of impact (Table 14-6, Table 14-7, and Table 14-8) to determine the significance of effect (Table 14-9).

Table 14-9 Significance of Effect

Magnitude	Sensitivity				
	Very High	High	Medium	Low	Negligible
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

14.4.31 Effects which are Moderate Adverse or Major Adverse are considered to be significant.

14.5 Baseline Environment

14.5.1 This section describes the baseline environmental characteristics for the Project and surrounding areas with specific reference to socio-economics, tourism, and community infrastructure.

a) Socio-economic

14.5.2 The socio-economic profile sets a context for the assessment and highlights key socio-economic issues. The socio-economic indicators are also used to determine the overall sensitivity of the labour market (socio-economic receptor). The socio-economic profile is summarised below. Supporting tables and text can be found in Appendix 14.1.

14.5.3 The socio-economic study area⁷ surrounding the Project is characterised by:

- An increasing population (2001-2017);
- Projected population increase of c.7% between 2017 and 2035;
- Slightly lower levels of unemployment comparable to the UK average;
- A higher proportion of people working in construction and manufacturing jobs;
- Above average levels of employment in electricity and gas related occupations;
- A lower proportion of people working in high value professional, scientific and technical activities, and finance & insurance occupations;
- A higher proportion of people employed in semi-skilled/unskilled jobs and lower proportion of people in highly skilled jobs; and
- A higher proportion of people achieving no qualifications and low level qualifications compared to the UK average.

⁷ Defined as the area within a 60-minute drive time. Comparisons are made relative to national averages.

i. Description of socio-economic Sensitivity

14.5.4 The study area for the labour market is assessed to be of low sensitivity in accordance with the criteria provided in Table 14-3, as the area has a readily available labour force.

b) Tourism Volume and Value

14.5.5 The tourism economy is assessed using visitor statistics for the Swansea local authority area and the South West Wales area.

14.5.6 Swansea had on average 7.35 million Great Britain (GB) day visits each year between 2013 and 2015 (Table 14-10) (Ref. 14.10).

Table 14-10 GB Day Visits and Expenditure: 2013-2015 averages

	Visits (millions)	Expenditure (£millions)
	<i>Annual avg. 2013-2015</i>	<i>Annual avg. 2013-2015</i>
Swansea	7.35	£257.96
South West Wales	18	£637

14.5.7 Great Britain (GB) Overnight trips to Swansea are at their highest since 2009-11, however spending is lower (Table 14-11) (Ref. 14.11).

Table 14-11 GB Overnight Trips and Spend by Local Authority - Swansea

Swansea	2009-11	2010-12	2011-13	2012-14	2013-15
Trips (thousands)	559	547	550	512	556
Spend (£millions)	£90	£93	£89	£83	£87

14.5.8 Table 14-12 shows some of the most popular visitor attractions in South West Wales (Ref. 14.12). Two indoor attractions, the Leisure Centre Swansea, Wales' biggest indoor water park, and the National Waterfront Museum are situated c.8 km from the Project in Swansea. However, these projects are outside the defined tourism study area.

Table 14-12 Key Visitor Attractions in South West Wales

Attraction	Distance from Project	Visitor No. 2014	Visitor No. 2015	% Change 2014/15
The LC (Wales' biggest indoor Waterpark)	c.8 km	772,476	803,498	4%
Folly Farm Adventure Park	c.55 km	490,000	500,000	2%
Margam Country Park	c.20 km	216,790	309,430	+43%
Pembrey Country Park	c.25 km	440,000	348,811	-22%
National Waterfront Museum	c.8 km	264,949	257,617	-3%

14.5.9 There are a limited number of tourist attractions within the tourism study area, as shown on Figure 14.4, with most of the tourist attractions being located in the city of Swansea, outside the study area:

- Cwm Clydach Nature Reserve: Woodland with nature trails;
- National Cycle Route 43: Part of the National Cycle Network and the Celtic Trail, which connects Swansea with Builth Wells, north of Brecon Beacons National Park; and
- Teamforce Paintball and Laser Tag Activity Centre: Outdoor activity centre in Llangyfelach.

14.5.10 Cwm Clydach Nature Reserve is classed as having medium sensitivity due to its regional appeal. National Cycle Route 43 is classed as having a high sensitivity due to its national status as a long-distance cycle route. The activity centre is classed as being low sensitivity due to its local appeal.

c) Findings of the Business Survey

14.5.11 A tourism business survey was carried out during November and December 2014. This has not been repeated for this assessment as baseline assessment shows the visitor economy has not materially changed since 2014. The 2014 business survey findings are therefore considered to remain valid for this assessment.

14.5.12 The survey population included all businesses which could be considered to derive part of, or all of, their trade from tourism within the defined study area. The study area was selected as it was considered unlikely that tourism businesses located outside this would experience either beneficial or adverse impacts (tourism study area described at Paragraph 14.4.19). A full write-up of the business survey results can be found in Appendix 14.2 The baseline conclusions from the business survey are summarised below:

- Of the 58 businesses surveyed, 17 responded to the tourism business survey questionnaire, giving a 29% response rate;
- A high proportion of responses were from businesses located in Pontardawe and Bryncoch. A number of the businesses were small in size;
- The highest proportion of responses was from bars and pubs. The survey identified that a high proportion of trade was from local customers. The origins of tourist/visitor customers were mainly from the UK;
- The main activities customers participated in when visiting the area were going on long and short walks, as well as sightseeing;
- The majority of businesses considered that their business performance had been increasing over the last three years. Current levels of satisfaction were high, with all respondents reporting trade as being fair or good. Respondents were also optimistic that their future business performance will improve and level of business increase; and
- Weather, reputation, product, price and value for money were deemed to be the most influential factors impacting upon business trends.

d) Community Infrastructure

14.5.13 Demand for community infrastructure facilities could arise from the in-migration of construction workers during the temporary construction phase. However, based on the number of construction workers required for this Project, professional

judgement and experience of other projects, this requirement is likely to be minimal. An audit of community facilities within approximately 5 km of the Project Site indicates the provision of the following community infrastructure facilities in the area (Figures 14.5 – 14.8).

- 18 Schools;
- 5 GP Surgeries;
- 6 Dentists;
- 2 Hospitals;
- 6 Pharmacies
- 1 Park; and
- 2 Libraries.

14.5.14 A full list of these community infrastructure receptors which corresponds with Figures 14.5 – 14.8 can be found in Appendix 14.3.

14.5.15 The schools, GP surgeries, dentists, pharmacies, park and libraries are classed as low sensitivity as they are of local significance and serve a local catchment. Morriston Hospital is classed as medium sensitivity because it is of regional significance⁸.

14.6 Embedded Mitigation

14.6.1 As detailed in **Chapter 3: Project and Site Description**, a number of embedded mitigation measures have been identified through the iterative EIA process and have been incorporated into the design and construction planning of the Project.

14.6.2 As these mitigation measures have been embedded into the design, are legal requirements or are standard practices that will be implemented, the assessment of likely significant effects assumes that they are in place.

14.7 Assessment of Effects – Socio-economics

14.7.1 This section assesses the nature and magnitude of construction and operational & maintenance effects. Decommissioning effects are considered to be similar to construction effects.⁹

a) Construction Effects

i. Employment and GVA

14.7.2 A detailed schedule of the level of employment and skills required to build the Project was provided to PBA by WSP, based on relevant project experience.¹⁰

14.7.3 The construction period is estimated to last 22 months from 2020-2022. The number of construction workers on site per month ranges from 25 to 122 during the peak construction period.¹¹

⁸ It is recognised as the major trauma centre for South West Wales.

⁹ A decommissioning programme would be required to accurately assess decommissioning effects. Impacts are therefore considered to be consistent with the level experienced during the construction phase.

¹⁰ WSP Construction Schedule based on 299 MW.

¹¹ Lasting one month in an off peak period. Second highest is 118 (also in off peak)).

14.7.4 Table 14-13 and Table 14-14 show the average number of construction workers and full time equivalent permanent construction jobs on site for Years 1 to 2. Project construction would support 92 temporary construction job years, equivalent to nine permanent construction jobs.¹²

Table 14-13 Workers Month, Person Year and Permanent Job Equivalents

	Year 1	Year 2	Total
Worker months on site	213	891	1,104
Person year equivalent	17.8	74.3	92
Permanent jobs equivalent	1.8	7.4	9.2

Table 14-14 Peak and Median Workers on Site

	Year 1 - 2
Peak workers on site (monthly)	122
Median workers on site (monthly)	69.5
Permanent jobs equivalent (over year 1&2)	9.2

14.7.5 Gross value added (GVA) is a measure of the value of goods and services produced in an area, industry or sector of an economy. Annual construction GVA per head in Wales is £76,725. The construction phase could therefore deliver up to £7.1 million GVA¹³ to the wider economy.

ii. Magnitude of Construction Effect

14.7.6 The study area for the labour market is assessed to be of low sensitivity in accordance with the criteria provided in Table 14-3, as the area has a readily available labour force. The Project as a whole would provide a low beneficial construction employment magnitude of impact in accordance with the criteria provided in Table 14-6 and professional judgement.

iii. Skills Requirement

14.7.7 The Project's construction schedule shows approximately 40% of the construction workforce will be highly skilled¹⁴, 45% moderately skilled¹⁵, and 15% low skilled¹⁶. The majority of construction related employment will be in relatively high value and high paid positions that required a high degree of training and qualifications.

14.7.8 The baseline assessment shows construction and manufacturing employment accounts for almost a fifth of all jobs in the study area. The study area's concentration of skilled manual workers is also higher than the national average¹⁷. The Project will therefore present an opportunity to develop the skills of the local workforce and increase the value of the construction industry.

¹² It is generally accepted in economic appraisals that 10 years of continuous employment is equivalent to 1 Full-time equivalent (FTE).

¹³ £76,725 x 92 person years= £7,058,745 (note this is the same as 9.2 FTEs x 10 years continuous employment x £76,725 = £7.1m)

¹⁴ Highly skilled jobs include: Purchaser/ Engineer; Operator; Contractor Management; Contractor Supervisor; Electrical Installation; Cabling; Exhaust Duct; Hoists; Lagging; Trace Heating; Air Cooled Condenser

¹⁵ Moderately skilled jobs include: Earth Moving; Civil; Fire System; Tanks and Piping

¹⁶ Low skilled jobs include: Fencing; Painting; Scaffolding; Security; Canteen and Others

¹⁷ Please see 14.5.3 and Section 14,1 in Appendix 14

iv. Accommodation Capacity

- 14.7.9 The study area accommodation capacity assessment is based on hotel and bed & breakfast accommodation, i.e. it assumes that construction based demand will be directed towards these sectors rather than other types of accommodation¹⁸.
- 14.7.10 Average hotel¹⁹ occupancy rates (Ref. 14.13) for Wales have been used to estimate the number of available bedrooms at hotels and bed & breakfast accommodation within a 10 km radius of the Project Site. The Project Site is located c.8 km from Swansea where there is a range of accommodation, retail, leisure, and other services. Construction related accommodation requirements are therefore likely to be met by accommodation providers within 10 km of the Project.
- 14.7.11 The Project programme indicates the estimated number of construction staff on site on a monthly basis during the construction programme. The construction programme indicates that 122 workers would be on site at the peak of the construction period.
- 14.7.12 The extent to which construction workers use accommodation in the study area²⁰ is influenced by: site proximity or ease of access to it; availability, quality and price of accommodation; the range of leisure and other services in the immediate area; and other factors.
- 14.7.13 Table 14-15 demonstrates that 100% of construction workers could be accommodated each month within a 10 km radius of the Project. The values in Table 14-14 assume that existing sources of trade are maintained at their current levels (as reflected in occupancy rates). Critically, it then shows the effect of construction-related accommodation demand on the residual capacity.
- 14.7.14 In reality, a large proportion of unspecialised jobs will be provided locally and will not require accommodation. However, Table 14-15 demonstrates that a worst-case scenario involving 100% of workers requiring accommodation could be easily accommodated without causing any shortages or pressures²¹.

Table 14-15 Accommodation Capacity

Peak/ Off Peak	Month	Rooms Typically Available (Supply)	Construction workers (Demand)	Assume 100% require room each	Rooms Remaining (Supply - Demand)	% of Available
Off Peak	March	1,018	50	50	968	5%
Peak	April	699	51	51	648	7%
Peak	May	699	53	53	646	8%

¹⁸ It is more likely that construction workers would choose to stay in centrally located serviced B&B and hotel accommodation as opposed to non-serviced caravan parks or self-catering accommodation which tends to be in more remote locations.

¹⁹ Hotel occupancy rates exceed B&B occupancy rates. Hotel occupant rates used to investigate the impact of a worst case scenario.

²⁰ A security cabin will provide accommodation for security personnel on site 24/7 during construction phase. Construction workers will however be in accommodated in Swansea.

²¹ It is noted that construction workers will also provide a positive contribution through increased business. However, the assessment seeks to prove the 'worst case' i.e. all construction workers can be accommodated without creating adverse pressures on the accommodation sector by crowding out existing tourism and business visitors or by leading to price rises.

Peak/ Off Peak	Month	Rooms Typically Available (Supply)	Construction workers (Demand)	Assume 100% require room each	Rooms Remaining (Supply - Demand)	% of Available
Peak	June	699	54	54	645	8%
Peak	July	699	55	55	644	8%
Peak	August	699	56	56	643	8%
Peak	September	699	65	65	634	9%
Off Peak	October	1,018	70	70	948	7%
Off Peak	November	1,018	80	80	938	8%
Off Peak	December	1,018	79	79	939	8%
Off Peak	January	1,018	88	88	930	9%
Off Peak	February	1,018	113	113	905	11%
Off Peak	March	1,018	122	122	896	12%
Peak	April	699	86	86	613	12%
Peak	May	699	81	81	618	12%
Peak	June	699	78	78	621	11%
Peak	July	699	85	85	614	12%
Peak	August	699	74	74	625	11%
Peak	September	699	69	69	630	10%
Off Peak	October	1,018	40	40	978	4%
Off Peak	November	1,018	30	30	988	3%
Off-peak	December	1,018	25	25	993	2%

v. *Labour Market Absorption Capacity*

14.7.15 The labour market data from the baseline is used to show the extent to which the study area can supply relevant skills and labour for the construction and operation of the Project.

14.7.16 As set out above, labour market data is expressed at drive time level, i.e. a catchment reflecting travel to work patterns. The 'local area' is defined within a 30-minute drive time; the 'wider area' within a 45-minute drive time; and the 'wider region' within a 60-minute drive time.

14.7.17 Table 14-16 shows that the required construction labour force would also account for 0.7% of the employed construction workforce or 0.6% of manufacturing workers within a 30-minute drive time.

14.7.18 If the demand for construction labour were fully sourced from the 'potentially available labour pool' (i.e. unemployed) it would account for 0.8% of unemployed workers within a 30-minute drive time.

14.7.19 The demand for construction labour arising from the Project's development would not therefore result in any pressure on labour market capacity (i.e. requiring more than 15%²² of existing capacity).

Table 14-16 Labour Market Absorption Capacity: Construction & Operational Phases (30; 45 and 60-minute drive times)

Sector	Drive Times			
	30 mins	45 mins	60 mins	UK
Economically Active	233,189	375,114	801,976	32,268,551
Economically Active: Unemployed	15,242	25,000	55,090	2,054,147
Highly Skilled	24,588	40,091	93,280	4,336,150
Skilled	46,314	71,417	156,815	6,032,985
Semi-skilled & Unskilled	34,543	55,342	110,835	4,095,520
Manufacturing	21,804	37,020	73,093	2,641,107
Construction	17,182	28,750	59,058	2,308,632
Electricity & Gas	987	1,793	5,749	174,744
Absorption Capacity: Construction jobs (Peak 122) as % of Baseline Value				
Economically Active	0.1%	0.0%	0.0%	0.0%
Economically Active: Unemployed	0.8%	0.5%	0.2%	0.0%
Highly Skilled	0.5%	0.3%	0.1%	0.0%
Skilled	0.3%	0.2%	0.1%	0.0%
Semi-skilled & Unskilled	0.4%	0.2%	0.1%	0.0%
Manufacturing	0.6%	0.3%	0.2%	0.0%
Construction	0.7%	0.4%	0.2%	0.0%
Absorption Capacity: Operational jobs (10 FTEs) as % of Baseline Value				
Economically Active	0.00%	0.00%	0.00%	0.00%
Economically Active: Unemployed	0.07%	0.04%	0.02%	0.00%
Highly Skilled	0.04%	0.02%	0.01%	0.00%
Skilled	0.02%	0.01%	0.01%	0.00%
Semi-skilled & Unskilled	0.03%	0.02%	0.01%	0.00%
Electricity & Gas	1.01%	0.56%	0.17%	0.01%

²² 15% threshold based on professional judgement

b) Operation

i. Employment and GVA

14.7.20 Best practice principles outlined in HM Treasury Green Book Appraisal Guidance (Ref. 14.7) have been applied to assess the effect of permanent operational employment.

14.7.21 An Economic Impact Model was developed to measure net additional employment and GVA. The Guidance has been used along with professional judgment to estimate values for:

- Deadweight – what would happen in the absence of the Project;
- Leakage – the proportion of employment opportunities accessed by people living outside the study area;
- Displacement – the proportion of Project benefit accounted for by a reduction in benefit elsewhere;
- Substitution – when a firm substitutes one activity for another to take advantage of public sector assistances; and
- Multipliers – to estimate further economic activity associated with additional income and supplier purchases.

14.7.22 Table 14-17 shows the values used in the model. Explanatory comments are given for each value.

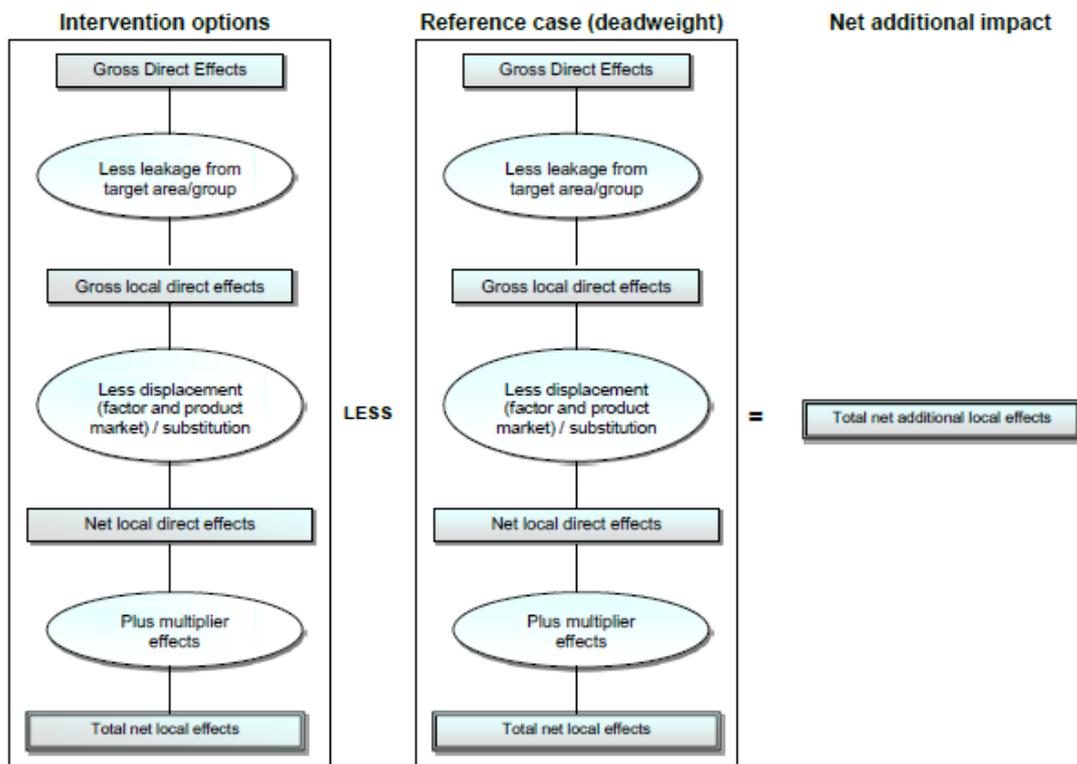
Table 14-17 Accommodation Capacity

Study area/ Additionality Factor	Value	Range	Description
Regional			
Deadweight	0%	None	Operational jobs for the Project depend solely on the Project being built
Leakage	30%	Low	The majority of operational jobs will be sourced by residents within a 60-minute drive time area
Displacement	30%	Low	Small proportion of highly skilled senior staff may be displaced from similar employment elsewhere in the region. The majority of staff will be sourced from within a 60-minute drive time area and be specifically trained for the Project
Substitution	0%	None	Assumed no incentives to influence substitution behaviour
Multiplier	1.23	-	Assumed 50% of national Gas and Electricity multiplier. This assumes 50% of benefit from the Project supply chain and the Project's employees household spending occurs within the 60-minute drive time area
National			

Study area/ Additionality Factor	Value	Range	Description
Deadweight	75%	High	Gas Power stations will be built elsewhere in the UK. Employment benefits will therefore derive to other parts of the UK
Leakage	0%	None	All jobs are likely to be taken up by UK residents
Displacement	10%	Low	A small proportion of highly skilled senior staff may be displaced from similar employment elsewhere in the UK. The majority of staff will be sourced from the regional area and specifically trained for the Project.
Substitution	0%	None	Assumed no incentives to influence substitution behaviour
Multiplier	2.46	-	Composite of Gas and Electricity multipliers (2016)

14.7.23 Homes and Communities Agency (HCA) has provided a methodology for calculating additionality through a ‘net additionality framework’. This is represented in Figure 14-9 below and can be described as: ‘*Impact of intervention option*’ less ‘*impact of reference case*’ (deadweight) equals ‘*net additional impact*.’

Figure 14-9 Calculating additionality through HCA ‘net additionality framework’ (Ref. 14.8)



Note: Figures 14.1-14.8 are included as separate Figures

14.7.24 The operational phase of the Project would provide an estimated 10 FTE direct jobs. The net effect, taking account of the leakage, displacement, and multiplier effects shown above, would be 6.0 additional regional FTE jobs and 5.5 national FTE jobs²³. Average GVA per utility employee in Wales is £91,053²⁴. Assuming Project related employment generated average levels of GVA, the Project's operation would provide approximately £0.55m GVA²⁵ and £0.50m GVA²⁶ per annum to the regional and national UK economy respectively.

ii. Skills Requirement

14.7.25 Each of the projects gross 10 FTE jobs will be highly skilled positions that offer permanent employment opportunities for 25 years. Each position will be relatively high paid and requires a high level of training and qualifications.

iii. Significance of Operational Effect

14.7.26 The study area for the labour market is assessed to be of low sensitivity in accordance with the criteria provided in Table 14-3. The Project as a whole would provide a minor beneficial operation employment magnitude of impact in accordance with the criteria provided in Table 14-6. The low sensitivity and low beneficial impact results in a likely negligible beneficial effect on employment, in accordance with the criteria provided in Table 14-9.

iv. Absorption Capacity

14.7.27 The labour market data from the baseline is used to show the extent to which the study area can supply relevant skills and labour for the construction and operation of the Project.

14.7.28 Labour market data is expressed at drive time level, i.e. a catchment reflecting travel to work patterns.

14.7.29 Operational impacts have been assessed against the current labour market (Table 14-16). The operational workforce requirement accounts for less than 2% of the electricity and gas workers and less than 1% of the working age, economically active and highly skilled, skilled and unskilled labour force.

14.7.30 Demand for operational employment would not therefore result in any noticeable labour market pressure on the 30-, 45-, or 60-minute drive time areas and would not exert negative pressure through labour shortages and wage increases.

14.7.31 The labour requirement during the operational phase would provide a benefit and in reality would be sourced from a number of economically active categories including workers in directly relevant industries, workers with transferable skills and unemployed workers.

²³ The assumptions in Table 14.23 are applied to the 10 Gross FTE Operational jobs created by the Project. This is done in an Excel Economic Impact Model created using HM Treasury Green Book Appraisal Guidance.

²⁴ Experian 2017

²⁵ 6.0 net additional local jobs x £91,053= £547,825

²⁶ 5.5 net additional national jobs x £91,053= £503,105

14.8 Assessment of Effects – Tourism and Recreation

a) Tourism Business Survey (Impact Analysis)

- 14.8.1 This section summarises the tourism business survey responses in terms of perceived impact on business performance of the wider South-West Wales tourism product. A full report can be found in Appendix 14.2.
- 14.8.2 In terms of impact, the vast majority of respondents felt that the Project would have no impact on business performance. Some businesses felt that they would benefit at the construction phase through related demand for accommodation, food and drink, and other services.
- 14.8.3 Only one respondent predicted an adverse impact on business performance based mainly on perceived adverse visual impact.
- 14.8.4 The majority of respondents felt that the Project would have either no or low adverse impact on tourism in South West Wales. Less than a fifth expected the impact to be either medium or high adverse, with visual impact and potential traffic congestion (during construction) cited as the main factors.
- 14.8.5 Overall, the business survey analysis has shown that a number of accommodation providers, food and drink, and other similar businesses in the study area are not reliant on tourism trade and are reporting high/increasing business confidence. The vast majority of respondents do not predict any significantly adverse impact on either their own business performance or the wider South-West Wales tourism offer.

b) Tourism and Recreation Receptors (Impact Analysis)

- 14.8.6 Tourism and recreation receptors within the study area may experience the following impacts:
- Visual;
 - Noise;
 - Traffic/accessibility; and
 - Air quality.
- 14.8.7 The tourism and recreation assessment assesses the potential impacts on three distinct components during two distinct phases.
- 14.8.8 The three distinct components include the:
- Power Generator Plant only;
 - Gas Connection; and
 - Electrical Connection.
- 14.8.9 The two distinct phases of the Project include the:
- Construction/decommissioning phase; and
 - Operational phase.
- 14.8.10 The structure of this section ensures potential visual, noise, traffic, and air quality impacts on each component during each phase are individually assessed against tourism and recreation receptors in the area.

i. Power Generation Plant

Construction/Decommissioning – Visual

- 14.8.11 The Paintball Activity Centre may experience visual impacts during construction. For further detailed assessment of visual impact, please refer to **Chapter 11: Landscape and Visual Effects**.
- 14.8.12 The Zone of Theoretical Visibility (ZTV) shows that the other tourism and recreational receptors including one cycle route (National Route 43) and a nature reserve (Cwm Clydach Nature Reserve) are unlikely to experience visual impacts during construction of the Power Generation Plant.

Construction/Decommissioning – Noise

- 14.8.13 As stated in **Chapter 3: Project and Site Description**, a Construction Environmental Management Plan (CEMP) (Outline CEMP: Appendix 3.1) will be implemented during the construction period to mitigate any effects. **Chapter 7: Noise and Vibration** confirms that there will be no significant noise effects.
- 14.8.14 Moreover, as stated in **Chapter 3: Project Site and Description**, all construction activities would be carried out in accordance with the recommendations of BS5228 (the industry approved code of practice which is used in assessing noise from construction sites). This will ensure that no tourism or recreational related businesses or receptors are affected significantly during construction or operation.

Construction/Decommissioning – Traffic/accessibility

- 14.8.15 The implementation of a Construction Traffic Management Plan (CTMP) during the construction phase will ensure that no tourism or recreational related businesses/receptors are affected significantly.

Construction/Decommissioning – Air quality

- 14.8.16 As stated in Chapters 3 and 6, a CEMP (Outline CEMP: Appendix 3.1) will prevent construction activities generating levels of atmospheric dust which would constitute a health hazard or nuisance to local people. This will ensure that no tourism or recreational related businesses or receptors are affected significantly during construction.

Summary: Power Generation Plant Construction

- 14.8.17 A summary of assessed magnitude of impact of the Power Generation Plant on tourism and recreation receptors is provided below in Table 14.19. Taking into consideration the magnitude of impact identified below, together with the sensitivity of receptor (as defined in paragraph 14.5.9) the significance of effect on the receptors would be no greater than minor adverse.

Table 14-18 Power Generation Plant: Construction/Decommissioning

Receptor	Magnitude
Cwm Clydach Nature Reserve	Negligible
National Cycle Route 43	Negligible

Receptor	Magnitude
Paintball and Laser Tag Activity Centre	Low

Operation - Visual

14.8.18 The ZTV shows that the stack is likely to be visible over a proportion of the study area. The ZTV analysis used to determine visual impact is based on the topography of the land and does not take into account physical or natural aspects, such as buildings and trees. Visual impact is likely to be reduced due to the screening effect of buildings and woodland. **Chapter 11: Landscape and Visual Effects** makes reference to the fact that significant adverse effects on visual amenity are likely to be limited to within 5 km of the Project Site. The Paintball and Laser Tag Centre is located in a heavily wooded area and, as such, visual impact is likely to be reduced.

Operation – Noise

14.8.19 Any noise impacts of the Project will be localised and will not affect tourism receptors within the study area, as confirmed in **Chapter 7: Noise and Vibration** which states that there would be no significant noise impacts during operation.

Operation – Traffic/accessibility

14.8.20 **Chapter 12: Traffic and Transport** confirms traffic to the Project Site will be infrequent during the operational phase. Traffic to the Power Generation Plant would be limited to occasional maintenance vehicles, deliveries, and visitor access and will therefore not have a significant impact on tourism and recreational receptors.

Operation – Air Quality

14.8.21 **Chapter 6: Air Quality** confirms that the Power Generation Plant is unlikely to have any significant impacts on air quality during operation and therefore will not have a significant impact on tourism and recreation receptors.

Summary: Power Generation Plant Operation

14.8.22 A summary of assessed magnitude of impact of the Power Generation Plant on tourism and recreation receptors is provided in Table 14.20. Taking into consideration the magnitude of impact identified below, together with the sensitivity of receptor (as defined in paragraph 14.5.9) the significance of effect on the receptors would be no greater than minor adverse.

Table 14-19 Power Generation Plant: Operation

Receptor	Magnitude
Cwm Clydach Nature Reserve	Negligible
National Cycle Route 43	Negligible
Paintball and Laser Tag Activity Centre	Low

ii. Gas Connection

Construction/Decommissioning – Visual

14.8.23 Any visual impacts would be predominately restricted to the construction phase of the Gas Connection. As noted in **Chapter 11: Landscape and Visual Effects**, the gas connection would not result in any significant visual effects from the viewpoints assessed. Any impacts would be temporary and there should be no significant adverse visual effects on tourism and recreation receptors within the study area.

Construction/Decommissioning – Noise

14.8.24 As noise impacts assessed in **Chapter 7: Noise and Vibration** will be primarily limited to the construction phase, they would be temporary. The mitigation measures noted in **Chapter 3: Project and Site Description** should ensure that no tourism or recreational related businesses or receptors are affected significantly during construction.

Construction/Decommissioning – Traffic/accessibility

14.8.25 **Chapter 12: Traffic, Transport and Access** confirms that construction vehicle movements will not lead to significant impacts. Therefore, no tourism or recreational related businesses/receptors will be affected significantly.

Construction/Decommissioning – Air quality

14.8.26 As stated in **Chapters 3: Project and Site Description** and **Chapter 6: Air Quality**, an outline CEMP (Appendix 3.1) will prevent construction work generating levels of atmospheric dust which would constitute a health hazard or nuisance to local people. This will ensure that no tourism or recreational related businesses or receptors are affected significantly during construction.

Summary: Gas Connection Construction

14.8.27 A summary of the assessed magnitude of impact of the Gas Connection during construction on tourism and recreation receptors is provided in Table 14.21. Taking into consideration the magnitude of impact identified below, together with the sensitivity of receptor (as defined in paragraph 14.5.9) the significance of effect on the receptors would be no greater than minor adverse.

Table 14-20 Gas Connection: Construction/Decommissioning

Receptor	Magnitude
Cwm Clydach Nature Reserve	Negligible
National Cycle Route 43	Negligible
Paintball and Laser Tag Activity Centre	Low

Operation – Air Quality

14.8.28 No impacts on local air quality are anticipated from the operation of the Gas Connection and therefore this has not been assessed. Similarly, the Gas Connection will be buried underground and therefore, it is not anticipated that they will generate any noise or vibration during operation.

Operation - Visual

14.8.29 The gas connection will be buried underground and will therefore not be visible during operation. The impact on tourism and recreational receptors is negligible.

Operation – Traffic/Accessibility

14.8.30 Traffic movements to the Gas Connection during the operational phase are likely to be minimal and there are therefore not anticipated to be any effects on tourism and recreation receptors.

Summary: Gas Connection Operation

14.8.31 A summary of the assessed magnitude of impact of the Gas Connection during operation on tourism and recreation receptors is provided in Table 14.22. Taking into consideration the magnitude of impact identified below, together with the sensitivity of receptor (as defined in paragraph 14.5.9) the significance of effect on the receptors would be no greater than minor adverse.

Table 14-21 Gas Connection: Operation

Receptor	Magnitude
Cwm Clydach Nature Reserve	Negligible
National Cycle Route 43	Negligible
Paintball and Laser Tag Activity Centre	Negligible

iii. Electrical Connection

Construction/Decommissioning – Visual

14.8.32 Any visual impacts associated with the Electrical Connection would be limited to the construction phase and would be temporary. As noted in **Chapter 11: Landscape and Visual Effects**, the electrical connection would not result in any significant visual effects from the viewpoints assessed.

Construction/Decommissioning – Noise

14.8.33 As noise impacts assessed in **Chapter 7: Noise and Vibration** will be primarily limited to the construction phase, they would be temporary. The mitigation measures noted in **Chapter 3: Project and Site Description** should ensure that no tourism or recreational related businesses or receptors are affected significantly during construction or operation.

Construction/Decommissioning – Traffic/Accessibility

14.8.34 Users of the road network may be affected by additional construction workers travelling to the area. However, the construction phase of the Electrical Connection is not anticipated to generate an amount of traffic movements which would have a likely significant detrimental effect on tourism or recreation receptors.

Construction/Decommissioning – Air quality

14.8.35 Any air quality impacts are expected to be restricted to the immediate local area around the Project Site. The adoption of the embedded mitigation measures mentioned in **Chapter 3: Project and Site Description** should ensure that no tourism or recreation receptors are affected significantly during construction.

Summary: Electrical Connection Construction

14.8.36 A summary of the assessed magnitude of impact of the Electrical Connection during construction on tourism and recreation receptors is provided in Table 14.23. Taking into consideration the magnitude of impact identified below, together with the sensitivity of receptor (as defined in paragraph 14.5.10) the significance of effect on the receptors would be no greater than minor adverse.

Table 14-22 Electrical Connection: Construction/Decommissioning

Receptor	Magnitude
Cwm Clydach Nature Reserve	Negligible
National Cycle Route 43	Negligible
Paintball and Laser Tag Activity Centre	Low

Operation – Air Quality

14.8.37 No impacts on local air quality are anticipated from the operation of the Electrical Connection and therefore this has not been assessed. Similarly, Electrical Connection will be buried underground and therefore it is not anticipated that they will generate any noise or vibration during operation.

Operation - Visual

14.8.38 The electrical connection will be buried underground and will therefore not be visible during operation. The impact on tourism and recreational receptors is negligible.

Operation – Traffic/Accessibility

14.8.39 Traffic movements to the Electrical Connection during the operational phase are likely to be minimal and there are therefore not anticipated to be any effects on tourism and recreation receptors.

Summary: Electrical Connection Operation

14.8.40 A summary of the assessed magnitude of impact of the Electrical Connection during operation on tourism and recreation receptors is provided in Table 14.24. Taking into consideration the magnitude of impact identified below, together with the sensitivity of receptor (as defined in paragraph 14.5.9) the significance of effect on the receptors would be no greater than minor adverse.

Table 14-23 Electrical Connection: Operation

Receptor	Magnitude
Cwm Clydach Nature Reserve	Negligible
National Cycle Route 43	Negligible
Paintball and Laser Tag Activity Centre	Negligible

14.9 Assessment of Effects: Community Infrastructure

- 14.9.1 There are no community infrastructure facilities situated in the immediate area surrounding the Project. Therefore there will no significant effects (visual, noise, traffic, or air quality) on these facilities as a result of the Project as they are sufficiently far away (see Figures 14.5 – 14.8).
- 14.9.2 The construction period for the Project is estimated to last 22 months from 2020-2022. The number of construction workers onsite per month ranges from 25 to 122 during the peak construction period. In terms of community infrastructure capacity, the construction jobs for the Project will be temporary and therefore it is reasonable to assume that the majority of workers will not move their families for this relatively short period of time.
- 14.9.3 No capacity information is available for schools in Wales but it is not envisaged that there would be any pressure on schools capacity in the area as a result of the construction of this Project. In terms of GP Surgeries, several in the area are accepting new patients and several accept patients who are temporary residents in the area, such as construction workers. Morryston Hospital, which has A&E facilities, is situated in the study area.
- 14.9.4 The level of existing community infrastructure in the area is considered to be sufficient to accommodate any additional demand. The magnitude of impact is considered to be low.
- 14.9.5 Taking into consideration the magnitude of impact identified above, together with the low/medium sensitivity of receptor (as defined in paragraph 14.5.13) the significance of effect on the receptors would be no greater than minor adverse.

14.10 Mitigation and Monitoring

- 14.10.1 Effects on tourism and socio-economic were not found to be significant, therefore no additional mitigation will be required.
- 14.10.2 The community infrastructure assessment shows that there are a limited number of community facilities in close proximity to the Project and are therefore unlikely to be any significant impacts in terms of visual, noise, traffic, and air quality. The level of existing community infrastructure in the wider area is considered to be sufficient to accommodate any additional demand and mitigation will not be required.

14.11 Significance of effects

a) Socio-economics

14.11.1 The low labour market sensitivity and minor beneficial construction and operational impact results in a likely **Negligible** beneficial effect on employment, in accordance with the criteria provided in Table 14-9. Construction and operational effects on employment and GVA are considered to be not significant.

b) Tourism

14.11.2 Of the three tourism and recreation receptors identified, the Paintball and Activity Centre is the only one in close proximity to the Project. The low sensitivity and low magnitude of impact results in a **Negligible** effect which is not significant. Effects on Cwm Clydach Nature Reserve will be **Negligible** and therefore not significant. Effects on the National Cycle Route 43 will be **Minor Adverse** and also not significant.

c) Community Infrastructure

14.11.3 There are no community facilities situated in the immediate area surrounding the Project. The level of community infrastructure provision in the wider area is considered sufficient to serve any additional requirements as a result of the Project. The magnitude of impact is low. Taking into account the low/medium sensitivity, the likely effect would be at its greatest **Minor Adverse** and therefore not significant.

14.12 Residual Effects

14.12.1 The following tables (Tables 14-24 to 14-29) present a summary of the socio-economic, tourism, and community infrastructure assessment.

Table 14-24: Socio-Economic Summary of Effects Arising during Construction/Decommissioning Phase

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
Project					
Labour Market	Beneficial employment effect	Negligible beneficial	Not required	Negligible beneficial	Not significant
<i>Construction information is only available for the Project as a whole. Project impacts cannot be disaggregated into elements, i.e. Power Generation Plant, Gas Connection, and Electrical Connection.</i>					

Table 14-25: Summary of Residual Effects during Operation – Socio-Economic

Receptor	Description of Effect	Classification of Effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
Project					
Labour Market (project in combination)	Beneficial employment effect	Negligible beneficial	Not required	Negligible beneficial	Not significant
<i>Construction information is only available for the Project as a whole. Project impacts cannot be disaggregated into elements, i.e. Power Generation Plant, Gas Connection, and Electrical Connection.</i>					

Table 14-26 Summary of Residual effects – Tourism/Recreation, Construction/Decommissioning Phases

Receptor	Description of Effect	Classification of Effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
Power Generation Plant					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant
Gas Connection					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant
Electrical Connection					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant
Project					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant

Table 14-27 Summary of residual effects – Tourism/Recreation, Operational Phase

Receptor	Description of Effect	Classification of Effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
Power Generation Plant					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant
Gas Connection					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant
Electrical Connection					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant
Project					
Cwm Clydach Nature Reserve	Visual	Negligible	None	Negligible	Not Significant
National Cycle Route 43	Noise	Minor adverse	None	Minor adverse	Not Significant
Paintball and Laser Tag Activity Centre	Transport Air Quality	Negligible	None	Negligible	Not Significant

Table 14-28 Summary of Residual Effects – Community Infrastructure, Construction/Decommissioning Phases

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
Project					
Community Infrastructure receptors	Increased demand for services	Minor adverse	None	Minor adverse	Not significant

Table 14-29 Summary of Residual Effects – Community Infrastructure, Operational Phase

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
Project					
Community Infrastructure receptors	Increased demand for services	Minor adverse	None	Minor adverse	Not significant

a) Project Effects

i. Socio-economics

14.12.2 The Project in the context of employment and labour market pressure is considered in Section 14.7²⁷, Project impacts cannot be disaggregated into elements, i.e. Power Generation Plant, Gas Connection, and Electrical Connection, because these three elements are so intrinsically linked.

ii. Tourism

14.12.3 The Project will not cause any significant effects on tourism and recreation receptors in the study area.

14.12.1 The majority of tourism related businesses stated that the Project would have ‘no impact’ on their trading performance, while a proportion of survey respondents stated it would have a beneficial effect through increased trade from construction workers.

14.13 Cumulative Effects

a) Assessment of Potential Cumulative Effects – Construction and Demolition

i. Description of Impact

14.13.1 Cumulative impacts on the labour market have been identified as potentially arising as a result of construction of the Project in combination with other schemes set out in **Chapter 4: Approach to Environmental Impact Assessment**.

ii. Assessment of cumulative effect

14.13.2 Table 14-31 shows the construction job requirement for each project included in the cumulative assessment. Estimates have been based on estimated construction costs using Building Cost Information Service (BCIS) data (2017)²⁸ (Ref. 14.14). Projects that are currently under construction are assumed to be completed by the anticipated construction start date for the Project in 2020.

Table 14-30 Cumulative Projects

Reference	Location	Construction Cost	Construction jobs (Person Years)	Construction Labour in Project Labour Market Area
Permitted but not yet implemented				
2013/0795	Tyle Coch Mawr Wind Farm	£11m	105	0.2%
2013/1835	Felindre Business Park	£6.1m	58	0.1%
2015/1529	Llettyr Morfil	£4.1m	40	0.1%

²⁷The socio-economic employment and GVA effects are considered for the Project as a whole. Construction information is only available for the Project as a whole.

²⁸ Commercial database subscription held by PBA

Reference	Location	Construction Cost	Construction jobs (Person Years)	Construction Labour in Project Labour Market Area
(appeal ref 4369653)	Farm			
2015/0308	Plot 8 Felindre Strategic Business Park	£7.4m	71	0.1%
2016/1522	Griffiths Waste Management Site, Bryntywod Llangyfelach Swansea SA5 7LP	£1m	9	0.0%
2008/0912	Former Walters Yard Pontlliw Swansea	£7.9m	75	0.1%
Submitted but not determined				
2011/0345*	Land at Llewellyn Road, Penllergaer	£23.4m	225	0.4%
2012/0721	Royal Fern Golf Resort	£8.3m	80	0.1%
2014/0977	Parc Ceirw, Cwmrhydyceirw Quarry, Swansea	£5.9m	56	0.1%
2017/1822/OUT	Land West of Llangyfelach Road Tirdeunaw	£16.4m	158	0.3%
2016/1478	Land North of Garden Village Swansea	£11.8m	113	0.2%
2017/0986/FUL*	Former Civic Centre Penllergaer Swansea SA4 9GH	£9.4m	90	0.2%
Identified/Allocated (and not referenced above)				
UDP Policy EC1(3) *†	Swansea Vale Strategic Mixed-Use Site	£59.6m	571	1.0%
UDP Policy EC1(10) *†	Land at Bryntywod,	£37.7m	361	0.6%

Reference	Location	Construction Cost	Construction jobs (Person Years)	Construction Labour in Project Labour Market Area
	Felindre (Local Employment Site)			
UDP Policy EC1(12) *†	Penllergaer Business Park (Local Employment Site)	£19.6m	187	0.3%
UDP Policy HC13 *†	West of Morryston Hospital	£73.3m	702	1.2%
LDP Policy SD G **	Northwest of M4 J46, Llangyfelach	£16.6m	159	0.3%
LDP Policy SD A **	South of Glanffrwd Road, Pontarddulais	£12.1m	116	0.2%
LDP Policy SD C **	South of A4240, Penllergaer	£16.8m	161	0.3%
LDP Policy SD E **	North of Clasemont Road, Morryston	£13.3m	127	0.2%
LDP Policy SI 4	Morryston Hospital	N/A ²⁹	N/A	0%
LDP Policies RP7 & RP8	Former Tip Site, Felindre	N/A ³⁰	N/A	0%
LDP Policy H1.11*	Land at Ramsey Road, Clydach	£7m	67	0.1%
LDP Policy H1.21*	Land east of Pontarddulais Road, Gorseinon	£10.5m	101	0.2%
LDP Policy H1.26*	Land at Carmel Road and Bryntirion Road, Pontlliw	£11.7m	112	0.2%
LDP Policy H1.30*	Land north of Llewellyn Road, Penllergaer	£5.9m	56	0.1%

²⁹ No information available

³⁰ No information available

Reference	Location	Construction Cost	Construction jobs (Person Years)	Construction Labour in Project Labour Market Area
LDP Policy H1.31*	Land at Bolgoed Road, Pontarddulais	£5.9m	56	0.1%
Total		£ 402.7	3,858	6.5%
Total with the Project			3,950	6.7%
* No build programme inputted into labour requirement calculations.				
** Full development information not available.				
† Development densities applied to approximate build costs.				

14.13.3 A total of 3,858 temporary construction jobs would be required to build nearby projects, or 3,950 when including the Project.

14.13.4 The Absorption Capacity Table (Table 14-32) demonstrates sufficient labour in the study area to build all of the cumulative projects (i.e. the total requirement does not exceed 15% at the 60-minute drive time³¹).

14.13.5 The cumulative projects could therefore be built using labour from the Project's labour market area without creating any minor labour market distortions. In reality, the labour market for the cumulative projects will be much wider than the Project labour market area providing access to a wider labour market pool³².

Table 14-31 Cumulative Projects Absorption Capacity (30; 45 and 60-minute drive times)

	30 mins	45 mins	60 mins
No. of workers			
Economically Active	233,189	375,114	801,976
Economically active: Unemployed	15,242	25,000	55,090
Highly Skilled	24,588	40,091	93,280
Skilled	46,314	71,417	156,815
Semi-skilled & Unskilled	34,543	55,342	110,835
Manufacturing	21,804	37,020	73,093
Construction	17,182	28,750	59,058
Electricity & gas	987	1,793	5,749
Average Construction Workers Per Year (3,950) as % of:			
Economically Active	1.7%	1.1%	0.5%
Economically active: Unemployed	25.9%	15.8%	7.2%

³¹ The wider region (60-minute drive time) has been considered for construction employment impacts as construction labour is more likely to come from these areas than from the 30 and 45 minute areas. Smaller geographies are included to show worst case effects

³² The Construction Industry Training Board research document (2015) suggests that about 42% of construction workers in Wales regularly travel more than 50 miles to their place of work

	30 mins	45 mins	60 mins
Highly Skilled	16.1%	9.9%	4.2%
Skilled	8.5%	5.5%	2.5%
Semi-skilled & Unskilled	11.4%	7.1%	3.6%
Manufacturing	18.1%	10.7%	5.4%
Construction	23.0%	13.7%	6.7%

14.13.6 The Absorption Capacity analysis assumes a worst case scenario. All projects are assumed to be constructed during the same year. A one-year build programme is assumed for projects where construction programmes are unknown. This increases the annual labour requirement³³. In practice, the ‘worst case scenario’ is unlikely to occur for a number of reasons:

- Some of the projects may not be consented or developed;
- The construction of the noted schemes is unlikely to take place concurrently;
- Some involve construction over a more extended period than the Project (further diluting absorption effects);
- The labour market catchments for a number of the noted projects will differ from that of the Project;
- A number of the projects are likely to require more specialist construction skills. It is unlikely that the construction needs for all of the projects noted can be met from within localised catchments;
- Construction labour is highly mobile and flexible. Should capacity bottlenecks emerge, labour can generally be brought in from further afield; and
- A proportion of specialist labour would be sourced from across the UK.

14.15 References

- Ref 14.1 Department of Energy & Climate Change. *National Policy Statement for Energy (EN-1)*. (Online) Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf
- Ref 14.2 Welsh Government. 2016. *Planning Policy Wales: Edition 9*. (Online) Available at: <http://gov.wales/topics/planning/policy/ppw/?lang=en>
- Ref 14.3 Swansea Council. 2016. *The City and County of Swansea Unitary Development Plan*. (Online) Available at: <http://www.swansea.gov.uk/ldp>
- Ref 14.4 Swansea Council. 2016. *The Swansea Local Development Plan 2010-2025: Deposit Plan July 2016*. (Online) Available at: <http://www.swansea.gov.uk/ldpdeposit>
- Ref 14.5 Office for National Statistics. 2001. *2001 Census data*. (Online) Available at: <https://www.ons.gov.uk/census/2011census/2011censusdata/2001censusdata>
- Ref 14.6 Office for National Statistics. 2011. *2011 Census data*. (Online) Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/2011censuskeystatisticsforwales/2012-12-11>

³³ Most projects have available build programmes and these have been applied to the annual requirements.

- Ref 14.7 HM Treasury. 2011. *The Green Book: Appraisal and Evaluation in Central Government*. (Online) Available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>
- Ref 14.8 Homes and Communities Agency. 2014. *Additionality Guide: Fourth Edition 2014*. (Online) Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/378177/additionality_guide_2014_full.pdf
- Ref 14.9 European Commission. 2017. *What is an SME?* (Online) Available at: http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en
- Ref 14.10 TNS, Visit Wales, Visit England, and Visit Scotland. 2015. *GB Day Visitor*. 2015. (Online) Available at: <http://gov.wales/docs/statistics/2016/160809-great-britain-day-visitor-2015-en.pdf>
- Ref. 14.11 TNS and Visit Wales. N.d. (Online) Available at: <https://gbtswalesla.kantar.com/ViewTable.aspx>
- Ref. 14.12 Welsh Government. 2016. *Wales Visitor Attractions Survey 2015*. (Online) Available at: <http://gov.wales/docs/caecd/research/2016/160721-visitor-attractions-survey-2015-en.pdf>
- Ref. 14.13 Statistics for Wales. 2014. *Wales Tourism Accommodation Occupancy Survey Wales, July 2014*. (Online) Available at: <http://gov.wales/docs/statistics/2014/141106-wales-accommodation-occupancy-survey-july-2014-en.pdf>
- Ref 14.14 Building Cost Information Service (BCIS). 2017. *Data page*. (Online) Available at: <http://www.rics.org/uk/knowledge/bcis/>