

## DOCUMENT 5.17

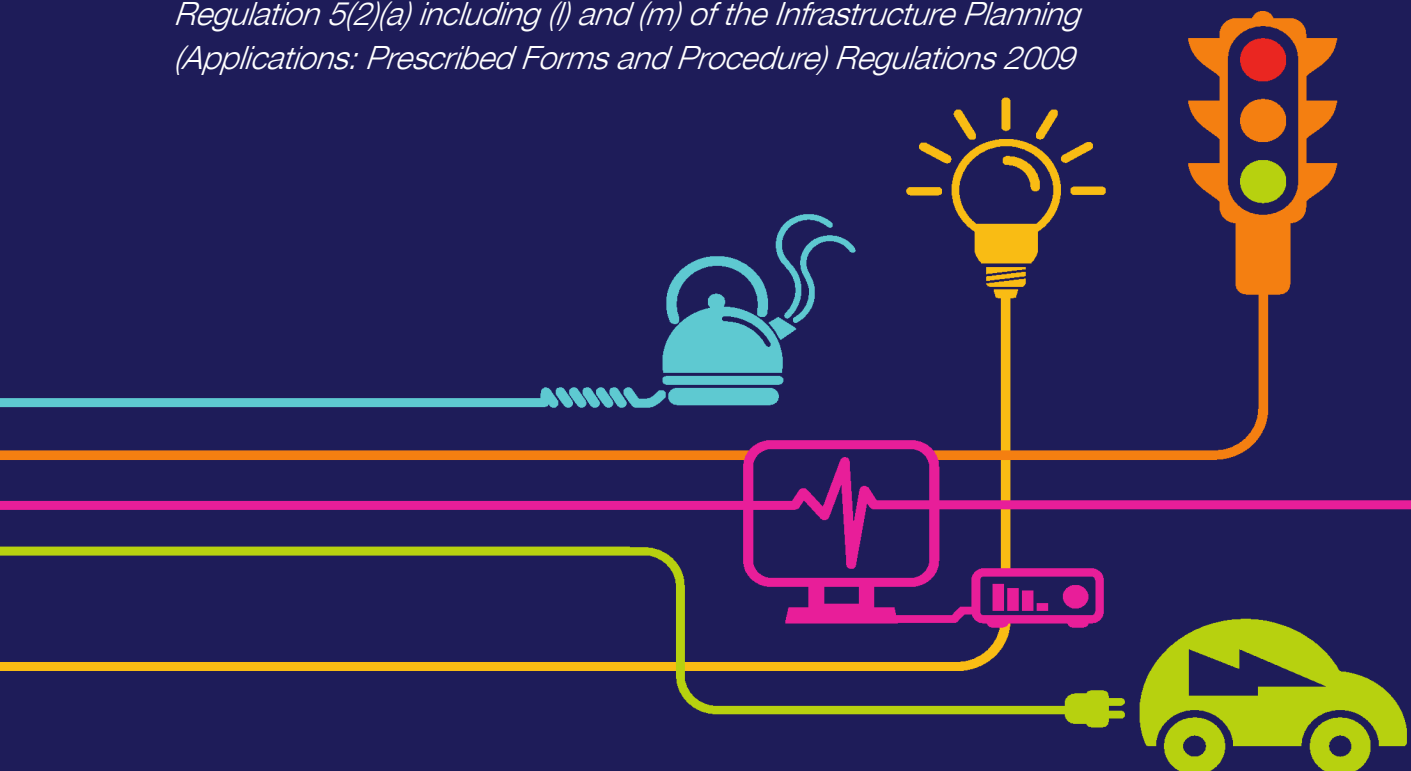
# Environmental Statement

## Chapter 17

### Socio Economics

National Grid (North Wales Connection Project)

*Regulation 5(2)(a) including (l) and (m) of the Infrastructure Planning  
(Applications: Prescribed Forms and Procedure) Regulations 2009*







# **North Wales Connection Project**

## **Volume 5**

### **Document 5.17 Chapter 17 Socio Economics**

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# 1 Introduction

## 1.1 INTRODUCTION

- 1.1.1 This chapter presents the findings of the assessment of socio-economic effects that could result from the Proposed Development, and reports on any significant effects on communities, tourism, businesses and recreational resources, as well as any significant wider socio-economic effects within the study areas, as set out in section 3 and section 4.
- 1.1.2 The assessment describes the effects that are anticipated during construction and operation of the Proposed Development. Effects during maintenance and decommissioning would be expected to be similar to those for construction<sup>1</sup>.
- 1.1.3 The socio-economic effects considered within this chapter are grouped under three headings: amenity effects, land use effects and wider effects. The sub-topics considered within these groupings are listed below and explained in detail in section 4.5.
- Amenity effects: amenity effects are those arising as a result of visual, traffic, air quality and noise effects, and are considered for the following receptors:
    - communities;
    - Public Rights of Way (PRoWs)<sup>2</sup>;
    - tourist attractions and recreational resources; and
    - commercial receptors (including individual tourism businesses).
  - Land use effects: land use effects include direct land-take, change in land use, and access changes to non-agricultural private land,

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<sup>1</sup> During maintenance and decommissioning, effects would typically be much more localised and of substantially reduced duration than during construction. The effects as a result of tunnel-related construction activity would not recur during maintenance and decommissioning.

<sup>2</sup> Highways such as footpaths, cycleways, bridleways and national trails that allow the public a legal right of passage are referred to as 'Public Rights of Way' (PRoWs) throughout the assessment.

community land, commercial land, employment land and development land, and indirect effects on development land allocations and/or active planning applications.

- Wider effects: wider effects are considered for the sub-topics listed below. Wider effects are not location-specific and are therefore considered across a larger geographical area than the receptor-based assessments:
  - tourism accommodation;
  - visitor numbers;
  - employment; and
  - expenditure and supply chain.

1.1.4 Individual residences are not considered alone in this assessment; however, they are considered as constituent components of local communities in the assessment of amenity effects (section 9). Individual properties (including residences) are assessed as part of the intra-Project cumulative assessment, which is reported in Chapter 19 Intra-Project Effects (**Document 5.19**).

1.1.5 Effects on agriculture are considered in Chapter 18 Agriculture (**Document 5.18**).

1.1.6 In addition to amenity effects on PRoWs, direct effects may also occur (such as a closure, diversion or another type of restriction), which may affect the use or attractiveness of a PRoW. These direct effects are reported in Chapter 13 Traffic and Transport (**Document 5.13**) and proposed management measures are set out in the PRoW Management Plan (**Document 7.6**).

1.1.7 This chapter is supported by the following appendices:

- Appendix 17.1 Amenity Assessment Tables (**Document 5.17.2.1**);
- Appendix 17.2 Workforce Analysis Assumptions Log (**Document 5.17.2.2**);
- Appendix 17.3 Visitor Survey Results (**Document 5.17.2.3**); and
- Appendix 17.4 Business Survey Results (**Document 5.17.2.4**).

1.1.8 The findings of the assessments reported in the following chapters have been drawn upon for the purposes of the assessment of amenity effects:



- Chapter 8 – Visual Assessment (**Document 5.8**);
  - Chapter 13 – Traffic and Transport (**Document 5.13**);
  - Chapter 14 – Air Quality (**Document 5.14**);
  - Chapter 15 – Construction Noise and Vibration (**Document 5.15**); and
  - Chapter 16 – Operational Noise (**Document 5.16**).
- 1.1.9 Cumulative effects with other reasonably foreseeable projects are reported in section 10 of this chapter, and also in Chapter 20 Inter-Project Effects (**Document 5.20**).
- 1.1.10 The Construction Environmental Management Plan (CEMP) (**Document 7.4**) provides details of how the Proposed Development would avoid, minimise or mitigate against adverse effects on the environment. How the CEMP relates to socio-economics receptors and effects is discussed in section 9.1 of this chapter.
- 1.1.11 Whilst all likely significant socio-economic effects of the Proposed Development are reported in this chapter, there are two other associated documents that are cross-referenced. These are:
- Welsh Language Impact Assessment (WLIA) (**Document 5.26**), produced by Cadnant Planning Ltd on behalf of National Grid. The WLIA is presented as a standalone document and does not form part of the Environmental Impact Assessment (EIA). The WLIA presents an assessment of effects of the Proposed Development on Welsh language, culture and community.
  - Well-being Report (WBR) (**Document 5.27**). The WBR is presented as a standalone document and does not form part of the EIA. The WBR provides signposting to documents in the Environmental Statement (ES) that are relevant to well-being. Whilst no separate assessment of impacts on well-being is provided, the WBR demonstrates how issues related to well-being have been considered in the application.
- 1.1.12 These two documents provide a screening of potential effects on Welsh language and well-being. Where such effects are identified, these are further considered in the ES.
- 1.1.13 Both the WLIA and WBR make reference to the socio-economic assessment reported in this chapter, as well as referencing each other. As such, there is a degree of circular cross-referencing across the three documents.

- 1.1.14 Abbreviations used within this chapter are defined in the Glossary (**Document 1.4**).
- 1.1.15 As no significant effects are identified for the Proposed Development, no mitigation is proposed. No enhancement measures are described in this chapter. Proposed enhancement measures are documented in the Enhancement Strategy (**Document 7.13**).

## 2 Legislation and Planning Policy

### 2.1 INTRODUCTION

- 2.1.1 This section sets out the legislative and planning policy framework that is relevant to the socio-economic assessment. A full review of compliance with national and local planning policy is provided in the Planning Statement (**Document 7.14**) and a full review of relevant legislation is set out in the Legislation Compliance Audit (**Document 5.28.2.1**).

### 2.2 LEGISLATION

#### *Well-being of Future Generations (Wales) Act 2015*

- 2.2.1 The Well-being of Future Generations (Wales) Act 2015 ('WFGA 2015') came into force on 1 April 2016. WFGA 2015 aims to improve the social, economic and cultural well-being of Wales by placing a duty on public bodies to think in a more sustainable and long-term way. WFGA 2015 puts in place seven well-being goals, with the aim of ensuring that all public bodies are working towards the same vision. As a private company, National Grid does not have a statutory duty to comply with the Act and its requirements; however, following discussions with Isle of Anglesey County Council (IACC) and the Wales Health Impact Assessment Support Unit (WHIASU)<sup>3</sup>, National Grid has voluntarily agreed to consider well-being as part of its application for a Development Consent Order (DCO) for the Proposed Development.
- 2.2.2 During a workshop with stakeholders, held on 16 October 2016, the goals set out in WFGA 2015 were aligned with accepted determinants for public health. The outcomes of this workshop were used to inform the WBR (**Document 5.27**).
- 2.2.3 A summary of legislation compliance is provided in an appendix to the Schedule of Mitigation (**Document 5.28.2.1**).

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<sup>3</sup> WHIASU is an all-Wales service responsible to Public Health Wales and funded by Welsh Government as 'a part of a wider strategy to improve health and reduce inequalities and to assist organisations to respond to 'Our Healthy Future' and 'Fairer Outcomes for All'. WHIASU specialises in HIA and delivers both training and capacity-building in HIA.

## 2.3 NATIONAL POLICY

### *National Policy Statements*

- 2.3.1 National Policy Statements (NPS) set out the primary policy test against which the application for a DCO for the Proposed Development will be considered.
- 2.3.2 Those sections of the Overarching NPS for Energy (EN-1) (Ref 17.1) that are directly relevant to socio-economic effects are presented in Table 17.1.
- 2.3.3 The NPS for Electricity Networks Infrastructure (EN-5) (Ref 17.2) was also reviewed but no additional requirements related to socio-economics were identified.
- 2.3.4 Table 17.1 sets out where information required under EN-1 can be found within this chapter. Where it is considered that there is no potential for particular effects referred to in the NPS to arise as a result of the Proposed Development, this is also noted.

Table 17.1 Compliance with NPS (EN-1)	
NPS EN-1 Section	Where this is covered in the ES
4.2.2 To consider the potential effects, including benefits, of a proposal for a project, the (Infrastructure Planning Commission (IPC)) 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.	<p>This chapter describes the assessment and prediction of potential socio-economic effects, both beneficial and adverse, and reports any committed mitigation measures in section 9, as well as the resulting residual effects.</p> <p>Associated documents relevant to this requirement, which are cross-referenced in this chapter, include:</p> <ul style="list-style-type: none"> <li>• WLIA (<b>Document 5.26</b>); and</li> <li>• WBR (<b>Document 5.27</b>).</li> </ul> <p>The preparation of the documents has acted as a screening exercise to identify if there is any potential for likely significant effects in relation to Welsh language and well-being. Where such effects have been identified, they are reported in section 9 of this chapter.</p>

Table 17.1 Compliance with NPS (EN-1)	
NPS EN-1 Section	Where this is covered in the ES
4.2.3 For the purposes of this NPS and the technology-specific NPSs, the ES should cover the environmental, social and economic effects arising from pre-construction, construction, operation and decommissioning of the project.	See section 8 and section 9 of this chapter.
4.4.2 Applicants are obliged to include in their ES...an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility.	See Chapter 2 Alternatives and Proposed Development History ( <b>Document 5.2</b> ), which describes the potential social and economic effects considered during Options Appraisal.
5.4.2 UK airspace is important for both civilian and military aviation interests. It is essential that the safety of UK aerodromes, aircraft and airspace is not adversely affected by new energy infrastructure.	The location of military and civilian airports was considered in the route corridor options appraisal process, together with consultation feedback from the Ministry of Defence. The route corridor chosen for the Proposed Development avoids the risks of infringement of safeguarding zones, as confirmed by Stage Three Consultation responses from the Ministry of Defence and the National Air Traffic Services. As such, this topic is not considered any further in the socio-economic assessment.
5.6 The applicant should assess the potential for insect infestation and emissions of odour, dust, steam, smoke and artificial light to have a detrimental impact on amenity, as part of the ES.	Of the sources of amenity impact identified in EN-1, only dust and artificial light are relevant to the Proposed Development. Chapter 14 Air Quality ( <b>Document 5.14</b> ) provides an assessment of dust emissions. Chapter 8 Visual Assessment ( <b>Document 5.8</b> ) includes a lighting assessment. The Statement of Statutory Nuisance ( <b>Document 5.24</b> )

Table 17.1 Compliance with NPS (EN-1)	
NPS EN-1 Section	Where this is covered in the ES
	<p>also reports any statutory nuisance effects.</p> <p>The findings of the amenity assessment are reported in section 9.</p>
<p>5.10.5 The ES...should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan.</p>	<p>The majority of temporary and permanent land-take required for the Proposed Development is agricultural land, the potential effects of which are reported in Chapter 18 Agriculture (<b>Document 5.18</b>). Effects on land uses other than agriculture are assessed in section 9.6 of this chapter, including direct and indirect effects on the viability of development land.</p>
<p>5.12.3 This assessment should consider all relevant socio-economic impacts, which may include:</p> <ul style="list-style-type: none"> <li>the creation of jobs and training opportunities;</li> <li>the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities;</li> <li>effects on tourism;</li> <li>the impact of a changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical</li> </ul>	<p>The socio-economic assessment considers these effects as follows:</p> <ul style="list-style-type: none"> <li>Section 9.10 includes an assessment of employment effects. See also Appendix 17.2 - Workforce Analysis Assumptions Log (<b>Document 5.17.2.2</b>).</li> <li>Additional local services or improvements to local educational and visitor facilities do not form part of the Proposed Development, nor are they required to address any socio-economic effects.</li> <li>Section 9.4, section 9.8, and section 9.9 include an assessment of effects on tourism. An assessment of the intra-project cumulative effects on the tourism sector is provided in section 10.2.</li> </ul>

Table 17.1 Compliance with NPS (EN-1)	
NPS EN-1 Section	Where this is covered in the ES
<p>infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development; and</p>	<ul style="list-style-type: none"> <li>Given the number and profile of construction workers expected to be present on site, and the duration of peak workforce numbers (section 9.8), workers are not expected to permanently relocate to the local area and therefore no effects on demand for public services are anticipated.</li> </ul> <p>Social cohesion is not considered in this chapter; however, the WLIA (<b>Document 5.26</b>) considers the long-term effects on family ties, social networks and community cohesion. In addition, “A Wales of cohesive communities” is one of the Well-being Goals considered in the WBR (<b>Document 5.27</b>).</p>
<ul style="list-style-type: none"> <li>cumulative effects – if development consent were to be granted 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.</li> </ul>	<p>An assessment of potential cumulative socio-economic effects is provided in Chapter 19 Intra-Project Effects (<b>Document 5.19</b>) and includes consideration of cumulative employment effects and demand for tourism accommodation during construction.</p> <p>Section 10 and Chapter 20, Inter-Project Effects (<b>Document 5.20</b>) reports on inter-project cumulative effects, including the proposed Wylfa Newydd Power Station.</p>
<p>5.12.4 Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development’s socio-economic</p>	<p>Section 7 of this chapter describes baseline conditions.</p> <p>Section 2 of this chapter includes details of how local planning policies have been taken into account. The</p>

Table 17.1 Compliance with NPS (EN-1)	
NPS EN-1 Section	Where this is covered in the ES
impacts correlate with local planning policies.	Planning Statement ( <b>Document 7.14</b> ) also presents this information.
5.12.5 Socio-economic impacts may be linked to other impacts, for example the visual impact may also have an impact on tourism and local businesses.	Section 9 of this chapter includes an assessment of amenity effects on individual receptors (communities, businesses, tourism/recreational resources). Reference to the relevant topic chapters from which information has been drawn is made throughout, which includes the Chapter 8 Visual Assessment ( <b>Document 5.7</b> ). Intra-project effects are also considered in Chapter 19 Intra-Project Effects ( <b>Document 5.19</b> ).

### *Planning Policy Wales*

- 2.3.5 Planning Policy Wales Edition 9 (PPW9) (Ref 17.3) provides guidance on planning policies to promote quality, lasting, environmentally sound and flexible employment opportunities to promote a low-carbon economy and to protect and where possible improve people's health and well-being. A draft version of Planning Policy Wales Edition 10 (PPW10) is currently being consulted on. Table 17.2 sets out those sections of PPW9 and the draft PPW10 that are relevant to the socio-economic assessment.
- 2.3.6 For further assessment of how the Proposed Development relates to the well-being goals, as set out on page 44 of PPW9 and page 9 of the draft PPW10, refer to the WBR (**Document 5.27**).

Table 17.2: Review of Planning Policy Wales	
PPW Section	Relevance to the socio-economic assessment
PPW9	
4.13.1 The Welsh language is part of the social and cultural fabric of Wales. The Welsh Government is committed to ensuring that the Welsh language	A WLIA has been undertaken ( <b>Document 5.26</b> ) and is considered in this chapter, as summarised in Table 17.6.



Table 17.2: Review of Planning Policy Wales	
PPW Section	Relevance to the socio-economic assessment
is supported and encouraged to flourish as a language of many communities all over Wales.	
11.1.2 Welsh Government's aim is for tourism to grow in a sustainable way and to make an increasing contribution to the economic, social and environmental well-being of Wales.	Effects on tourism are considered in the socio-economic assessment with regard to effects on individual receptors (tourism businesses and recreational sites), the demand for tourism accommodation during construction, and effects on the wider tourism sector associated with visitor behaviour.
Draft PPW10	
2. Placemaking: Planning policies, proposals and decisions must seek to support the well-being of people and communities across Wales. This can be done through maximising their contribution to the achievement of the seven national well-being goals, by using the five Ways of Working, as required by the Well-being of Future Generations Act.	The Well-being Report (WBR) ( <b>Document 5.27</b> ) sets out how the Proposed Development supports the seven national well-being goals for Wales.
2.47 The Welsh Language and Placemaking: The Welsh language is part of the social and cultural fabric of Wales and its future well-being will depend upon a wide range of factors, particularly education, demographic change, community activities and a sound economic base to maintain thriving sustainable communities and places. The land use planning system should take account of the conditions which are essential to the Welsh language and in so doing contribute to its well-being and use.	The potential effects of the Proposed Development on the Welsh Language are considered in the WLIA ( <b>Document 5.26</b> )

Table 17.2: Review of Planning Policy Wales	
PPW Section	Relevance to the socio-economic assessment
<p>4. Productive and Enterprising Places: Energy –</p> <p>The Welsh Government is committed to delivering the outcomes set out in our Energy Policy Statement Energy Wales: A Low Carbon Transition (2012).</p> <p>An effective electricity grid network is required to fulfil the Welsh Government’s renewable and low carbon ambitions.</p>	<p>The benefits of the Proposed Development in terms of contributing to a low carbon economy are set out in the Planning Statement (<b>Document 7.14</b>). In addition, the contribution this makes to well-being is considered in the Well-being Report (<b>Document 5.27</b>).</p>
<p>5. Distinctive and Natural Places: recognising the Environmental Qualities of Places</p> <p>Air Quality and Soundscape: Clean air and an appropriate soundscape, contribute to a positive experience of place as well as being necessary for public health, amenity and well-being. They are indicators of local environmental quality and integral qualities of place which should be protected through preventative or proactive action through the planning system.</p>	<p>Potential air quality and noise effects as a result of the Proposed Development are considered in combination with visual effects and transport effects in the Amenity Assessment included in this chapter, in Sections 9.2 to 9.5.</p> <p>These effects are also considered in the Well-being Report (<b>Document 5.27</b>).</p>

2.3.7 PPW9 is supported by topic-based Technical Advice Notes (TANs) which provide supplementary technical guidance. Table 17.3 sets out the TANs identified as potentially relevant to the socio-economic assessment.

Table 17.3: Review of Technical Advice Notes (TANs)	
TAN	Relevance to the socio-economic assessment
TAN 13 – Tourism (Ref 17.4)	TAN 13 refers to the development of, rather than impact on, hotels and other tourist accommodation. It is not therefore relevant to the Proposed Development.
TAN 14 – Coastal Planning (Ref 17.5)	<p>TAN 14 notes that '<i>public access to the coast should be a basic principle</i>' and that whenever appropriate, developments should '<i>seek to include...public access as a positive feature of development.</i>'</p> <p>The socio-economic assessment considers effects on PRowWs including the Wales Coast Path.</p>
TAN 16 – Sport, Recreation and Open Space (Ref 17.6)	<p>TAN 16 notes the importance of outdoor facilities such as playing fields, recreation grounds, play areas, footpaths, cycle routes and woodland in generating health and environmental benefits for communities. It notes that such assets should be created and safeguarded for walkers, cyclists, horse-riders, including people from ethnic minorities, disadvantaged and disabled people.</p> <p>The socio-economic assessment considers effects on non-agricultural land-use including green space, PRowWs, and other tourism and recreational resources.</p>
TAN 20 – Planning and the Welsh Language (Ref 17.7)	TAN 20 notes the need for Local Planning Authorities to consider impacts on the Welsh language. The WLIA ( <b>Document 5.26</b> ) covers the considerations set out in this policy.

Table 17.3: Review of Technical Advice Notes (TANs)	
TAN	Relevance to the socio-economic assessment
TAN 23 – Economic Development (Ref 17.8)	<p>TAN 23 provides Local Planning Authorities with advice on various aspects relating to economic development including developing high-level economic planning objectives, assessing the economic benefits of new development, economic development and the rural economy, how economic development should be considered through the Local Development Plan process and determining employment land supply.</p> <p>Economic effects such as increased expenditure on tourism accommodation are considered within the socio-economic assessment (section 9.11).</p>

## 2.4 LOCAL PLANNING POLICY

2.4.1 Table 17.4 sets out local planning policy of relevance to this chapter.

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
Joint Local Development Plan (JLDP) for Anglesey and Gwynedd (Ref 17.35)			
Strategic Policy PS1	<p>Welsh Language and Culture</p> <p>The Councils will require:</p> <ol style="list-style-type: none"> <li>1. A Welsh Language Statement where the proposed development is: a retail, industrial or commercial development employing more than 50 employees and/or with an area of 1,000sq. m. or more.</li> <li>2. A WLIA where the proposed development is on an unexpected windfall site for a large scale housing development or large scale employment development that would lead to a significant workforce flow.</li> </ol>	Chapter 9 of the WLIA ( <b>Document 5.26</b> )	A separate WLIA ( <b>Document 5.26</b> ) has been completed, the findings of which are considered in section 9 of this chapter.
Policy ISA2	<p>Community Facilities</p> <p>The Plan will help sustain and enhance community facilities by...resisting the</p>	Chapter 17, Socio Economics ( <b>Document 5.17</b> )	The Proposed Development does not result in the loss or change of use of any community facility, however, this chapter assesses direct effects on land

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
	loss or change of use of an existing community facility.		and property and indirect effects on community facilities.
Policy ISA4	<p>Safeguarding Existing Open Space</p> <p>Proposals that will lead to the loss of existing open space including any associated facilities which has significant recreational, amenity or wildlife value will be refused unless they conform to the following criteria.</p> <ol style="list-style-type: none"> <li>1. There is an overall surplus of provision in the community;</li> <li>2. The long term requirement for the facility has ceased;</li> <li>3. Alternative provision of the same standard can be offered in an area equally accessible to the local community in question;</li> <li>4. The redevelopment of only a small part of the site would allow the</li> </ol>	There will be no loss of open space as a result of the Proposed Development, and this issue is not therefore covered in the DCO.	N/A

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
	retention and enhancement of the facility as a recreational resource.		
Strategic Policy PS4	<p>Sustainable Transport, Development and Accessibility</p> <p>Where possible safeguard, improve, enhance and promote PRoW (including footpaths, bridleways and byways) and cycleway networks to improve safety, accessibility (including disabled people) by these modes of travel and to increase health, leisure, well-being and tourism benefits for both local residents and visitors.</p>	Chapter 17, Socio Economics ( <b>Document 5.17</b> ) section 9.	Indirect effects on PRoW are assessed in this chapter in the amenity assessment (see section 9) and are found to be not significant.
Strategic Policy PS5	Proposals will only be permitted where it is demonstrated that they are consistent with the principles of sustainable development. All proposals are required to (amongst other things):	<p>Planning Statement (<b>Document 7.14</b>)</p> <p>Chapter 10 Historic Environment (<b>Document 5.10</b>)</p>	<p>This chapter assesses direct effects on land and property and indirect effects on community facilities.</p> <p>A separate WLIA has been completed (<b>Document 5.26</b>), the findings of which are considered in section 9 of this chapter.</p>

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
	<p>3. Give priority to effective use of land and infrastructure, prioritizing wherever possible the reuse of previously developed land and buildings within the development boundaries of Sub Regional Centre, Urban and Local Service Centres, Villages or in the most appropriate places outside the main accordance with Strategic Policy PS15;</p> <p>5. Protect, support and promote the use of the Welsh language in accordance with Strategic Policy PS16;</p> <p>6. Preserve and enhance the quality of the built and historic environment assets (including their setting), improving the understanding, appreciation of their social and economic contribution and sustainable use of them in accordance with Strategic Policy PS17.</p>	<p>Chapter 17, Socio Economics (<b>Document 5.17</b>)</p> <p>WLIA (<b>Document 5.26</b>)</p>	



Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
Policy PCYFF 2	<p>Development Criteria</p> <p>Planning permission will be refused where the proposed development would have an unacceptable adverse impact on:</p> <p>7. The health, safety or amenity of occupiers of local residences, other land and property uses or characteristics of the locality due to increased activity, disturbance, vibration, noise, dust, fumes, litter, drainage, light pollution, or other forms of pollution or nuisance;</p> <p>8. Land allocated for other development/uses.</p>	<p>Chapter 17, Socio Economics (<b>Document 5.17</b>)</p> <p>Chapter 19 Intra-Project Effects (<b>Document 5.19</b>)</p> <p>Statement of Statutory Nuisance (<b>Document 5.24</b>)</p>	<p>Indirect effects on amenity at a community level are assessed in this chapter (see section 9.2).</p> <p>Direct effects on land, including land allocated for development, are also assessed in this chapter (see section 9.6).</p>

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
Strategic Policy PS8	<p>Proposals for Large Infrastructure Projects</p> <p>Preamble: <i>“the Councils will encourage developers to consider packages of community benefits to be provided by the developer to offset and compensate the community for the burden imposed by hosting a project”.</i></p> <p>In their role as determining authorities for related development the Councils will require compliance, where appropriate, with the criteria set out in this Policy.</p>	Chapter 17, Socio Economics ( <b>Document 5.17</b> )	See below for details of PS8 Criteria 1, 3, 5 and 6 (note that the other criteria do not apply to socio-economics).
Strategic Policy PS8	<p><u>Criterion 1:</u></p> <p>The development and associated/ancillary infrastructure, including any proposals for accommodation, education and training facilities, employment, supply chains, transport, community and</p>	<p>Chapter 17 – Socio Economics (<b>Document 5.17</b>)</p> <p>Chapter 13 – Traffic and Transport (Document 5.13)</p>	Effects on community amenity, tourism accommodation, employment and the supply chain are assessed in this chapter (see section 9).

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
	environmental and green infrastructure, will contribute to a balance of positive outcomes for local communities, visitors and the environment.		
Strategic Policy PS8	<p><u>Criterion 3:</u></p> <p>A comprehensive assessment is provided of the proposal's environmental (landscape, built, historic and natural), social (including health and amenity), linguistic and cultural, transport and economic impacts (positive, negative and cumulative) during the construction, operation and decommissioning and restoration (if relevant) phases, as well as measures to be achieved where appropriate to avoid, reduce, alleviate and/or off-set the harm done.</p>	Chapter 17 Socio Economics ( <b>Document 5.17</b> ) Section 9.2 to 9.5 WLIA ( <b>Document 5.26</b> ) WBR ( <b>Document 5.27</b> )	<p>An amenity assessment for communities, tourist attractions and commercial receptors is included in this chapter (see section 9.2 to section 9.5). This assessment covers construction, operation, maintenance and decommissioning. Mitigation is set out either in this chapter or in contributing chapters (as defined in section 1.1.8).</p> <p>A separate WLIA has been completed (<b>Document 5.26</b>), the findings of which are considered in section 9 of this chapter.</p>

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
Strategic Policy PS8	<p><u>Criterion 5</u></p> <p>In recognition of any burden and disturbance borne by the community in hosting a major national infrastructure project, the Council may require appropriate packages of community benefits to be provided by the developer to offset and compensate the community for the burden imposed by hosting the project.</p>	<p>Chapter 17 Socio Economics (<b>Document 5.17</b>)</p> <p>WBR (<b>Document 5.27</b>)</p> <p>Enhancement Strategy (<b>Document 7.13</b>)</p>	<p>Community amenity effects are considered in this chapter (see section 9.2).</p> <p>A separate WBR has been completed (<b>Document 5.27</b>), the findings of which are considered in section 9 of this chapter.</p>
Strategic Policy PS8	<p><u>Criterion 6</u></p> <p>Local economic and community benefits are where feasible maximized, through agreement of strategies for procurement, employment, education, training and recruitment with the Council at an early stage of project development.</p>	<p>Enhancement Strategy (<b>Document 7.13</b>)</p>	N/A

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
Strategic Policy PS14	<p>The Visitor Economy</p> <p>The Councils will support the development of a year-round local tourism industry by:</p> <p><u>Criterion 5</u></p> <p>Preventing development that would have an unacceptable adverse impact on tourist facilities, including accommodation and areas of visitor interest or their setting.</p>	Chapter 17 Socio Economics ( <b>Document 5.17</b> )	Effects on visitor numbers are assessed in section 9.9. An assessment of the intra-project cumulative effects on the tourism sector is provided in section 10.2.
New Nuclear Build at Wylfa: Supplementary Planning Guidance 2014			
The New Nuclear Build at Wylfa Supplementary Planning Guidance (SPG), which was adopted by the Council in July 2014 sets out the County Council's vision and objectives for the New Nuclear Build and is an important material consideration in assessing other planning applications linked to the project.			
GP1	Supporting the Anglesey Energy Island Programme and Anglesey Enterprise Zone: DCO and Town and Country Planning applications should be accompanied by socio-economic	Chapter 17, Socio Economics ( <b>Document 5.17</b> ) Planning Statement ( <b>Document 7.14</b> )	This chapter presents the socio-economic assessment of the Proposed Development including an assessment of the construction and operation phases and the cumulative effects in

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
	assessments, to include assessment of construction and operation phases... and the cumulative effects of developments in combination with other major developments on the Island.		combination with other major developments.
Gwynedd and Anglesey Well-being Plan (Draft)			
Draft document	<p>The draft Well-being Plan was published in 2017 but has yet to be adopted. The draft plan identifies nine priorities:</p> <ol style="list-style-type: none"> <li>1. The need to maintain a healthy community spirit.</li> <li>2. The importance of protecting the natural environment.</li> <li>3. Understanding the effect of demographic changes.</li> </ol>	<p>Chapter 17 (Socio-economics) (<b>Document 5.17</b>)</p> <p>WBR (<b>Document 5.27</b>)</p> <p>WLIA (<b>Document 5.26</b>)</p>	<p>An amenity assessment has been undertaken to determine the potential effects on the amenity of local communities, PRoW and local businesses (see section 9).</p> <p>A separate WBR has been completed (<b>Document 5.27</b>), the findings of which are considered in section 9 of this chapter.</p> <p>A separate WLIA (<b>Document 5.26</b>) has been completed, the findings of</p>

Table 17.4: Local Planning Policy			
Policy Name / Number	Policy	Where this is covered in the DCO submission	Compliance points relating to this chapter
	<p>4. Protecting and promoting the Welsh language.</p> <p>5. Promoting the use of natural resources to improve health and well-being in the long term.</p> <p>6. Improving transport links to enable access to services and facilities.</p> <p>7. The need for good quality jobs and affordable homes for local people.</p> <p>8. The effect of poverty on well-being.</p> <p>9. Ensuring an opportunity for every child to succeed.</p>		which are considered in section 9 of this chapter.

## 3 Scope of Assessment and Consultation

### 3.1 INTRODUCTION

- 3.1.1 This section describes the scope of the socio-economic assessment that has been undertaken for the EIA. The scope has been informed by the Secretary of State's Scoping Opinion and engagement with consultees (both with regard to the scope and scheme detail). Minor modifications made to the scope since the publication of the Scoping Report and Scoping Opinion are summarised below.

### 3.2 SECRETARY OF STATE'S SCOPING OPINION

- 3.2.1 Table 17.5 sets out the issues that were raised in the Secretary of State's Scoping Opinion and how these have been addressed in the EIA.

Table 17.5: Issues Raised in the Secretary of State's Scoping Opinion		
Paragraph	Issue Raised by Secretary of State	Response
3.53	"It is proposed in Appendix 14.2 of the Scoping Report that effects on house prices are scoped out for all components and all stages of the proposed development. This is on the basis that it is not a material planning consideration because of the difficulty in assigning effects to individual projects taking into account the number of projects planned for Anglesey, and that changes in the economic status of wider economic issues (such as recession, etc.) are also likely to have a bearing on property prices. On this basis, the Secretary of State agrees that this matter can be scoped out of the EIA."	Effects on house prices are scoped out of the socio-economic assessment.



Table 17.5: Issues Raised in the Secretary of State's Scoping Opinion		
Paragraph	Issue Raised by Secretary of State	Response
3.162	"The Secretary of State welcomes the commitment to ongoing consultation with relevant stakeholders to inform the assessment and preparation of the ES topic chapter."	The approach to the assessment was developed in consultation with relevant statutory and non-statutory consultees. National Grid has maintained a high level of engagement with stakeholders throughout the assessment process. See Chapter 5, EIA Consultation ( <b>Document 5.5</b> ).
3.163	"It is stated in paragraph 14.6.26 of the Scoping Report in relation to assessing the significance of socio-economic effects that the magnitude of an impact will be valued as high, medium, low and negligible, and the sensitivity of a receptor as high, medium or low, and that these will be used to determine significance. However, reference is made in paragraph 14.6.29 to using Table 4.3 in Chapter 4 Construction, Operation, Maintenance and Decommissioning of the Proposed Development ( <b>Document 5.4</b> ) to classify the effects, which uses values of high, medium, low and very low, for both sensitivity of receptor and magnitude of impact. Care should be taken in the ES to ensure that the approach to determining significance is clearly and consistently set out."	The approach to assessing the significance of effects, including the definitions of sensitivity of receptors and magnitude of impact, are set out in section 4.5, and are consistent with paragraph 14.6.26 of the Scoping Report (Ref 17.11).

Table 17.5: Issues Raised in the Secretary of State's Scoping Opinion		
Paragraph	Issue Raised by Secretary of State	Response
3.164	<p>"It is stated in paragraph 14.8.1 of the Scoping Report that the cumulative effects of the proposed development will be considered together with other known permitted developments that are planned to be constructed within the Regional Area of Influence study area during the same period of time. The Applicant is referred to Planning Inspectorate Advice Note 17, and Section 4 of this Opinion, which provide advice on developments that should be considered in a Cumulative Effects Assessment, which encompasses a wider range of developments than permitted developments alone."</p>	<p>An assessment of cumulative effects of the Proposed Development together with other relevant developments has been undertaken in line with Planning Inspectorate Advice Note 17, and the findings are reported in section 10 of this chapter, as well as Chapter 20 Inter-Project Effects (<b>Document 5.20</b>). Note that the term 'Regional Area of Influence' is no longer used in this assessment.</p>
3.165	<p>"The Secretary of State notes that paragraph 14.5.26 of the Scoping Report identifies mussel operators as a socio-economic receptor that could be affected by Section 5 of the project route. The Applicant should give consideration to the inclusion of effects of the project on water quality as a potential intra-project effect."</p>	<p>Given that a tunnel has been identified as the proposed crossing method, and given the relatively large distances to the nearest beds, effects on mussel farmers are no longer considered in the socio-economic assessment. Effects on marine ecology are reported in Chapter 9 Ecology and Nature Conservation (<b>Document 5.9</b>) and effects on water quality are reported in Chapter 12 Water Quality, Resources and Flood Risk (<b>Document 5.12</b>).</p>

Table 17.5: Issues Raised in the Secretary of State's Scoping Opinion		
Paragraph	Issue Raised by Secretary of State	Response
3.166	"The Applicant's attention is drawn to the comments of the Councils in Appendix 3 of this Opinion in relation to the socio-economic assessment."	For an explanation of how the comments of the Councils have been considered in the socio-economic assessment, see section 3.4.

### 3.3 UPDATES SINCE SCOPING

#### *Severance effects*

- 3.3.1 With regard to severance effects, the Scoping Report (Ref 17.11) stated that the following effects would be considered (paragraph 14.1.2):

*'Access: these impacts would include consideration of the potential for impeded access to residential properties and recreation activities (including fishing and shooting); traffic causing severance to non-motorised road users; closure or diversion to Public Rights of Way (PRoW).'*

- 3.3.2 Specifically, the following were identified as potential effects during construction and operation, respectively (paragraph 14.7.1):

*'Temporary severance or restricted access to socio-economic and community resources and receptors;*

*Permanent severance of access to and from or along resources and receptors; for example, the diversion of a right of way due to surface works'.*

- 3.3.3 For the purpose of the Preliminary Environmental Information Report (PEIR) published during the Stage 3 Consultation, severance was assessed at a community level considering the potential for construction disturbance to affect access and journeys between community facilities and the populations they serve. This approach was adopted based on the level of information available at the time.

- 3.3.4 Community severance effects per se are no longer considered as a specific sub-topic in this chapter for the following reasons:

- Severance effects on vehicle users due to increased traffic are reported in Chapter 13 Traffic and Transport (**Document 5.13**).

- The effects of direct changes in access to land or property that would result in severance of access are reported in the land use sub-topic in this chapter.
- 3.3.5 Direct effects on PRoWs are assessed in Chapter 13 Traffic and Transport (**Document 5.13**) and proposed management measures are set out in the PRoW Management Plan (**Document 7.6**).

#### *Tourism accommodation*

- 3.3.6 Since the publication of the Scoping Report (Ref 17.11) and Scoping Opinion (Ref 17.12), National Grid has undertaken Stage 3 Consultation on the Proposed Development, which included initial information about potential socio-economic effects in the PEIR. IACCs response to the Stage 3 Consultation (Ref 17.9) requested more detailed analysis of impacts on accommodation, specifically:

*‘There is insufficient information on the impact on tourism accommodation and what proportion of workers will be taking up this element of the industry. There needs to be additional analysis in terms of the occupancy levels required and what is currently available’ (para 18.3.2).*

- 3.3.7 As such, demand for tourism accommodation has been added to the scope of this assessment, as well as consideration of the accommodation demand in the Private Rented Sector (PRS).

### **3.4 CONSULTATION**

- 3.4.1 Meetings have been held with IACC and Gwynedd Council, to discuss the scope, methodology and assessment results of the socio-economic assessment. Chapter 5, EIA Consultation (**Document 5.5**) lists all the meetings that have taken place and the topics discussed.
- 3.4.2 Responses to comments from Stage 3 Consultation can be found in Chapter 5 Appendix 5.2 Schedule of responses to the Preliminary Environmental Information Report and the Consultation Report (**Document 6.1**). Responses to comments provided during the technical stakeholder review of the draft ES are provided in Chapter 5, Appendix 5.3 Schedule of responses to the technical stakeholder review of the draft Environmental Statement (**Document 5.5.2.3**).

### **3.5 SCOPE OF ASSESSMENT**

- 3.5.1 The socio-economic effects considered in this chapter are described below.

### *Amenity effects*

- 3.5.2 Within the context of this assessment, 'amenity' is the term used to describe the overall pleasantness or attractiveness of the surroundings. For the purposes of this assessment, detrimental effects on amenity are considered to arise when a combination of two or more visual, traffic, air quality and noise effects coincide on a particular area or receptor, although for commercial and tourism receptors a secondary amenity effect can occur as a result of just one of these effects. For example, a visual effect could have a secondary effect on the operation of the tourism business, potentially resulting in a loss of trade. The purpose of the amenity assessment is to recognise and assess these effects.
- 3.5.3 The amenity assessments consider the following receptors and groups of receptors:
- Communities – effects resulting in a change in how people perceive their communities, or how they use community facilities such as schools and places of worship. The assessment of community amenity acts as a proxy for the assessment of effects on all those living, working, visiting or travelling through the area.
  - PRoWs – effects on users of paths, bridleways and cycle routes.
  - Tourist attractions and recreational resources – effects on sites or assets that could disrupt the use or function of the receptor as a result of specific, or a combination of, amenity effects.
  - Commercial receptors – effects on business which, due to their nature/operations, could experience a loss of trade as a result of specific, or a combination of, amenity effects. This includes tourism accommodation, for which visual effects in particular could affect trade; and non-tourism businesses such as performing arts facilities, advanced manufacturing, and sound recording, for which noise and vibration effects could affect operations. Commercial activities relating to care services (care homes) and animal services (catteries, kennels and veterinary surgeries) are also considered as being potentially sensitive to amenity effects, particularly to noise effects.

### *Land use effects*

- 3.5.4 The land use assessment considers the following effects:

- Direct land-take (other than agricultural land, which is covered in Chapter 18 Agriculture (**Document 5.18**)) and changes in land use.
- Direct changes in access to non-agricultural private land, community land, commercial land, employment and development land.
- Indirect effects on development land allocations and/or active planning applications.

#### *Wider effects*

3.5.5 The following effects are considered in the wider context:

- Tourism accommodation – the presence of construction workers creating demand for tourism accommodation that places pressure upon supply for visitors.
- Visitor numbers – changes in numbers of visitors to the area, or changes in visitor behaviour, during construction and operation, resulting from visitor perceptions of the Proposed Development.
- Employment – changes in direct and indirect employment resulting from the construction of the Proposed Development.
- Expenditure – revenue and supply chain effects arising from expenditure during construction of the Proposed Development including capital and labour expenditure and spend on tourism accommodation generated by construction workers.
- Tourism sector – the potential for construction and operation of the Proposed Development to affect the tourism sector as a result of amenity effects, accommodation demand effects, effects on visitor numbers, and employment and expenditure effects.

3.5.6 Increased demand for community services arising from the presence of construction workers is not considered in the scope of this assessment. The duration and phasing of construction activities and the expected profile of the workforce means that workers are unlikely to permanently relocate to the area or register with local schools or GPs. Any potential demand for community facilities and services from construction workers is therefore considered to be so minimal that it would approximate a 'no change' or 'no impact' scenario. Further information on the assumptions made in relation to the profile of workers is presented in Appendix 17.2 Workforce Analysis Assumptions Log (**Document 5.17.2.2**).

### *Welsh language*

3.5.7 The WLIA (**Document 5.26**) summarises effects on Welsh language, culture and the community. The WLIA is based on a checklist of 18 questions, which relate to five important aspects of community life, as defined by best practice guidance 'Planning and the Welsh Language: The Way Ahead' (Ref 17.46) and relevant SPG. The five key aspects are:

- population characteristics;
- quality of life;
- economic factors;
- infrastructure supply; and
- social and cultural aspects.

3.5.8 The key areas of overlap for the ES and the WLIA are in-migration and economic effects. As such, elements of the WLIA are dependent on or related to the findings of the socio-economic assessment, such as construction worker numbers and amenity effects on commercial receptors. The assessment topics addressed in the WLIA are summarised in Table 17.6 together with a signpost as to where these are further considered in the socio-economic assessment.

3.5.9 The approach followed in the WLIA, in line with the adopted SPG and best practice guidance (refer to **Document 5.26**), differs from the approach taken in the ES. For the purposes of assessment in the EIA, mitigation is only required where the assessment concludes likely significant adverse effects, i.e. where the effect is moderate or major adverse. For the WLIA, the guidance requires that mitigation is proposed for minor as well as moderate or major adverse effects. No mitigation is proposed for any negligible adverse or neutral effects. On this basis, further consideration of effects on Welsh language is given in this chapter where the effect is minor, moderate or major.

**Table 17.6: WLIA checklist**

Important aspect of community life/checklist questions	Is there a minor effect or above? If so, where is this considered in the socio-economic chapter?
<b>Population characteristics</b>	

<b>Table 17.6: WLIA checklist</b>	
Important aspect of community life/checklist questions	Is there a minor effect or above? If so, where is this considered in the socio-economic chapter?
Q1. Is the Proposed Development likely to lead to a population increase or decrease?	Assessed in the WLIA as negligible adverse therefore this effect is not given further consideration in the socio-economic assessment.
Q2. Is the Proposed Development likely to lead to increase in-migration?	Assessed in the WLIA as minor adverse during construction therefore this effect is considered further in the socio-economic assessment, see section 9.8.
Q3. Is the Proposed Development likely to lead to increased out-migration?	Assessed in the WLIA as negligible beneficial therefore this effect is not considered further in the socio-economic assessment.
Q4. Is the Proposed Development likely to change the age structure of the community?	Assessed in the WLIA as neutral, therefore this effect is not considered further in the socio-economic assessment.
<b>Quality of life</b>	
Q5. Is the Proposed Development likely to have an impact on the health of local people?	Assessed in the WLIA as neutral therefore this effect is not given further consideration in the socio-economic assessment.  The WBR ( <b>Document 5.27</b> ) provides signposting to documents in the ES that are relevant to well-being.
Q6. Is the Proposed Development likely to have an impact on the amenity of the local area?	Assessed in the WLIA as negligible adverse therefore this effect is not given further consideration in the socio-economic assessment.
Q7. Is the Proposed Development likely to lead to the threat of increased crime or violence?	Assessed in the WLIA as neutral therefore this effect is not given further consideration in the socio-economic assessment.
<b>Economic factors</b>	



<b>Table 17.6: WLIA checklist</b>	
Important aspect of community life/checklist questions	Is there a minor effect or above? If so, where is this considered in the socio-economic chapter?
Q8. Is the Proposed Development likely to have a detrimental impact on local businesses?	Assessed in the WLIA as neutral, however it is considered in the socio-economic assessment - see section 9.4, section 9.5, section 9.8 and section 9.11.
Q9. Is the Proposed Development likely to have a detrimental impact on local jobs?	Assessed in the WLIA as negligible beneficial, however it is included in to the socio-economic assessment, see section 9.10.
Q10. Is the Proposed Development likely to lead to greater economic diversity?	Included in the socio-economic assessment, see section 9.11. Assessed in the WLIA as negligible beneficial.
Q11. Is the Proposed Development likely to have an impact on local wage/salary levels?	Assessed in the WLIA as negligible beneficial therefore this effect is not given further consideration in the socio-economic assessment.
Q12. Is the Proposed Development likely to have an impact on the average cost of housing?	Assessed in the WLIA as negligible adverse therefore this effect is not given further consideration in the socio-economic assessment.
<b>Infrastructure supply and education</b>	
Q13. Is the Proposed Development likely to have an impact on local schools?	Assessed in the WLIA as neutral therefore this effect is not given further consideration in the socio-economic assessment.
Q14. Is the Proposed Development likely to have an impact on health care provision?	Assessed in the WLIA as neutral therefore this effect is not given further consideration in the socio-economic assessment.
Q15. Is the Proposed Development likely to have an impact on local services?	Assessed in the WLIA as negligible beneficial therefore this effect is not given further consideration in the socio-economic assessment.
<b>Social and cultural aspects</b>	

Table 17.6: WLIA checklist	
Important aspect of community life/checklist questions	Is there a minor effect or above? If so, where is this considered in the socio-economic chapter?
Q16. Will the Proposed Development lead to social tensions, conflict or division?	Not applicable to this chapter – considered in the WBR ( <b>Document 5.27</b> ).
Q17. Will the Proposed Development lead to changes in local Welsh traditions/culture?	
Q18. Will the Proposed Development have an impact on local voluntary/activity/groups?	

*Well-being, social cohesion and equality*

- 3.5.10 All impacts of the Proposed Development that could affect well-being are *considered* within this ES, including impacts on amenity, land use, employment, and the economy. However, as described in section 2.3, well-being, social cohesion and equality are not *assessed* in this chapter. Details of how these topics have been addressed are provided in the WBR (**Document 5.27**).

## 4 Methodology

### 4.1 INTRODUCTION

- 4.1.1 This section describes the methods used to establish the socio-economic baseline and the approach used to assess the significance of potential socio-economic effects.
- 4.1.2 The socio-economic effects of the Proposed Development considered in this assessment include: amenity effects, which may impact upon the ways in which people live, work and interact; land use effects, such as direct access or land-take; and wider effects on, for example, employment and expenditure within the local economy. Overall effects on the tourism sector are considered in the intra-project cumulative assessment in section 10.2.
- 4.1.3 For the purpose of the assessment, effects are categorised as direct or indirect. Direct effects are limited to receptors located within the Order Limits and arise from direct interactions with elements of the Proposed Development during construction, operation, and decommissioning, such as land-take and access. As such, the majority of the socio-economic effects described in this chapter are indirect, arising, for example, from potential amenity effects, or changes in economic activity.

### 4.2 GUIDANCE SPECIFIC TO SOCIO-ECONOMICS

- 4.2.1 There is no definitive guidance on the assessment of socio-economic effects, and no prescribed method for determining the sensitivity of socio-economic receptors or the significance of effects on those receptors. Professional judgement has therefore been applied throughout the assessment.
- 4.2.2 The method applied draws on existing sector-specific guidelines, relevant planning policy, and existing industry best practice, including examples from other nationally significant infrastructure projects, as well as available literature on ex-post (after the event) effects.
- 4.2.3 The methods for the land use and wider effects assessments have been informed by the following documents.
- Guidelines and Principles for Social Impact Assessment (Ref 17.14);
  - HM Treasury 'The Green Book' (updated 2011) (Ref 17.15);

- The Additionality Guide (Ref 17.10);
- Design Manual for Roads and Bridges Volume 11 (Ref 17.16);
- The Overarching NPS for Energy (EN-1) (Ref 17.1);
- A Generic Study into the Effect of National Grid Major Infrastructure Projects on Socio-economic Factors Annex 2: Work Element 2 (Ref 17.29).
- ESs from previous overhead line (OHL) infrastructure projects, including the Hinkley Point C Connection project (Ref 17.20), the Richborough Connection project (Ref 17.42) and the Beaulieu to Denny Power Line project (Ref 17.43);
- PEIRs, including the North West Coast Connections project (Ref 17.30);
- Two ex-post assessments: Scotland/Northern Ireland Interconnector Ex-Post Tourism Impact Assessment (Ref 17.17) and Second Yorkshire Line Ex-Post Tourism Assessment (Ref 17.18); and
- The State of Environmental Impact Practice in the UK: Institute of Environmental Management and Assessment Special Report (Ref 17.48).

### 4.3 BASELINE DATA GATHERING AND FORECASTING METHODS

- 4.3.1 Baseline data were collected through a combination of desktop research, site visits and surveys as detailed below.

#### *Desk-based research*

- 4.3.2 Desk-based information collected to inform the baseline included: Ordnance Survey (OS) maps; aerial photography; GIS datasets; and statistical information from the Office for National Statistics. Further information was also obtained through engagement with consultees.

#### *Amenity effects*

- 4.3.3 Assessment findings from each of the following chapters were used in the determination of amenity effects:
- Chapter 8 Visual Assessment (**Document 5.8**);
  - Chapter 13 Traffic and Transport (**Document 5.13**);

- Chapter 14 Air Quality (**Document 5.14**);
- Chapter 15 Construction Noise and Vibration (**Document 5.15**); and
- Chapter 16 Operational Noise (**Document 5.16**).

4.3.4 The full list of receptors considered in the amenity assessment is presented in Appendix 17.1 (**Document 5.17.2.1**). The sourcing of these receptor lists is summarised as follows:

- Community settlements: for the purposes of this assessment, the identification of ‘communities’ was aligned with those of Chapter 8 Visual Assessment (**Document 5.8**).
- Tourist attractions and recreational resources: these resources were identified through consultation with stakeholders, site visits and through using relevant online material such as Visitwales.co.uk and Visitanglesey.co.uk.
- PRoWs, including footpaths, bridleways and cycling routes: identification of PRoWs was informed by the PRoW Management Plan (**Document 7.6**) and the assessment of traffic effects on PRoWs (Chapter 13 Traffic and Transport, (**Document 5.13**)).
- Commercial receptors (tourism and non-tourism businesses): these were taken from the OS Address Base Premium data, 2017.

#### *Visitor survey*

- 4.3.5 A Visitor Survey was undertaken over the periods 11 – 31 August 2016 and 22 – 30 October 2016.
- 4.3.6 The survey involved face-to-face interviews with visitors to various camping and caravan sites, tourist attractions, and users of public footpaths, resulting in the compilation of 739 usable responses.
- 4.3.7 The purpose of the survey was to understand visitor behaviour and motivation for visiting the area, and whether construction and operation of the Proposed Development would be likely to affect visitors’ intentions to return, their spending or the types of activities they undertake.
- 4.3.8 The survey was administered by an independent research company and respondents were offered the choice to conduct the interview in either English or Welsh.

- 4.3.9 Full results of the survey are provided in Appendix 17.3 (**Document 5.17.2.3**), and general findings are presented in section 7.4.

#### *Business survey*

- 4.3.10 A business survey was undertaken during late 2016 to early 2017 in order to gather further evidence on the potential effects on local businesses. It is acknowledged that with a winter survey there is a risk of tourism businesses being underrepresented, given that some operations will close during the off-peak season; however, it is argued that this is compensated for by other threads of the assessment that examine effects on tourism businesses, namely the visitor survey and the tourism business amenity assessment. No interviews were completed over the Christmas period.
- 4.3.11 Telephone interviews were undertaken by an independent market research company, targeting businesses that could be affected by the Proposed Development. Over 400 businesses were contacted, resulting in 52 responses, a response rate of 13%. Typically, a response rate of 20% would be expected for a survey of this nature (as reported by the market research company). The low response rate was attributed to the fact that a high proportion of businesses in the study area are small and medium-sized enterprises, which are less likely to have time and resources to participate in surveys during working hours.
- 4.3.12 Interviewees were located across Anglesey and north Gwynedd. The survey initially targeted businesses within the Consultation Zone (approximately 3 km from the Order Limits). Thirty-nine responses were generated from businesses within this 3 km Consultation Zone; the remaining 13 responses were from businesses between 3 km and 5 km of the Order Limits who were contacted in early 2017. Questions focused on understanding how businesses anticipate their business operations and viability might be affected by the construction and operation of the Proposed Development. Full results of the survey are provided in Appendix 17.4 (**Document 5.17.2.4**), and general findings are presented in section 7.4.

## **4.4 TECHNICAL ANALYSIS**

- 4.4.1 To calculate the indirect and induced employment and expenditure effects, economic multipliers known as 'additionality factors' were applied in line with the Additionality Guide (Ref 17.10). These multipliers allow for the measurement of further economic activity (jobs and expenditure) resulting from the creation of additional local economic activity.

## 4.5 ASSESSMENT CRITERIA

- 4.5.1 The approaches applied in the amenity assessment, and the assessment of land use effects and wider effects, are detailed below.

### *Sensitivity versus importance*

- 4.5.2 Throughout the assessment, a distinction is made between the sensitivity and importance of receptors, and there are occasions when both concepts are considered in determining the overall significance of effects. In the socio-economic context, a receptor with a high sensitivity does not necessarily translate to high importance, or vice versa; for example: a nationally significant outdoor site (e.g. a national park) would be classed as a more sensitive receptor than an indoor asset (e.g. a church or museum). Conversely, an indoor asset with high volumes of visitors may be more important to the economy than an outdoor asset with low volumes of visitors.
- 4.5.3 It may be the case that some socio-economic receptors are also identified in other chapters of the ES and may be assigned different sensitivity levels in that chapter. For example, a cultural heritage site such as a scheduled monument could be classed as a high sensitivity receptor in Chapter 10 Historic Environment (**Document 5.10**), but could be considered a low sensitivity and low importance receptor in socio-economic terms due to the number of visitors it attracts and its overall contribution to the tourism offer.
- 4.5.4 In order to address these sometimes conflicting sensitivities, an assessment of *likelihood* of significant effects is included following the identification of *possible* significant effects.
- 4.5.5 In addition, it is recognised that effects on a number of low-sensitivity/importance receptors could result in an overall effect that is more significant than that assessed at an individual receptor level through a cumulative effect within a sector. For example, the importance of an individual business may be assessed as low, perhaps because the businesses only employs one or two members of staff and turnover is modest. However, if a number of similar businesses within the study area were affected, this could result in an overall significant effect on that particular sector. Professional judgement is applied in assessing whether the total number of receptors affected is significant within the context of the study area as a whole.

### *Amenity Assessment - Generic Approach*

#### Definitions

- 4.5.6 For the purposes of this assessment the following definitions have been applied:
- **Direct effects** Certain environmental effects have the potential for direct effects on a receptor, or group of receptors. The following direct effects are relevant to the assessment of indirect effects in this chapter: visual, noise, air quality and traffic effects.
  - **Indirect amenity effects** Where there is a combination of at least two direct environmental effects on a receptor, or group of receptors, for example, where there are both visual *and* air quality effects on a community, this is classified as an indirect amenity effect. This effect is subsequently referred to as an 'amenity effect'.
  - **Secondary effects** For some socio-economic receptors, such as commercial receptors, effects can occur as a result of one direct environmental effect, such as a visual or noise effect; in these cases, the visual or noise effect can lead to a 'secondary' effect on operations or trade. As well as the indirect effects, the amenity assessment also considers the potential for secondary effects.
  - **Likelihood** For all receptors, the potential effect is considered in light of the sensitivity and/or importance of the receptor; for example, direct effects or indirect amenity effects could reduce the attractiveness of a Bed and Breakfast business resulting in a secondary effect (loss of trade), whilst other types of business, such as retail operations, might be less sensitive to direct and indirect amenity effects, making secondary effects less likely.
- 4.5.7 When considering effects resulting from construction of the Proposed Development, the amenity assessment draws upon the findings of the assessment of visual effects, traffic and transport effects, air quality effects and construction noise effects.
- 4.5.8 When considering effects resulting from the operation of the Proposed Development, the amenity assessment draws upon the findings of the assessment of visual effects and operational noise effects only, as there would be no air quality and traffic and transport effects during the operation of the Proposed Development.



- 4.5.9 For both construction and operational effects, the amenity assessment uses the *residual* effects reported by the contributing assessments i.e. effects after the proposed mitigation measures are accounted for.

#### Assumptions and Limitations

- 4.5.10 The amenity assessment is inherently built on the assumptions and limitations of the other assessments, and as such it draws upon assessments with differing reasonable worst case scenarios. This was taken into account in the amenity assessments as follows:

- Community receptors: where numerous receptors (e.g. residential properties) within a community were assessed for certain types of effects (e.g. noise), the most frequently identified adverse effect (e.g. minor adverse) was applied to the community as a whole and any effects of greater significance were noted as appropriate. Where more than five properties within the community are identified as having significant amenity effects i.e. a significant effect in more than two topic areas, the findings for those properties have taken precedence. As such, the approach provides a highly conservative overview of effects.
- Commercial receptors, PRowS, tourist attractions and recreational resources: where more than one effect was identified for a receptor, the adverse effect of greatest significance was applied. Again, the approach provides a highly conservative overview of effects.

#### Aligning receptors

- 4.5.11 In order to determine an 'amenity effect', it was necessary to align the identification of receptors. For the assessment of visual, air quality and noise effects, common receptor identifiers facilitated this process. Within the assessment of traffic effects, the construction traffic routes themselves are taken as a proxy for the various receptors of effects, and are identified as 'construction links' and given a unique reference number. To align this assessment, the closest 'links' to amenity receptors were identified.

#### Identifying effects

- 4.5.12 The next step was to identify a single effect from each of the constituent assessment topics for each amenity receptor, as follows:

- Visual effects: no further work required as single effect identified already.
- Traffic effects: the assessment of traffic effects identifies several types of effects for each 'link', however these are based upon a single

assessment which is then interpreted for different types of effects such as severance, driver delay and pedestrian delay. For the amenity assessment, 'severance effects' are considered to be most representative of the effects on amenity and were therefore applied in the amenity assessment.

- Air quality effects: the assessment identifies two types of effects; dust and emissions. There are no residual dust effects from construction of the Proposed Development since these emissions are avoided or minimised through the application of appropriate mitigation, as described in Chapter 14 Air Quality (**Document 5.14**) and the CEMP (**Document 7.4**). The amenity assessment therefore uses the findings from the emissions assessment only. Construction traffic and plant emissions were assessed for each receptor in Chapter 14 Air Quality (**Document 5.14**) and the most adverse effect is applied in the amenity assessment.
- Construction noise effects: the construction noise assessment considers a number of potential effects as a result of different construction activities and then produces a combined assessment of effects on each receptor. The results of this combined assessment were applied in the amenity assessment.
- Operational noise effects: the operational noise assessment considers effects to the east and west of the proposed OHL, in wet and dry conditions, and also assesses effects related to the other major elements of the Proposed Development (Tunnel Head Houses (THH), Substations, Cable Sealing End Compounds (CSECs)). For each receptor, the worst case combined effect was applied in the amenity assessment.

4.5.13 As a result of the differences in the approach to sensitivity and magnitude, a common output of *significance* of effect for each receptor by each constituent topic was used.

4.5.14 The specific methods used for aligning assessments and determining significance for each separate amenity receptor are set out below.

### *Communities*

4.5.15 A 'community' for the purpose of this assessment is as described in Chapter 8 Visual Assessment (**Document 5.8**). The extent of the communities is also described, as illustrated in Figure 17.6 (**Document 5.17.1.6**).

- 4.5.16 Fifty-one communities are identified in Chapter 8 and these form the basis, and widest boundaries, of the community amenity assessment. A minimum threshold was also applied, whereby a community is defined as having at least five properties. This definition distinguishes the community amenity assessment from the visual effects residential amenity assessment (**Document 5.8**) and the intra-project effects assessment (**Document 5.19**), both of which assess at the individual residence level.
- 4.5.17 As the community amenity assessment is at a greater geographical scale than the other amenity assessments, it was necessary to devise a further level of alignment across the constituent topics. To provide a single spatial scale, the constituent topic receptors were grouped by the communities within which they were located. From these groups of receptors, the *most common* of the adverse effects was identified and used as the topic effect; where moderate or major effects were identified, but were not the most common, the number or properties affected was noted and this was used in the final consideration of amenity significance, as described below.
- 4.5.18 In general terms, it is considered most likely that a significant amenity effect would occur if there are two or more *significant* effects (i.e. effects typically of moderate or greater significance) identified by constituent topics. It is possible, however, during the construction phase, that a significant amenity effect could occur as a result of a combination of three or four of the topics having a minor effect on a receptor. This was considered on a case by case basis, using professional judgement.
- 4.5.19 Professional judgement has been applied in determining whether the combination of topic effects could result in a significant effect overall. To aid consistency and transparency, a 'Significance Matrix' was developed, as illustrated in Table 17.7 and Table 17.8. In applying this approach, it is possible for three or four 'minor' effects to be 'rolled up' into a significant effect (construction phase only). For operational noise, some 'moderate' adverse effects were determined, using professional judgement by the noise specialists to be 'not significant'. As a result, an additional category of 'moderate – not significant' has been added to Table 17.8.
- 4.5.20 In determining whether the combined topic effects create a significant effect at a community level, the minimum threshold of a community is applied: an effect must be shared by at least five properties. Where moderate or major effects are experienced by fewer than five properties, this is noted in Appendix 17.1 (**Document 5.17.2.1**).

4.5.21 Finally, whilst the amenity assessment imposes no duration criteria of its own, where a significant effect is identified, the temporal aspects from the constituent topics would be examined to determine whether the effects are likely to occur simultaneously.

<b>Table 17.7: Community Amenity Effects Indicative Significance Matrix: Construction</b>				
Significance for constituent Topic 1	Significance for constituent Topic 2	Significance for constituent Topic 3	Significance for constituent Topic 4	Combined significance
Major	Major	Major	Major	Major
Major	Major	Major	Moderate	Major
Major	Major	Major	Minor	Major
Major	Major	Major	Negligible	Major
Major	Major	Moderate	Moderate	Major
Major	Major	Moderate	Minor	Moderate
Major	Major	Moderate	Negligible	Moderate
Major	Major	Minor	Minor	Moderate
Major	Major	Minor	Negligible	Moderate
Major	Major	Negligible	Negligible	Moderate
Major	Moderate	Moderate	Moderate	Moderate/Major
Major	Moderate	Moderate	Minor	Moderate/Major
Major	Moderate	Moderate	Negligible	Moderate/Major
Major	Moderate	Minor	Minor	Moderate
Major	Moderate	Minor	Negligible	Moderate
Major	Moderate	Negligible	Negligible	Moderate
Major	Minor	Minor	Minor	Minor/Moderate
Major	Minor	Minor	Negligible	Minor/Moderate
Major	Minor	Negligible	Negligible	Minor
Major	Negligible	Negligible	Negligible	No amenity effect
Moderate	Moderate	Moderate	Moderate	Moderate/Major

<b>Table 17.7: Community Amenity Effects Indicative Significance Matrix: Construction</b>				
Significance for constituent Topic 1	Significance for constituent Topic 2	Significance for constituent Topic 3	Significance for constituent Topic 4	Combined significance
Moderate	Moderate	Moderate	Minor	Moderate/Major
Moderate	Moderate	Moderate	Negligible	Moderate
Moderate	Moderate	Minor	Minor	Moderate
Moderate	Moderate	Minor	Negligible	Moderate
Moderate	Moderate	Negligible	Negligible	Moderate
Moderate	Minor	Minor	Minor	Minor/Moderate
Moderate	Minor	Minor	Negligible	Minor/Moderate
Moderate	Minor	Negligible	Negligible	Minor
Moderate	Negligible	Negligible	Negligible	No amenity effect
Minor	Minor	Minor	Minor	Minor/Moderate
Minor	Minor	Minor	Negligible	Minor/Moderate
Minor	Minor	Negligible	Negligible	Minor
Minor	Negligible	Negligible	Negligible	No amenity effect
Negligible	Negligible	Negligible	Negligible	No amenity effect

<b>Table 17.8: Community Amenity Effects Indicative Significance Matrix: Operation</b>		
Significance for constituent Topic 1	Significance for constituent Topic 2	Combined amenity significance
Major	Major	Major
Major	Moderate (significant)	Major
Major	Moderate (not significant)	Moderate

<b>Table 17.8: Community Amenity Effects Indicative Significance Matrix: Operation</b>		
Significance for constituent Topic 1	Significance for constituent Topic 2	Combined amenity significance
Major	Minor	Moderate
Major	Negligible	No amenity effect
Moderate (significant)	Moderate (significant)	Moderate
Moderate (significant)	Moderate (not significant)	Moderate
Moderate (significant)	Minor	Moderate
Moderate (not significant)	Minor	Minor
Moderate (significant)	Negligible	No amenity effect
Moderate (not significant)	Negligible	No amenity effect
Minor	Minor	Minor
Minor	Negligible	No amenity effect
Negligible	Negligible	No amenity effect

### *Community facilities*

- 4.5.22 Where the potential for significant effects within a community is identified, during either the construction or operational phases, the potential for amenity effects on individual community facilities within those communities is considered.
- 4.5.23 The following receptors are typically categorised as community facilities: places of worship, schools, libraries, health care facilities, playing fields, social care services, and community halls. Some businesses are also considered to be community facilities because they provide an essential community service, for example a post office or private day nursery. Such businesses are assessed as community rather than commercial receptors. Private care homes are the only receptor type to be double-counted in the assessment (commercial enterprises providing a community service), and are assigned a high sensitivity.

### *PRoW*

- 4.5.24 An amenity effect on PRoWs is considered to occur as a result of combined effects only. As such, the PRoW amenity assessment follows a similar approach to that for communities. The PRoW receptors are common to all topics that include them in an assessment, although not all topics capture all PRoWs within the parameters of their assessment. The indicative significance matrices in Table 17.7 and Table 17.8 were used to determine potentially significant amenity effects. Following this, a qualitative assessment, which considers the sensitivity (and importance) of individual PRoWs in the socio-economic context, determines whether there is a significant amenity effect.
- 4.5.25 As with other amenity receptors, there are no fixed definitions for determining the importance of a PRoW or its sensitivity to an amenity effect; however, the following general considerations apply.

#### Importance

- Is it a nationally designated route (e.g. National Trail, National Cycle Network, Wales Coast Path)?
- Is it 'promoted' for recreational and/or tourism purposes?
- What are the current usage levels (if available)?
- Does the route provide a connection between community settlements?
- Is it part of a recreational route?
- Does it connect to the Wales Coast Path or any other nationally designated routes?

#### Sensitivity

- Is it oversailed by the existing line?
- How long is the route?
- What are the current usage levels (if available)?
- Is the path overgrown or otherwise inaccessible (indicating lack of regular use)?

### *Tourist attractions and recreational resources*

- 4.5.26 The assessment of tourist attractions and recreational resources considers assets such as Country Parks, and cultural heritage or ecological sites that have a recreational or tourism draw.
- 4.5.27 It is possible for tourism attractions to have both types of effect: an amenity effect and a secondary effect (as set out above under 'Definitions').
- 4.5.28 For the amenity effects, the method follows a similar approach to that used for communities and PRowS. The tourism receptors are common to all topics that include them in an assessment, although not all assessments consider all tourism receptors. The significance matrices in Table 17.7 and Table 17.8 are used to help determine potentially significant amenity effects.
- 4.5.29 Once the amenity effects have been considered, the potential for secondary effects is then assessed.
- 4.5.30 Where a significant direct effect (moderate significance or greater) is identified for a receptor, the importance of the receptor and its sensitivity to the effects identified is considered to determine the *likelihood* for a significant amenity or secondary effect. For example, if a moderate or major visual effect has been identified for a tourism attraction that relies upon its views to attract visitors, there could be a reduction in people wanting to visit it, which would constitute a potentially significant secondary effect (loss of trade).
- 4.5.31 The sensitivity and level of importance of the tourism receptors in the socio-economic context is considered on a case-by-case basis depending on the tourism or recreational offer provided and the likely sensitivity of the receptor to environmental effects.
- 4.5.32 As with other amenity receptors, there are no fixed definitions for determining the importance of a tourist attraction or its sensitivity to an amenity effect; however, the following general considerations apply.

#### Importance

- Does it attract high visitor numbers?
- Is it a nationally significant attraction (e.g. a National Park)?
- Does it have multiple offerings? (A site that offers additional facilities such as on-site parking, restaurant, gift shop and/or play area would be considered more important than a site with only a single offering).



### Sensitivity

- Is it indoors or outdoors?
- Does it rely on the local environment to attract visitors, e.g. tranquillity and views?

### *Commercial receptors*

- 4.5.33 The assessment of effects on commercial receptors includes businesses that have direct and indirect links to tourism, such as accommodation (direct) and pubs and restaurants (indirect), as well as businesses that have no links to tourism (non-tourism businesses).
- 4.5.34 Direct effects on commercial receptors (i.e. land-take or direct changes in access that could affect operations) are reported under land use effects. This sub-topic therefore focuses on amenity and secondary effects (as set out above under 'Definitions').

### Screening

- 4.5.35 An initial screening of commercial receptors was carried out to ensure that only those that are potentially affected during construction and operation were included in the assessment. Commercial receptors were screened into the assessment where any one of the following criteria were met.
- Sensitive to visual effects (tourism accommodation).
  - Sensitive to noise or dust effects (sound recording studios, animation studios, TV and broadcasting, automotive, catteries, kennels and veterinary surgeries, care homes).
  - Accessed from or on a construction traffic route.
- 4.5.36 Further screening was applied based on professional judgement of the distance of the receptor from the Proposed Development combined with the sensitivity of the receptor.

### Assessment

- 4.5.37 As set out above under 'Definitions', it is possible for commercial receptors to have two types of effect: amenity effects and secondary effects.
- 4.5.38 For the amenity effects, the method follows a similar approach to that for communities, although the commercial receptors do not need to be further aligned. These receptors are common to all topics that include them in an

assessment, although not all assessments consider all commercial receptors. The significance matrices in Table 17.7 and Table 17.8 are used to determine potentially significant amenity effects.

- 4.5.39 Once the amenity effects have been considered, the potential for secondary effects is then assessed.
- 4.5.40 Where either a significant amenity or secondary effect (moderate significant or greater) is identified for a receptor, the importance of the receptor and its sensitivity to the effects identified is considered to determine the likelihood for a significant effect.
- 4.5.41 Principles for determining the importance and sensitivity for commercial receptors are set out below. These principles have been applied in combination with professional judgement on a case-by-case basis; for example, a pub or restaurant may be reclassified from a low to a medium sensitivity receptor if it has an extensive outdoor seating area or is marketed for a particular view, rendering it more sensitive to environmental amenity effects than other receptors in that category.
- 4.5.42 As with other amenity receptors, there are no fixed definitions for determining the importance of a commercial receptor or its sensitivity to an amenity effect; however, the following general considerations apply.

#### Importance

- Is it a major regional or national employer?
- Are there a large number of operators within a particular sector, e.g. Bed and Breakfasts?
- Are few alternatives available?

#### Sensitivity

- What is the nature of the business? Could it be seriously restricted by environmental impacts (e.g. an advanced manufacturer that is highly sensitive to vibration)?
- Is it a 'niche' business (i.e. does its customer base have specific needs)?

#### Land use

- 4.5.43 Effects on land use have been assessed according to the amount of temporary or permanent land-take or change in access, and the category of land use.

- 4.5.44 Sensitivity of land use is determined based on whether the land is used for residential, commercial or community purposes. Importance is determined based on whether the land is used on a national, regional or local scale. For example, recreational land that attracts users nationally (e.g. National Parks) would be considered more sensitive and important than locally-used land or land with no recreational value.
- 4.5.45 The magnitude of impact for land-take is not quantified as a percentage of the holding; rather it is based on a qualitative assessment of the viability of the land parcel for continued use. For changes in access, the magnitude of impact reflects the degree of change over baseline conditions with regard to increased journey times and/or impact on operations. The duration of land-take and access effects during construction and operation is also taken into consideration when assessing the overall significance of effects.
- 4.5.46 For indirect effects on development land, significance is determined on a case-by-case basis considering the type of development or land allocation, and availability of alternatives. Only those developments with planning status (i.e. land that is allocated in local development plans or is the subject of live planning applications) are considered.

#### *Wider effects*

- 4.5.47 For the assessment of wider effects, sensitivity and magnitude are not assessed explicitly, although the temporal aspect of magnitude (duration and frequency) is taken into consideration in concluding on the significance of effects. In general, the most important consideration is whether the effect (degree of change) would be substantial enough to dominate over baseline conditions.
- 4.5.48 Further explanation of the approach to assessing the 'wider effects' sub-topic is provided below.

#### *Construction workers*

- 4.5.49 A number of elements of the wider effects assessment are based on the analysis of construction worker numbers, namely the construction workforce programme, worker accommodation profile and worker skills profile. This analysis is based on the best available information and a series of reasonable worst case assumptions, as described in Appendix 17.2 Workforce Analysis Assumptions Log (**Document 5.17.2.2**). Some aspects of the Proposed Development present potentially contradictory parameters in terms of defining a 'realistic worst case'. For example, a high number of construction workers at peak would be considered a 'best case' in terms of employment effects, but

potentially a 'worst case' in terms of demand for accommodation. Similarly, a high proportion of local workers taking up jobs on the Proposed Development is considered a 'best case' in terms of economic effects and effects on Welsh language and culture (**Document 5.26**), but potentially a worst case in terms of displacement of workers from tourism sector jobs, or displacement from other sectors such as social care. Further discussion on this point is presented in the assessment of employment effects in section 9.10.

- 4.5.50 For the purpose of the assessment, it is estimated that 10% of jobs would be taken up by local workers, as presented in Appendix 17.2 Workforce Analysis Assumptions Log (**Document 5.17.2.2**).
- 4.5.51 Although an assumption has been made that 10% of construction workers on the Proposed Development would be local, National Grid cannot commit to this figure. Given the uncertainty underpinning this assumption, a sensitivity test is presented in Appendix 17.2 (**Document 5.17.2.2**), which considers accommodation demand under two further scenarios: 0% uptake and 20% uptake of local workers. The conclusion of this additional analysis is that the assessment findings are not sensitive to either 0% or 20% of jobs being taken up by local workers.

#### Tourism accommodation

- 4.5.52 The presence of construction workers resulting in an increased demand in the tourism accommodation sector has been assessed based on the estimated peak workforce, as described in section 9.8. The peak workforce is compared against the available capacity or headroom to determine whether effects are likely to be significant. In this case sensitivity and magnitude are not assessed explicitly, although the temporal aspect of magnitude (duration and frequency) is taken into consideration in concluding on the significance of effects, recognising that the 'peak' effect would only endure for a short period within the overall construction programme.
- 4.5.53 Construction workers' expenditure on accommodation and subsistence is captured under 'Expenditure and supply chain' effects below.
- 4.5.54 Due to the duration and phasing of construction activities and the expected profile of the workforce, it is not considered likely that workers would permanently relocate to the area or purchase housing. Therefore, effects on availability of owner-occupied housing stock and or effects on house prices arising from pressure on demand are scoped out of this assessment. Private rental stock is, however, considered in the assessment.

### Visitor numbers

- 4.5.55 Effects on individual tourism receptors are considered within the assessment of amenity effects on PRow, tourist attractions and recreation resources, and commercial receptors (e.g. holiday lets).
- 4.5.56 Generally, effects on individual sites and premises are considered to result in a distributional effect, meaning that a particular business may experience a loss of trade but the expenditure would be transferred to another business in the area resulting in no net loss. It is recognised, however, that the Proposed Development could potentially affect visitors' perceptions of the area leading to a change in visitor numbers or behaviour.
- 4.5.57 In the case of visitor numbers, sensitivity and magnitude have not been assessed explicitly; rather the outputs of the visitor survey and business survey together with available research and ex-post evidence from similar projects have been considered to determine whether or not a significant effect is likely to occur.

### Employment

- 4.5.58 Employment effects have been assessed based on the profile of construction activities and associated worker numbers. This has been used to determine the average monthly workforce required during construction of the Proposed Development. Additionality factors have been applied to determine the net effect on local employment within the administrative areas of Anglesey and Gwynedd.
- 4.5.59 Sensitivity and magnitude have not been assessed explicitly; rather the number of jobs that would be expected to be filled locally is considered in the context of the total employment baseline to determine whether the effect is significant or not significant.
- 4.5.60 Employment effects during the operational phase have not been considered. General operation activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a 'no change' or 'no impact' scenario.

### Expenditure and supply chain

- 4.5.61 Effects on individual businesses are considered within the assessment of amenity effects on commercial receptors. This sub-topic therefore considers

potential wider economic and supply chain effects – both beneficial and adverse.

- 4.5.62 Supply chain effects have been assessed based on the anticipated non-labour construction expenditure. The labour portion of construction expenditure has been excluded to avoid double-counting with employment effects. Additionality factors have been applied to determine the net effect on businesses and the supply chain in the study area (including indirect and induced effects).
- 4.5.63 Expenditure by construction workers on accommodation and subsistence has also been assessed. Demand for tourism accommodation is based on construction workers taking up bed spaces within the available capacity or ‘headroom’ of accommodation stock. Therefore, accommodation-related expenditure in this sector can be considered additional (i.e. over and above baseline levels) as opposed to a displacement effect whereby construction workers would take up space that would otherwise be occupied by tourists.
- 4.5.64 Sensitivity and magnitude have not been assessed explicitly; rather expenditure effects are considered against baseline economic performance as measured by gross value added (GVA) to determine whether the effects are significant or not significant.

#### *WLIA methodology*

- 4.5.65 As described in section 3.5, the WLIA (**Document 5.26**) is based on a checklist of 18 questions, which relate to five important aspects of community life, as defined by best practice guidance “Planning and the Welsh Language: The Way Ahead” (Ref 17.46). Each question informs an assessment of the perceived effect. The assessment is subjective based on baseline information, previous evidence and professional judgement. Effects are assigned a score to reflect the magnitude of effect, as shown in Image 17.1.

### **Image 17.1 Base Index Score Chart**

Overall effect	Base index score	Magnitude of effect
Beneficial effect	+0.1 to +0.2	Negligible beneficial effect
	+0.3 to +0.4	Minor beneficial effect
	+0.5 to +0.7	Moderate beneficial effect
	+0.8 to +1.0	Major beneficial effect
Neutral effect	0	Neutral effect
Adverse effect	-0.1 to -0.2	Negligible adverse effect
	-0.3 to -0.4	Minor adverse effect
	-0.5 to -0.7	Moderate adverse effect
	-0.8 to -1.0	Major adverse effect

4.5.66 The 18 base index scores are then used to calculate an overall base score index which is simply the average score across all 18 questions.

## 4.6 ASSUMPTIONS AND LIMITATIONS

4.6.1 The available published sector-specific guidance for socio-economic assessment does not include methods for determining the sensitivity or importance of socio-economic receptors or the significance of effects on those receptors. Professional judgement has therefore been applied throughout the assessment.

4.6.2 The assessment of amenity effects has relied upon the findings of a number of other assessments, and the assumptions applied to those assessments therefore also apply to the assessment of amenity effects.

4.6.3 For the assessment of land use effects and wider effects, the approach to determining the significance of effects broadly follows that described in Chapter 6 EIA Methodology and Basis of Assessment (**Document 5.6**), modified to reflect socio-economic criteria.

4.6.4 The assumptions applied in this chapter are summarised in Table 17.9.

Table 17.9: Assumptions summary	
Assessment topic	Where assumptions are presented
Construction workforce numbers	Section 9.8
Spatial distribution of workforce	Appendix 17.2 Workforce Analysis Assumptions Log ( <b>Document 5.17.2.2</b> )
Worker accommodation profile	
Worker skills profile	

Table 17.9: Assumptions summary	
Assessment topic	Where assumptions are presented
Amenity assessment	Section 4.5



## 5 Basis of Assessment

### 5.1 INTRODUCTION

- 5.1.1 The basis of assessment section sets out the assumptions that have been made in respect of the design flexibility maintained within the draft DCO, and the consideration that has been given to alternative scenarios and the sensitivity of the assessment to changes in the construction commencement year and duration.
- 5.1.2 Details of the available flexibility are included in Chapter 3 Description of the Proposed Development (**Document 5.3**), Chapter 4 Construction, Operation, Maintenance and Decommissioning of the Proposed Development (**Document 5.4**) and are also considered in Chapter 6 EIA Methodology (**Document 5.6**).

### 5.2 FLEXIBILITY ASSUMPTIONS

#### *Amenity effects*

- 5.2.1 The chapters from which information has been drawn for the purposes of the amenity assessment have each presented flexibility assumptions. The residual effects reported in each of these chapters have been used in this assessment. The chapters include:
- Chapter 8 Visual Assessment (**Document 5.8**);
  - Chapter 13 Traffic and Transport (**Document 5.13**);
  - Chapter 14 Air Quality (**Document 5.14**);
  - Chapter 15 Construction Noise and Vibration (**Document 5.15**);
  - Chapter 16 Operational Noise (**Document 5.16**).
- 5.2.2 There are no additional assumptions for each flexible element of the design and construction of the Proposed Development in relation to the amenity assessment.

### *Land use effects*

- 5.2.3 There are no flexibility assumptions of relevance to the assessment of land use on non-agricultural land. Assumptions relating to agricultural land use are considered in Chapter 18 Agriculture (**Document 5.18**).

### *Wider effects*

- 5.2.4 For the assessment of wider effects, the assumptions that have been made regarding the use of flexibility are presented in Table 17.10.

Table 17.10: Flexibility assumptions		
Element of flexibility	Proposed Development assumption for initial assessment	Flexibility assumptions considered
Horizontal Limits of Deviation (LOD) for pylons and conductors	The specific location of pylons and conductors within the LOD is not a factor that would change the sources of effects considered within the assessment of wider effects.	N/A
Vertical Limits of Deviation for pylons and conductors	The specific location of pylons and conductors within the LOD is not a factor that would change the sources of effects considered within the assessment of wider effects.	N/A
Pylon footprint	The footprint of pylons within the LOD is not a factor that would change the sources of effects considered within the assessment of wider effects.	N/A
Pylon foundation type	The type of pylon foundation is not a factor that would change the sources of effects considered within the assessment of wider effects.	N/A
Tunnel alignment within LOD	The specific alignment of the tunnel within the LOD is not a factor that would change the sources of effects considered	N/A

Table 17.10: Flexibility assumptions		
Element of flexibility	Proposed Development assumption for initial assessment	Flexibility assumptions considered
	within the assessment of wider effects.	
Tunnel depth	The specific depth of the tunnel is not a factor that would change the sources of effects considered within the land use and wider effects assessments.	N/A
Tunnel construction compounds	Assumptions relating to tunnel construction are relevant to the assessment of wider effects, as documented in Appendix 17.2 Workforce Analysis Assumption Log ( <b>Document 5.17.2.2</b> ).	N/A
Braint and Ty Fodol THH/CSEC/ and Pentir Substation	Assumptions relating to the Braint and Ty Fodol THH/CSEC/ and Pentir Substation are relevant to the assessment of wider effects, as documented in Appendix 17.2 Workforce Analysis Assumption Log ( <b>Document 5.17.2.2</b> ).	N/A
Access tracks and working areas	Assumptions relating to working areas are relevant to the assessment of wider effects, as documented in Appendix 17.2 Workforce Analysis Assumption Log ( <b>Document 5.17.2.2</b> ).	N/A
Penmynydd Road Compound	Assumptions relating to Penmynydd Road Compound are relevant to the assessment of wider effects, as documented in Appendix 17.2 Workforce Analysis Assumption Log ( <b>Document 5.17.2.2</b> ).	N/A

Table 17.10: Flexibility assumptions		
Element of flexibility	Proposed Development assumption for initial assessment	Flexibility assumptions considered
Pentir Construction Compound	Assumptions relating to Pentir Construction Compound are relevant to the assessment of wider effects, as documented in Appendix 17.2 Workforce Analysis Assumption Log ( <b>Document 5.17.2.2</b> ).	N/A
Third Party Services	Third Party Services within the LOD is not a factor that would change the sources of effects considered within the assessment of wider effects.	N/A

### 5.3 CONSIDERATION OF SCENARIOS

5.3.1 Three sets of scenarios have been considered in the assessment. These are:

- Options A and B, as explained in Chapter 3, Description of the Proposed Development (**Document 5.3**);
- Direction and method of tunnelling (Scenarios 1 and 2 and 3) as explained in Chapter 4, Construction, Operation, Maintenance and Decommissioning (**Document 5.4**); and
- Construction traffic using the existing A5025 (Link 1) alignment or using the new alignment as proposed by Horizon Nuclear Power as explained in Chapter 4, Construction, Operation, Maintenance and Decommissioning (**Document 5.4**).

5.3.2 Table 17.11 details where these scenarios are relevant to the assessment of socio-economics and how they have been assessed in section 9, Mitigation and Residual Effects.

**Table 17.11: Consideration of scenarios**

Option	How it has been considered within the assessment
Option A and B	<p>Amenity assessment: differences between Option A and B in terms of potentially significant effects are identified in the constituent topic assessments and are therefore accounted for in the amenity assessment. These assessments take account of whether properties remain occupied or not (see Chapter 6 EIA Methodology (<b>Document 5.6</b>) for further information).</p> <p>Land use: effects are limited to temporary access to private land and commercial land. No difference to the land use assessment is anticipated for these two options and no further assessment is required.</p> <p>Wider effects: the study area for wider effects is the administrative area of Anglesey and Gwynedd therefore there is no difference in the overall assessment for Option A and Option B and no further assessment is required.</p>
Direction and method of tunnelling (Scenarios 1, 2 and 3)	<p>Amenity assessment: all three tunnelling scenarios have been considered within each of the constituent topics. Typically, the residual effect reported for each receptor is the effect resulting from the worst of the three tunnelling scenarios, and this is the effect that is applied in the amenity assessment.</p> <p>Land use: effects are limited to temporary access to private land and commercial land. No difference to the land use assessment is anticipated for the two tunnelling options and no further assessment is required.</p> <p>Wider effects: all three tunnelling options have been assessed. (See section 9.8 and Appendix 17.2 Workforce Analysis Assumptions Log (<b>Document 5.17.2.2</b>)).</p>
Construction traffic using the existing A5025 (Link 1) alignment or using the new alignment as proposed by	<p>Not considered in this chapter for the following reasons:</p> <ul style="list-style-type: none"> <li>• Improvements to the A5025 are designed to reduce effects on communities and therefore</li> </ul>

**Table 17.11: Consideration of scenarios**

Option	How it has been considered within the assessment
Horizon Nuclear Power.	<p>the ‘no improvements’ scenario is the worst case.</p> <ul style="list-style-type: none"> <li>• Improvements are unlikely to impact communities away from the A5025.</li> <li>• The contribution to traffic on this route from the Proposed Development is low and effects on the public highway are of minor significance.</li> </ul>

## 5.4 SENSITIVITY TESTS

### *Construction start date*

- 5.4.1 Under the terms of the draft DCO (**Document 2.1**), construction could commence in any year up to five years following the grant of a DCO. Consideration has been given to whether the residual effects reported in this chapter would differ if construction were to commence in any year up to and including the fifth year.
- 5.4.2 As confirmed in section 7.2 of this chapter, no future baseline predictions have been necessary for the assessment of socio-economic impacts, other than where these are already accounted for in topics that have been drawn upon for the assessment of amenity effects. It has therefore not been necessary to undertake a more detailed assessment for an alternative programme to that set out in Chapter 4, Construction, Operation, Maintenance and Decommissioning of the Proposed Development (**Document 5.4**).

### *Duration of construction activities*

- 5.4.3 It is possible that some construction activities may take a longer or shorter length of time to complete than currently predicted in the construction programme used for the purposes of assessment; however, it is considered that substantial truncation of the construction programme is very unlikely. Certain assessment methodologies use defined durations when considering effects within the assessment, for example in relation to peak periods of construction, such as that considered for construction traffic effects (consideration is given to the peak week of traffic and the average weekly traffic over the peak year). To ensure a robust assessment, additional consideration has been given to any difference in the effects as assessed

should there be any increase or decrease in the duration of individual construction activities, or indeed the construction programme as a whole.

- 5.4.4 For effects on amenity, the sensitivity of the assessment to changes in duration is presented in the four contributing chapters, as listed in section 1.1. All four chapters report that there would be no change to the assessment findings as a result of a change in programme duration. In summary, there would be no changes to the amenity assessment as a result of changes in the duration of the overall construction programme or the duration of individual construction activities.
- 5.4.5 Where the assessment of wider effects results in significant effects when the peak workforce is considered, the temporal component of effects would be reported in section 9, Mitigation and Residual Effects.
- 5.4.6 Overall, for socio-economics it is considered that there is no potential for changes to the duration of construction activities, or the programme as a whole, to alter the assessment findings as reported in section 9, Mitigation and Residual Effects.

## 6 Study Area

### 6.1 INTRODUCTION

- 6.1.1 In the socio-economic context there is typically a wide range of receptors, including: individual land interests; communities and their facilities; tourist attractions and recreational sites; and commercial interests. Defining the spatial scope can be complex since these receptors would experience aspects of the Proposed Development in different ways and in different locations. This section sets out the various study areas used in the assessment of each type of socio-economic effect.
- 6.1.2 Socio-economic statistics for 'Lower Super Output Areas' (LSOAs) within the local authority areas of Anglesey and Gwynedd were used to inform the assessment. These LSOAs are small geographical areas referred to by the Office for National Statistics. The LSOAs within the study area are illustrated in Figure 17.1 (**Document 5.17.1.1**).

### 6.2 AMENITY ASSESSMENT

- 6.2.1 Section 4 of this chapter defines amenity and what constitutes an amenity effect. The study areas for the amenity assessments reflect these definitions and comprise either the most extensive of the constituent study areas (for commercial and tourism receptors) or the most extensive of the overlapping study areas (for community amenity). Details of the constituent study areas are provided in the following chapters:
- Chapter 8 Visual Assessment (**Document 5.8**);
  - Chapter 13 Traffic and Transport (**Document 5.13**);
  - Chapter 14 Air Quality (**Document 5.14**);
  - Chapter 15 Construction Noise and Vibration (**Document 5.15**); and
  - Chapter 16 Operational Noise (**Document 5.16**).
- 6.2.2 Study areas for the above assessments vary across and within topics, depending on different receptors, elements of the Proposed Development and



stages of the Proposed Development, as illustrated in Figure 17.7 (**Document 5.17.1.7**).

- 6.2.3 The approach to constructing the amenity assessment study areas from the constituent topic study areas, for different elements and phases of the Proposed Development, is presented in Table 17.12.
- 6.2.4 For commercial receptors, each of the constituent effects in isolation could result in an impact.
- 6.2.5 Operational effects are scoped out of the air quality and traffic assessments; therefore, only visual and operational noise effects are included in the study area for the assessment of operational amenity effects.

Table 17.12: Amenity assessment study areas			
Receptor	Description of effect	Construction and decommissioning phases	Operational phase
Community (Settlements)	<p>Where amenity effects on a community could alter the character or attractiveness of the area, or disrupt the ability of local residents to enjoy their surroundings.</p> <p>The potential for disruption to the use of individual community facilities such as schools and churches is also considered.</p>	<p>An amenity effect for a community requires a combination of at least two constituent topics.</p> <p>The widest study area of the constituent topics is for visual effects, which groups properties and settlements together into 'communities' (see Figure 17.6 (<b>Document 5.17.1.6</b>)) within 5 km of the Order Limits.</p> <p>Overlaid on these communities are the study areas for construction noise (as detailed in <b>Document 5.15</b>), air quality (as detailed in <b>Document 5.14</b>), and construction traffic (as detailed in <b>Document 5.13</b>).</p>	<p>As an amenity effect for a community requires a combination of at least two constituent topics, the amenity study area combines the visual effects study area, as for construction effects, and the study area for operational effects – up to 200m from the OHL; up to 1 km from substations and THH.</p>
PRoW	<p>Where amenity effects could hinder the use and enjoyment of footpaths, cycleways and national trails.</p>	<p>The assessment includes all PRoWs identified in the constituent assessments of visual, traffic and construction noise effects.</p>	<p>The PRoW receptors listed in Chapter 8 Visual Assessment (<b>Document 5.8</b>) and Chapter 16 Operational Noise (<b>Document 5.16</b>).</p>

Table 17.12: Amenity assessment study areas			
Receptor	Description of effect	Construction and decommissioning phases	Operational phase
Tourist attractions and recreational facilities	Where amenity effects could cause disruption to use of the receptor, and, in the case of revenue-generating receptors, where amenity effects could result in a secondary effect (loss of trade).	<p>Visual effects: highly sensitive receptors identified within the wider zone of theoretical visibility (ZTV) – 10 km.</p> <p>The study areas for construction noise and air quality and the proposed construction routes as detailed in those chapters.</p> <p>Amenity assessment study area: tourism and recreational receptors can be affected by a combination of visual, traffic, air quality and noise effects; however, visual or traffic effects in isolation could also result in an effect.</p> <p>The widest study area was used; tourist attractions up to 10 km from the Order Limits and along construction routes.</p>	<p>Visual effects: highly sensitive receptors identified within the wider ZTV – 10 km.</p> <p>Operational noise effects: within 200m of the OHL and CSEC; up to 1 km from substation and THH.</p> <p>Amenity assessment study area: widest study area of 10 km used.</p>

Table 17.12: Amenity assessment study areas			
Receptor	Description of effect	Construction and decommissioning phases	Operational phase
Commercial receptors	Businesses, including tourism accommodation businesses, where there is potential for effects (amenity effects and secondary effects).	<p>Visual effects: up to 3 km from the Order Limits.</p> <p>Traffic and Transport: the highway 'link(s)' closest to the commercial receptor.</p> <p>Air quality: 350m</p> <p>Construction noise: varies according to the construction element (OHL, THH, construction route etc). Study areas for each are detailed in Chapter 15 Construction Noise and Vibration (<b>Document 5.15</b>).</p> <p>Amenity assessment study area: commercial receptors can be affected by a combination of visual, traffic, air quality and noise effects; however, visual or traffic effects in isolation could also result in an effect on commercial receptors.</p>	<p>Visual effects: up to 3 km for 'sensitive receptors'.</p> <p>Operational noise: varies according to the infrastructure. Study areas for each are detailed in Chapter 16 Operational Noise (<b>Document 5.16</b>).</p>

### 6.3 LAND USE EFFECTS

- 6.3.1 Land use effects include land-take and changes in access to non-agricultural land and property. As defined in section 3.5, the assessment considered: i) direct effects (land-take and access) on private land, community land, commercial land, employment land and development land; and ii) indirect effects on development land only. The Order Limits of the Proposed Development were applied as the study area for land use effects.
- 6.3.2 It should be noted that no effects on community land or development land have been identified in relation to the Proposed Development. There would be some temporary land-take and access effects on a limited number of private and commercial land parcels, where land would be reinstated to its previous use post-construction.

### 6.4 WIDER EFFECTS

- 6.4.1 Wider effects are not location-specific and are therefore considered across larger geographical areas, as follows.

#### *Tourism accommodation*

- 6.4.2 The boundary for assuming reasonable daily commuting behaviour of construction workers is described in the assessment as the 'travel to work area' (TTWA), as presented in Figure 17.3 (**Document 5.17.1.3**). For the Proposed Development, the TTWA includes 'Bangor, Caernarfon & Llangefni' and 'Holyhead' (Ref 17.34).
- 6.4.3 Effects on the availability of tourism accommodation stock, as a result of demand from construction workers, are considered within the TTWA.
- 6.4.4 It is recognised that for the construction activities taking place on the mainland (i.e. tunnel construction at Gwynedd, and the construction of Pentir substation), workers are likely to be willing to travel from destinations outside of the TTWA. Communities within a sixty-minute commute of the mainland construction compounds include Abersoch to the south-west, Porthmadog to the south, Betws-y-Coed to the south-east, and Rhyl to the north-east. It is likely that workers would be more widely disbursed than the TTWA, and therefore any potential effects on tourism accommodation are likely to be diluted across a wider area. However, for the purpose of robust assessment it is assumed that all construction workers would reside within the TTWA.

### *Visitor numbers*

- 6.4.5 Effects on visitor numbers are considered within the administrative areas of Anglesey and Gwynedd. This relatively large study area has been used in recognition that visitor perceptions of 'the area' may extend beyond the maximum distance within which the Proposed Development can be physically observed.

### *Employment*

- 6.4.6 Employment effects are considered within the administrative areas of Anglesey and Gwynedd. The Additionality Guide (Ref 17.10) refers to the need to define a 'target area' or 'target population'. In this instance the two council areas have been identified as geographies within which 'local' labour may be sourced.
- 6.4.7 Potential employment effects include the creation of new positions within the local economy (beneficial effect) as well as the potential for adverse effects in relation to skills and labour availability.

### *Expenditure and supply chain*

- 6.4.8 Wider economic effects including expenditure and supply chain effects are also considered within the administrative areas of Anglesey and Gwynedd. The Additionality Guide (Ref 17.10) refers to the need to define a 'target area' or 'target population'. In this instance, the populations of these two council areas are considered to be the most likely to experience any adverse or beneficial effects as a result of the Proposed Development. The assessment is supported by a Business Survey (see section 4.3), which targeted businesses within the Consultation Zone (approximately 3 km on either side of the Proposed Development). The Business Survey also yielded responses from businesses between 3km and 5km from the Order Limits in early 2017. Further information on definition and boundary of the Consultation Zone is found in the Statement of Community Consultation (Ref 17.38). Responses to the Business Survey are considered to be indicative of the potential effects that could occur across the wider administrative areas of Anglesey and Gwynedd.

## 7 Baseline Conditions

### 7.1 INTRODUCTION

- 7.1.1 This section presents an overview of the socio-economic characteristics of Anglesey and Gwynedd in the regional and national context.
- 7.1.2 Information on the LSOAs affected by the Proposed Development is then presented (refer to Figure 17.1 (**Document 5.17.1.1**) for LSOA boundaries).
- 7.1.3 Receptors have been identified within the study areas set out in section 6. Receptors are also listed in full in Appendix 17.1 (**Document 5.17.2.1**) and illustrated in Figure 17.4 (**Document 5.17.1.4**) and Figure 17.5 (**Document 5.17.1.5**).
- 7.1.4 Not all of the information provided here is used directly in the assessment of effects; rather these supplementary data are designed to provide the socio-economic context within Anglesey and Gwynedd.

### 7.2 FUTURE BASELINE PREDICTIONS

- 7.2.1 No future baseline predictions have been necessary for the assessment of socio-economic impacts, other than where these are already accounted for in topics that have been drawn upon for the assessment of amenity effects.
- 7.2.2 Demographic change (e.g. increase or decrease in population) was not considered, as the population growth rate in Anglesey has been relatively modest over the period 2001-2011 (see section 7.4) and is expected to increase at a slower rate through to 2030 according to the 2013 Economic Overview of the Isle of Anglesey (Ref 17.39).
- 7.2.3 Tourist numbers and revenue fluctuate year on year, primarily due to external factors such as the economy, foreign exchange rates, and the weather, which are not related to the construction of new developments. There is no evidence to relate any single factor to tourism sector performance with the exception of weather, which has a one-year lag, i.e. a poor summer is likely to result in fewer visits the following year. As there is no reliable method for forecasting future trends in the tourism sector, no future baseline predictions were made.

### 7.3 BASELINE OVERVIEW

- 7.3.1 Anglesey is a relatively low-lying island, located off the north-west coast of Wales, measuring an area of 276 square miles (715 km<sup>2</sup>). Gwynedd is an area in north-west Wales, and is the closest mainland area to Anglesey.
- 7.3.2 The majority of Anglesey and the north-west of Gwynedd are rural in nature, dominated by a mixture of pasture and some arable farmland. More built-up areas include those surrounding the Menai Strait and Menai Bridge, including Llanfairpwll, with Bangor, Llangefni, Caernarfon and Holyhead being well-established settlements.
- 7.3.3 The majority of works would be undertaken in Anglesey. Anglesey has the smallest resident population of all counties in North Wales and a low population density of one person per hectare, compared with 1.5 persons per hectare for Wales as a whole. The main concentrations of people are in the wards of Holyhead Town, Porthyfelin, London Road and Morawelon where the population density is above 20 people per hectare. The wards of Llanddyfnan, Aberffraw and Llannerch-y-medd are the least densely populated wards, with population densities lower than 0.4 people per hectare. There are also numerous small settlements scattered across Anglesey, such as Tregele, Llanfechell and Cemaes in the vicinity of Wylfa Head.
- 7.3.4 Anglesey and the Menai Strait coastline are important tourist destinations and tourism is of significant importance within the local economy. The port of Holyhead provides an important link from North Wales to Dublin Bay in Ireland. Tourists and other passengers arriving or departing at Holyhead are likely to access the port along the A55 trunk road, which runs from Holyhead to the mainland and into the north-west of England. Further transport links are provided by Anglesey Airport, located to the south-west of the island at RAF Valley, and the local rail network, which runs from Holyhead to Bangor on the mainland.

### 7.4 DETAILED BASELINE DATA

#### *Population*

- 7.4.1 The following paragraphs are based on data extracted from the 2001 and 2011 Censuses (Ref 17.32 and Ref 17.33).
- 7.4.2 The total population of the LSOAs within the study area was 40,576 in 2011. Comparison of population change between 2001 and 2011 is not possible for the LSOAs as some ward boundaries changed between the 2001 and 2011 Censuses.



- 7.4.3 The population of Anglesey and Gwynedd grew by 4.4% and 4.3% respectively between the 2001 and 2011 Censuses, compared with an average growth of 5.5% across Wales. The proportion of male and female residents in 2011 was very similar to national, regional and local authority averages.
- 7.4.4 Almost half of the LSOAs in Anglesey and Gwynedd have a population of one or fewer people per hectare. Only four LSOAs have relatively high densities of more than 10 people per hectare, three of which are within Gwynedd.
- 7.4.5 The proportion of residents aged 16-74 in the local study area was similar to local authority and Welsh averages in 2011. The proportion of residents aged 75 and over was more varied between LSOAs. The proportion of residents aged 75 and over in 2011 in Cefni LSOA (Anglesey 006B) and the Gwyngyll LSOA (Anglesey 008C) was 13.8% and 14.6% respectively, compared to an average of 10.1% for Anglesey and 8.5% for Wales as a whole.

#### *Index of Multiple Deprivation*

- 7.4.6 The following information on the Welsh Index of Multiple Deprivation (WIMD) provides context to the socio-economic baseline, but is not applied directly in the assessment.
- 7.4.7 The WIMD is a nationally-recognised measure of deprivation (Ref 17.37). The WIMD 2014 provides a numerical measure of deprivation for each LSOA in Wales. It utilises indicators, combined into eight 'domains': income, employment, health, education, access to services, community safety, physical environment and housing.
- 7.4.8 There are 1,909 LSOAs in Wales, and each has been ranked according to the level of deprivation. As part of this ranking process, 'deciles' have been identified, with Decile 1 being the top 10% most deprived LSOAs, and Decile 10 being the 10% least deprived LSOAs. The following observations are made:
- Two LSOAs in the administrative areas of Anglesey and Gwynedd are in Decile 1; both are in Bangor (Gwynedd 001D and 002D).
  - One LSOA is in Decile 2 and includes areas surrounding the north-east of Llangefni (Isle of Anglesey 005B).
  - Two LSOAs are in Decile 10; both are in Llanfairpwll (Anglesey 008A and 008C).

- 7.4.9 The WIMD for Gwynedd and Anglesey is presented in Figure 17.2 (**Document 5.17.1.2**).

#### *Education and qualifications*

- 7.4.10 Data for the qualifications of residents within the local study area as well as for Anglesey, Gwynedd and Wales indicate that the proportion of residents with no qualifications in the majority of the LSOAs is either below or largely in line with the average for Wales (25.9%). A notable difference to this trend is Anglesey 006D to the east of Llangefni, where 36.7% of the population have no qualifications.
- 7.4.11 Around 60.2% of the population aged between 16 and 64 in Anglesey are qualified to NVQ level 3 or above, and the proportion is 58% for Gwynedd (Ref 17.27).
- 7.4.12 The percentage of people with a qualification of NVQ level 4 or above is higher in Anglesey (26.1%) and Gwynedd (26.4%) than the average for Wales (24.5%). The area with the highest proportion of the population with a qualification of level 4 or above is Anglesey 008B, located in the south-east of the study area in the town of Porthaethwy, with 48.6%.

#### *Employment*

- 7.4.13 Employment rates provide a measure of the extent to which labour resources are being used in a local economy, and they offer insight into the available capacity to accommodate growth. In the short-term, these rates are sensitive to the economic cycle, but in the longer term, they are significantly affected by government policies such as those related to higher education and welfare support and that facilitate employment of women.
- 7.4.14 The employment rate is defined as the percentage of the resident working age population that is in employment. Working age employment in Anglesey, although erratic, has been on an upward trend from 66.7% in 2008 to 75.4% between January 2017 and December 2017, equivalent to the current national employment level of 75.4% (Ref 17.44). Employment in Gwynedd has also risen steadily since 2011 with the current employment level just below that of Anglesey at 74.9%. Employment in Anglesey and Gwynedd is 30,100 and 55,000 respectively, resulting in total employment of 85,100 (Ref 17.45).
- 7.4.15 In 2017, there were 39,800 people aged between 16 and 64 in Anglesey. Of these, 1,000 were reported as unemployed and 1,700 were reported as economically inactive and wanting a job. In Gwynedd, there were 73,400 people aged between 16 and 64 in 2017, and 1,400 of these were

unemployed. Of those who were economically inactive in Gwynedd, 3,600 indicated that they wanted a job. This gives a total of 7,700 people across Anglesey and Gwynedd who could potentially enter employment (Ref 17.27).

- 7.4.16 In 2016, the largest economic sector in Anglesey in terms of the share of employment, was accommodation and food service activities (17.5%), followed by health (12.5%), retail (11.2%) and manufacturing (11.2%). For Gwynedd, the largest economic sectors by employment share were human health and social work (19.2%), accommodation and food services (15.4%) and education (13.5%) (Ref 17.28).
- 7.4.17 The tourism sector is not a separate category under the standard industrial classification (SIC 2007) used for statistics, but the majority of tourism-related businesses are likely to be classed under accommodation and food services. Both Anglesey (17.5%) and Gwynedd (15.4%) have a much higher proportion of employment in the accommodation and food services sector than the Welsh average (8.8%) (Ref 17.28).
- 7.4.18 In terms of the construction sector, 7.5% of workers in Anglesey are construction workers compared to an average 5.4% for Wales. Gwynedd has a lower proportion of the population working in construction with 5.8%, broadly in line with the national average (Ref 17.28).
- 7.4.19 The breakdown provided in Table 17.13 indicates that the number of people employed in the construction of buildings in Anglesey and Gwynedd is on average higher than the national figure, whereas the number of people employed in specialised construction activities in Anglesey and Gwynedd is on average lower than the national average. Small differences in these averages are linked to the fluidity between subcategories of construction activities.

<b>Table 17.13: Number of employees in construction by subcategory and area (2016)</b>			
Subcategory	Anglesey	Gwynedd	Wales
Construction of buildings	35%	38%	27%
Civil engineering	19%	21%	19%
Specialised construction activities	46%	42%	53%
Total	1,300	2,400	62,000

### *Economy*

- 7.4.20 Under the Nomenclature of Territorial Units for Statistics (NUTS) system, NUTS3 captures the unitary authorities in Wales. Anglesey is the smallest economy of the Welsh NUTS3 areas and accounted for 1.7% of Welsh GVA in 2015, while Gwynedd's economy accounted for 4.2%. In 2015, Anglesey's GVA was £938 million, an increase of 1% on the previous year, whilst Gwynedd saw a stronger increase in GVA of 4% to £2.32 billion (Ref 17.54).
- 7.4.21 Anglesey's GVA grew at an average annual rate of 1.3% over the decade to 2015, although GVA declined in 2009 and 2010, largely due to the closure of the Anglesey Aluminium plant. The ten-year average annual growth rate over the decade to 2015 for Gwynedd's GVA was slightly higher at 1.6%. The ten-year average annual growth rates for both Anglesey and Gwynedd, were, however, lower than the Welsh average of 2% (Ref 17.54).

### *Tourism sector*

- 7.4.22 According to Global Tourism Solutions (GTS (UK)), an independent tourism research company, the 85.7 million visitors to Wales during 2014 resulted in a total economic impact of £7.5 billion. The impact was assessed using the Scarborough Tourism Economic Activity Monitor (STEAM) impact model, which analyses data such as visitor attraction numbers, tourist accommodation bed stock, events attendance, occupancy levels, accommodation tariffs, macro-economic factors, visitor expenditure levels, transport use levels and tourism-specific economic multipliers.
- 7.4.23 The tourism industry within Anglesey is seasonal, with peaks associated with the summer months and school holidays. The principal features that define Anglesey as a tourist destination are sandy beaches (much of the Anglesey coastline is designated as an Area of Outstanding Natural Beauty (AONB)), low-lying farmland and historic remains.
- 7.4.24 Current efforts are being made to promote the tourism industry in Anglesey. In particular, short-stay holidays are regarded as an important element in the growth of the tourism sector. A list of tourist attractions is provided in Appendix 17.1 (**Document 5.17.2.1**). Attractions close to the Proposed Development with high numbers of visitors include Plas Newydd country house with around 120,000 visitors per year (distance of < 1 km), Beaumaris Castle with around 80,000 visitors per year (approximate distance of 9 km), and Anglesey Sea Zoo with around 70,000 visitors per year (approximate distance of 6 km) (Ref 17.25).

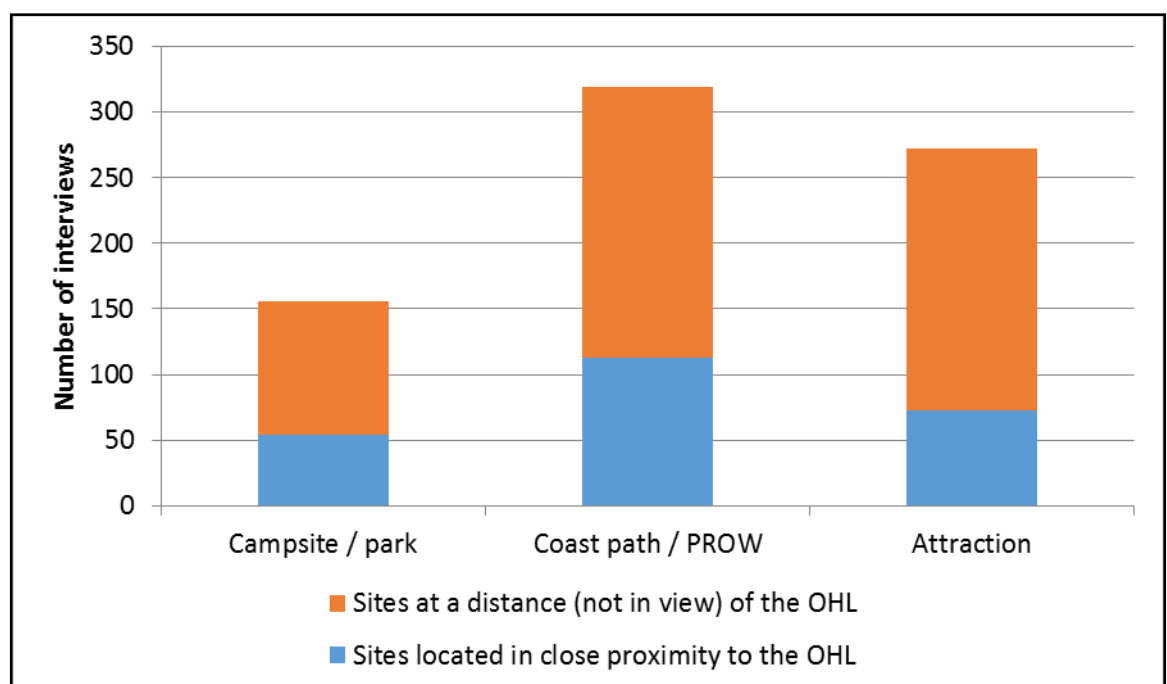
7.4.25 The growing popularity of Wales as a tourist destination can be illustrated by the increase in tourists travelling the country in caravans, and staying in static caravans. Between June 2016 and June 2017, static caravan occupancy saw a rise of 12%, and touring occupancy saw a rise of 7%, compared with the same period in the previous year (Ref 17.19). Anglesey's coastal routes are a particular lure for tourists visiting Wales in caravans.

7.4.26 Tourism is also important to the local economy of Gwynedd. However, the majority of the major tourist destinations within Gwynedd fall outside of the study area.

#### *Visitor survey*

7.4.27 Face-to-face interviews were completed in 2016 by an independent research company, resulting in the compilation of 739 usable responses. Interviews took place at locations across the island, and were mostly conducted during peak season rather than off-peak. Visitor survey locations are summarised in Image 17.2.

**Image 17.2 Visitor survey locations**



7.4.28 The results of the survey are as follows:

- The most commonly cited reason for visiting Anglesey was the 'Beautiful scenery/views/natural landscape', followed by 'Relaxing/peaceful/tranquil/quiet'. Other common responses were

'Been here before/come here often' and 'Meeting/visiting with friends/family'.

- When asked 'How likely are you to visit Anglesey/this area of Gwynedd again in future?', 89% responded 'Very Likely' and 9% responded 'Fairly Likely'.
- The majority of respondents (77%) said that the construction process for additional pylons would make no difference to the likelihood of them revisiting. A similar proportion (78%) reported that the construction process would make no difference to the type of activities undertaken in the area.
- For those that would be less likely to visit during construction, the main concerns were: i) that construction traffic would hinder access to and around the island [count = 69, 9% of total]; and ii) construction would be a blot on the landscape (and/or noisy) [count = 45, 6% of total].
- For those that responded that the construction would make no difference to their likelihood of a future visit, the most common response was that: i) it wouldn't stop them coming because they like the place or are visiting family [count = 165, 22% of total]; or ii) it doesn't bother them or they take no notice [count = 45, 6% of total].
- The majority of respondents (84%) said that the presence of additional pylons/OHLs (during operation) would make no difference to the likelihood of them revisiting. The main reasons cited for it making no difference were that i) it wouldn't stop them coming because they like the place or are visiting family [count = 178, 24% of total], and ii) it doesn't bother them or they take no notice [count = 117, 16% of total].
- For those that would be less likely to visit due to the presence of additional pylons/OHL, the main concern was that the infrastructure would be a blot on the landscape (and/or noisy) [count = 47, 6% of total].
- The majority of respondents (84%) also reported that additional pylons/OHLs (during operation) would make no difference to the type of activities undertaken in the area. The number of those who responded that additional pylons would influence activities 'a little' or 'a lot' was relatively small [count = 74, 10% of respondents in total, some giving more than one reason]. The main concerns raised were: i) blot on the landscape; and ii) will visit other areas to avoid the pylons.

- 7.4.29 The results suggest that visual impacts and construction traffic effects are the main visitor concerns but are only reported by a minority of visitors.

*Visitor survey: other evidence*

- 7.4.30 To better understand the results of the visitor survey, benchmarking of results against other large-scale infrastructure surveys has been completed. This included a review of the following reports:

- Hinkley Point C Connection Project Environmental Statement (Ref 17.20); and
- A Generic Study into the Effect of National Grid Major Infrastructure Projects on Socio-economic Factors Annex 2: Work Element 2 (Ref 17.29).

- 7.4.31 It was found that overall the results of the visitor survey for the Proposed Development were comparable to those reported in other studies.

*Tourism accommodation*

- 7.4.32 The following findings are reported by the Welsh Government in the latest Tourism Accommodation Occupancy Survey, published May 2017 (Ref 17.19). Over the 12 months ending March 2017 occupancy rates were 67% for hotels, 40% for guesthouses/Bed and Breakfasts, 54% for self-catering and 51% for hostels.

- 7.4.33 Occupancy rates in all types of accommodation have risen over the previous 12 months, with the self-catering sector witnessing the greatest increase of 4% over the previous period (ending June 2016).

- 7.4.34 The seasonal profile for each type of accommodation in North Wales was sourced from the 2015 Wales tourism accommodation occupancy surveys, (Ref. 17.41). The peak occupancy rate for hotels in August (83%) was applied across the category 'Hotels, guest houses and Bed and Breakfasts'. Given that guest houses and Bed and Breakfasts have a lower occupancy rate (54% peak in August), this approach is considered worst case and therefore more robust.

- 7.4.35 For the self-catering category, the August peak of 91% occupancy was applied as a worst case scenario.

- 7.4.36 Statistics for 2015 indicated a peak occupancy of 88% for static caravans and holiday homes (Ref. 17.41). This figure was applied across the category 'Caravans and camping'. In fact, touring caravans and campsites on their

own have a lower occupancy rate (59% peak in August, Ref. 17.41). Again, this approach is considered worst case and therefore more robust.

7.4.37 The number of tourism bed spaces within the TTWA is based on the most up-to-date information available, published in 2013 (Ref 17.21).

7.4.38 The total bed spaces together with the peak occupancy rates discussed above were used to derive potential available headroom as presented in Table 17.14.

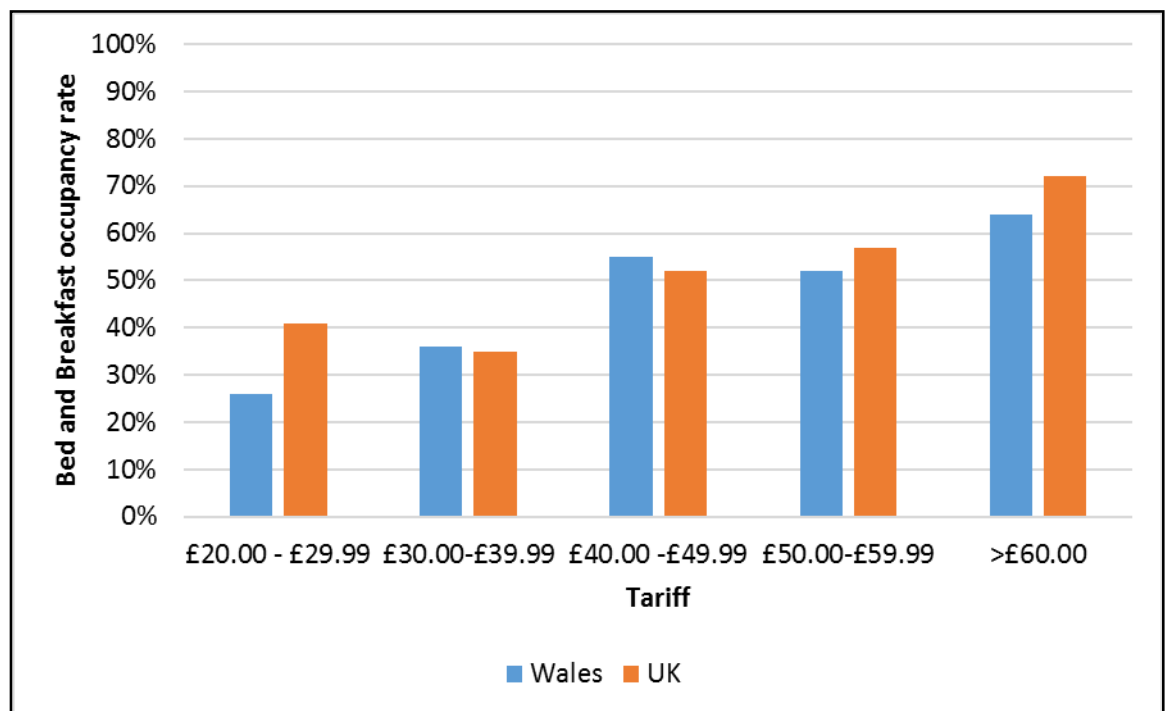
<b>Table 17.14: Accommodation bed spaces in the TTWA (2013)</b>			
Subcategory	Total bed spaces	Peak occupancy	Headroom
Serviced (hotels, Bed and Breakfasts)	5,200	83%	884
Self-catering	7,087	91%	638
Caravan and camping	39,754	88%	4,774
<b>Total</b>	<b>52,041</b>	<b>n/a</b>	<b>6,296</b>

7.4.39 The 2013 data indicate there are approximately 52,000 tourism bed-spaces within the TTWA, with approximate headroom of 6,000. Excluding caravan and camping, headroom in the TTWA is around 1,500.

7.4.40 Recent UK rates and tariffs for Bed and Breakfasts are presented in Image 17.3 (Ref 17.36). The data indicate that occupancy of accommodation in the £20.00 - £29.00 bracket is much lower in Wales than across the UK in general (occupancy rate of 26% in Wales compared to 41% in the UK). Occupancy rates are comparable for the UK and Wales in the £30.00-£39.99 and £40.00-£49.99 brackets and then higher again across the UK than in Wales for the £50.00-£59.99 and >£60.00 brackets.



**Image 17.3 Bed and Breakfast occupancy rates for different tariffs (2016)**



#### *Latent accommodation*

7.4.41 For the purposes of the assessment, the term ‘latent accommodation’ relates to new capacity coming to the market, for example through the letting of spare bedrooms or the renting of second homes which would otherwise not be occupied. According to the Horizon DCO application (Ref 17.52), there are in excess of 743 bed spaces associated with this type of accommodation in Anglesey. It is acknowledged that additional latent bed spaces could become available if demand increases, but no assumptions are made in this regard due to uncertainty in how the market would respond.

#### *Private rented sector*

7.4.42 In 2011, there were 30,594 households in Anglesey, of which 14.1% were in the PRS. In Gwynedd, 15.4% of 52,473 households were in the PRS (Ref 17.32).

7.4.43 According to the review of this sector in North Wales (Ref 17.26), the PRS market in Anglesey is focused around Menai Bridge and the south of Anglesey toward the mainland. In Gwynedd, the market is concentrated around Bangor and Caernarfon. The market in Bangor is reported to be highly buoyant, boosted by the large student market, although fewer properties are reportedly coming onto the market in Anglesey, leading to low turnover levels. The

review points to a lack of affordable homes and poor availability of social housing as drivers for increasing demand on the private rental market.

7.4.44 In the absence of vacancy data for Wales, the Communities and Local Government 2014-2015 English Housing Survey (Ref 17.24) was applied in the assessment. The survey estimated the level of vacancy by tenure based on properties' previous occupancy. For private rented properties, the results of the study indicate that 11.1% are vacant. Allowing for a transactional vacancy rate of 3%, the same as applies to social lettings, the proportion of vacant properties available for construction workers would be around 8%.

7.4.45 Based on the lower vacancy rate of 8%, it is estimated that there are around one thousand vacant private rental properties in Anglesey and Gwynedd, as presented in Table 17.15. These vacant households are additional to what is required by the PRS market (i.e. over and above the natural movement within the stock of PRS accommodation).

Table 17.15: Assessment of PRS vacancy					
Area	Total households	% PRS	Total PRS households	Vacancy rate	Vacant PRS households
Anglesey	30,594	14.1%	4,313	8%	345
Gwynedd	52,473	15.4%	8,080	8%	646

7.4.46 In 2016, the median rent for private sector accommodation was £536 per month in Anglesey and £524 per month in Gwynedd (Ref 17.26).

#### *Business survey*

7.4.47 Telephone interviews were undertaken during late 2016 and early 2017. Although over 400 businesses were contacted during the business survey only 52 took part in the survey. The low response rate was attributed to the high proportion of small and medium-sized enterprises in the study area, which are assumed to have limited time and resources to participate in surveys during working hours.

7.4.48 The findings of the business survey are summarised as follows:

- The service industry and wholesale/retail trade combined, account for two-thirds of businesses (35% and 31% respectively). Other prominent business types are accommodation (13%) and farming (8 %).

- Approximately one-third of businesses (37%) employ only one person, one-third (35%) employ between two and five people and one-third (29%) employ six people or more.
- At the time of the survey the major issues facing businesses over the next 12 months were identified as 'Brexit uncertainty' (15%), 'UK economy/recession' (13%), 'Increased competition' (12%), and 'Business rates/council rates' (10%).
- Other commonly identified issues were 'Poor weather' (8%), 'Fewer visitors/customers' (8%), and 'Recruitment/skills shortage' (8%).
- Only one respondent identified 'Infrastructure developments' as a major issue facing the business.
- Around 61% of respondents expect construction of the Proposed Development to have no effect on their business; and almost one quarter (23%) thought that the presence of the Proposed Development would have a negative effect on their business. Six respondents (12%) expect construction to have a positive effect on the business, and 4% stated that they didn't know.
- Around half (46%) of respondents expect a positive effect on the local business economy (Anglesey/North Gwynedd) from construction. One-third (31%) expect a negative effect.
- More than half of respondents (56%) thought that the presence of the Proposed Development would have no effect on their business during its operation. A quarter of respondents (25%) expect the Proposed Development to have a negative effect on their business, while 10% thought it would have a positive effect.
- Almost one-third of respondents (31%) expect that the presence of the Proposed Development would have a positive impact on the local economy; a slightly lower proportion than those expecting a negative effect (37%). The remaining respondents thought it would have no effect (21%) or said they didn't know (11%).
- The top reasons given for potential benefits include more customers for businesses in the local area (construction workers) (27%) and more jobs to the area (13%).
- The top reasons given for potential negative effect include 'Will have a negative effect on the natural beauty of the area/pylons are an eyesore'

(13%), 'Negative impact on tourism/will stop visitors coming here' (12%), and 'Disruption to transport links' (10%).

*Business survey: other evidence*

7.4.49 As with the visitor survey results, results for the business survey were benchmarked against evidence in publicly available literature. The following two ex-post papers were reviewed.

- Scotland/Northern Ireland Interconnector Ex-Post Tourism Impact Assessment (Ref 17.17); and
- Second Yorkshire Line Ex-Post Tourism Assessment (Ref 17.18).

7.4.50 The 2006 ex-post report on the Scotland-Northern Ireland Interconnector (Ref 17.17) found that only 2% of local tourism-related businesses reported a minor or medium negative impact throughout the period 1995-1999 (planning through to pre-construction), 2000-2003 (construction) and 2004-2006 (operation). Further, 1% of respondents (corresponding to one Bed and Breakfast) reported a positive impact during construction.

7.4.51 Similarly, the ex-post report on the Second Yorkshire Line (Ref 17.18) found that between 1% and 3% of tourism-related businesses experienced medium negative impact (i.e. up to 10% reduction in turnover/visitors or customers). Just 1% maintained they had experienced a major negative impact (a reduction in business of between 10% and 15%). Three phases were examined: Pre-construction (1999-2000); Construction (2001-2002); and Post-construction (2003–2007).

7.4.52 The National Grid Survey Report (Ref 17.29) on the socio-economic effects of major infrastructure compares 'ex-ante' (before the event) survey findings with ex-post findings. The survey found that the majority of businesses surveyed close to actual (ex-post) National Grid projects stated that they thought there would be no impact to their business as a result of the project (93% for ex-post for construction and 96% ex-post for operation). The surveys also provided evidence that as National Grid projects move from consulted upon (ex-ante) to actual (ex-post), the perceived impacts notably decrease.

7.4.53 The National Grid study (Ref 17.29) covered three ex-post electricity infrastructure projects:

- South Humber Bank – surrounding area described as having a good range of socio-economic features and thus providing a good comparator

with some current projects. The local area is predominantly used for commercial/large scale intensive farming.

- Hinkley to Melksham – surrounding area described as having a good range of socio-economic features and a higher concentration of tourism receptors along the route than older projects.
- Norton to Spennymoor – surrounding area is described as having some socio-economic features but not as many as some electricity projects.

7.4.54 The study on the Scotland/Northern Ireland Interconnector (Ref 17.17) considered the effects of the interconnector project in South Ayrshire on the Ayrshire and Arran tourism industry. Tourism is important to the economy in this region, generating over £300 million of revenue per year and supporting nearly 9,000 jobs (Ref 17.40). The area offers a range of tourism assets and experiences ranging from rural, coastal, and historic landscapes and provides many outdoor pursuits including golf and sailing.

7.4.55 Finally, according to the study on the Second Yorkshire Line (Ref 17.18), the majority of the route is located in the North Yorkshire sub-region, which has a thriving tourism presence. The area is described as having a rich natural landscape with coastal scenery and built-up areas set within areas of farmland, ancient woodland and moorland. There are also numerous cultural heritage assets which add to the area's draw. According to a recent survey, scenery and appearance of the countryside was cited as the top 'enjoyable aspect' of the area (Ref 17.19).

7.4.56 It is acknowledged that the projects considered in the ex-post studies are not exactly aligned with the Proposed Development; however, due to the similarities in the geographies of these existing ex-post studies to the Proposed Development in terms of landscape/natural environment and the importance of tourism, the evidence is considered sufficiently robust to draw meaningful comparisons, and therefore these studies are used to support the assessment of effects on visitor numbers (see section 9.9).

#### *Development land allocations*

7.4.57 There are no current development land allocations within the DCO Order Limits.

7.4.58 There are several land development allocations within 5 km of the DCO Order Limits. These include large parcels of allocated land in Bodewryd, Brynteg, Gaerwen, Parc Menai and Penrhos-Garnedd. Smaller parcels of allocated

land are located in Cemaes, Gaerwen, Llanfairpwll, Llanddaniel Fab and Menai Bridge.

## 8 Potential Effects

### 8.1 POTENTIAL EFFECTS OVERVIEW

8.1.1 Table 17.16 provides an overview of the potential effects on socio-economic receptors, in the absence of mitigation, expected for each phase of the Proposed Development (i.e. construction, operation, maintenance and decommissioning).

Table 17.16: Potential Socio-economic Effects of the Proposed Development							
Potential Effect	Description	Receptor	Phase				
			C	O	M	D	
Land-take and access (non-agricultural land)	<p>Direct land-take (other than agricultural land, which is covered in Chapter 18 Agriculture (Document 5.18)) and changes in land use.</p> <p>Direct changes in access to non-agricultural private land, community land, commercial land, employment and development land.</p> <p>Indirect effects on development land allocations and/or active planning applications.</p>	Private land, commercial land, community land, employment land, development land, and active planning applications.	✓	x	✓	✓	

**Table 17.16: Potential Socio-economic Effects of the Proposed Development**

Potential Effect	Description	Receptor	Phase			
			C	O	M	D
Community amenity effects	Amenity effects arising from a combination of visual, traffic, air quality and noise effects during construction, and from a combination of visual and noise effects during operation.	50 community settlements (see Appendix 17.1 ( <b>Document 5.17.2.1</b> ))  Individual community facilities are also considered, as required.	✓	✓	✓	✓
Amenity effects on PRoWs	Amenity effects arising from a combination of visual, traffic, air quality and noise effects during construction, and from a combination of visual and noise effects during operation.	Approximately 200 PRoW receptors (see Appendix 17.1 ( <b>Document 5.17.2.1</b> )).	✓	✓	✓	✓
Amenity effects on tourist attractions and recreational resources	Amenity effects arising from a combination of visual, traffic, air quality and noise effects during construction, and from a combination of visual and noise effects during operation. Visual or traffic effects in isolation could also result in an effect.	37 tourist attractions and recreational receptors (see Appendix 17.1 ( <b>Document 5.17.2.1</b> ))	✓	✓	✓	✓



**Table 17.16: Potential Socio-economic Effects of the Proposed Development**

Potential Effect	Description	Receptor	Phase			
			C	O	M	D
Amenity effects on commercial receptors	Amenity effects on business which, due to their nature/operations could experience a loss of trade. Amenity effects arise from a combination of visual, traffic, air quality and noise effects (visual and noise only during operation). Visual or traffic effects in isolation could also result in an effect.	Approximately 200 commercial receptors considered (Appendix 17.1 ( <b>Document 5.17.2.1</b> ))	✓	✓	✓	✓
Pressure on supply of tourism accommodation	The presence of construction workers in the area could create demand for tourism accommodation that places additional pressure upon supply for visitors.	Tourism accommodation in the TTWA. This area includes Holyhead, Bangor, Caernarfon and Llangefni.	✓	x	✓	✓
Adverse effects on visitor numbers	Changes in numbers of visitors to the area, or changes in visitor behaviour, resulting from visitor perceptions of the Proposed Development.	Visitors to the administrative areas of Anglesey and Gwynedd.	✓	✓	✓	✓

**Table 17.16: Potential Socio-economic Effects of the Proposed Development**

Potential Effect	Description	Receptor	Phase			
			C	O	M	D
Adverse and beneficial employment effects	Direct and indirect changes in employment resulting from the construction of the Proposed Development, including the creation of new positions within the local economy (beneficial effect) as well as the potential for adverse effects in relation to skills and labour availability.	Employment in the administrative areas of Anglesey and Gwynedd.	✓	✗	✓	✓
Adverse and beneficial expenditure effects	Revenue and supply chain effects arising from expenditure during construction including capital expenditure, labour expenditure, and spend on tourism accommodation generated by construction workers. The potential for lost revenue due to reduced visitor numbers is also considered.	The economy in the administrative areas of Anglesey and Gwynedd.	✓	✗	✓	✓

## 9 Mitigation and Residual Effects

### 9.1 INTRODUCTION

- 9.1.1 This section is structured to assess each receptor type in turn, considering the potential effects (as identified in section 8), committed mitigation measures and residual effects together, to ensure that the specific mitigation measures required to address each affected receptor can be clearly understood.

#### *Mitigation by design*

- 9.1.2 National Grid has published '*Our Approach to the Design and Routeing of New Electricity Transmission Lines*' (Ref 17.51). This document sets out how National Grid will deliver new infrastructure projects and the process for making and validating decisions based on detailed environmental assessment and feedback from the public and stakeholders.
- 9.1.3 Of critical importance to routeing new electricity infrastructure are the Holford Rules. The general principles of the rules are set out below:
- avoid altogether, if possible, the major areas of highest amenity value by planning the general route of the line, even if total mileage is somewhat increased in consequence (National Parks, Areas of Outstanding Natural Beauty, Heritage Coasts and World Heritage sites);
  - avoid smaller areas of high amenity value, or scientific interest by deviation, provided that this can be done without using too many angle towers;
  - where possible choose routes with the least impact on sites of cultural heritage; and
  - avoid routeing close to residential areas.
- 9.1.4 The implementation of the approach to routeing is described in detail in the following DCO documents:
- Draft Route Alignment report (**Document 9.5**);

- Preferred Route Option Selection report (**Document 9.4**); and
- Design Report (**Document 7.17**).

9.1.5 In addition to the approach outlined above, and specific to this project, National Grid has undertaken additional activities to seek to safeguard the unique nature of the area, including the importance of Welsh cultural identity and language, the valued regional landscape and the significance of tourism to the local economy.

9.1.6 In addition to the socio-economic assessment, and in light of discussions at thematic working groups with stakeholders (IACC, Gwynedd Council, Welsh Government), the following activities and assessments have been completed:

- WLIA (**Document 5.26**);
- WBR (**Document 5.27**);
- A Visitor Survey (Appendix 17.3 (**Document 5.17.2.3**));
- A Business Survey (Appendix 17.4 (**Document 5.17.2.4**));
- Meeting local people to discuss their concerns; and
- Three stages of Public Consultation.

#### *Control and management measures*

9.1.7 Some of the standard control and management measures that are included in the CEMP (**Document 7.4**) are relevant to socio-economic receptors and effects. To avoid repetition of the details throughout the section, the relevant measures are assigned unique codes for quick reference, as presented in Table 17.17. Only those measures relating to Welsh language (GP31 to GP34) are necessary for the mitigation of effects.

Table 17.17: General CEMP Measures Relevant to Socio-economic Effects		
Code	Description	Benefit
GP11	Sets out core working hours, as well as hours for activities such as piling works, blasting and tunnelling works.	Reduce disruption to residential properties.
GP21-GP27	Sets out communication measures, including a 24-hour free telephone and	Provides a form of communication for community engagement and

Table 17.17: General CEMP Measures Relevant to Socio-economic Effects		
Code	Description	Benefit
	project website, which would be available throughout construction.	public information, and a mechanism for recording and managing complaints.
GP31	The contractor will be a member of the Considerate Constructors Scheme and will adhere to a Code of Conduct. The Code of Conduct will include sections on respecting the environment, respecting communities and respecting Welsh language and culture.	Mitigation of in-migration effects on Welsh language (see <b>Document 5.26</b> ).
GP32	Information will be provided to workers on language awareness, local linguistic and cultural context and how to demonstrate linguistic courtesy and cultural sensitivity.	
GP33	Site inductions and toolbox talks, will include information about Welsh language words and phrases, and information on resources for learning Welsh.	
GP34	The contractor will establish a process to monitor where workers are staying by type of accommodation and location. The results of this monitoring will be provided to National Grid.	
GP85-GP86	Sets out lighting and visual intrusion measures e.g. directional lighting.	Reduction of light pollution to residential properties.

Table 17.17: General CEMP Measures Relevant to Socio-economic Effects		
Code	Description	Benefit
AE11-AE41	Air Quality measures e.g. dust control measures.	Reduction of air quality disturbance to residential properties.
NV11-NV31	Noise control measures e.g. loading/unloading areas would be located as far as reasonably possible from residential properties.	Reduction of noise disturbance to sensitive receptors.

- 9.1.8 A Construction Traffic Management Plan (CTMP) is provided in **Document 7.5**.
- 9.1.9 Management measures for PRoW closure are provided in Table 3.2 of the Public Rights of Way Management Plan (**Document 7.6**). The DCO would grant the necessary powers to temporarily stop up a PRoW affected by the Proposed Development and put in place the diversions listed in draft DCO Schedule 8, although the intention is to keep the majority of routes open via management measures. Where temporary closure is required, National Grid would endeavour to ensure that durations are minimised as far as possible and that the PRoW would be reopened at the earliest opportunity.
- 9.1.10 Safety measures would be implemented where required, including fencing, signage and traffic management measures.

#### *Mitigation measures*

- 9.1.11 Measures that would serve to mitigate the adverse effects of the Proposed Development are presented in Chapter 28 Schedule of Mitigation (**Document 5.28**). All of these measures relate to the various sources of effects considered by other technical chapters (e.g. Chapter 15 Construction Noise and Vibration (**Document 5.15**)), and given that this chapter draws upon the residual (mitigated) effects reported in these chapters they are not repeated here.
- 9.1.12 No mitigation measures are required that are specific to the assessment of socio-economic effects.

## 9.2 AMENITY EFFECTS – COMMUNITY SETTLEMENTS

### *Communities*

- 9.2.1 A total of 50 community settlements were considered in relation to potential amenity effects. A summary of effects during construction and operation is presented in Table 17.18. Appendix 17.1 provides the detailed assessment of effects during construction and operation for each of the communities (**Document 5.17.2.1**).
- 9.2.2 For the assessment of amenity effects during construction, the following direct effects were considered: visual, traffic, air quality and construction noise effects. The effects of the Proposed Development during the construction phase have been assessed as negligible adverse or minor adverse, and therefore **not significant**, for all 50 communities. During operation only two of the four constituent amenity topics are relevant as there are no traffic or air quality effects as a result of the Proposed Development, only visual effects and noise effects.
- 9.2.3 As for construction, a total of 50 community settlements were considered for their potential to experience operational amenity effects. Amenity effects from the Proposed Development during the operation phase are assessed as negligible adverse or minor adverse, and therefore **not significant**, for all 50 communities.

Table 17.18 Summary of Amenity Effects on Communities		
Community	Significance of effects during construction	Significance of effects during operation
Tregele	Minor	Negligible
Llanfechell	Negligible	Negligible
Cemaes	Negligible	Minor
Llanbadrig	Negligible	Negligible
Bull Bay	Negligible	Negligible
Bodewryd	Negligible	Negligible
Amlwch	Negligible	Negligible

<b>Table 17.18 Summary of Amenity Effects on Communities</b>		
<b>Community</b>	<b>Significance of effects during construction</b>	<b>Significance of effects during operation</b>
Llanfairynghornwy	Minor	Negligible
Mynydd Mechell	Negligible	Negligible
Carreglefn	Negligible	Minor
Llanrhyddlad	Negligible	Negligible
Rhosgoch & Four Crosses	Minor	Minor
Rhosybol	Minor	Minor
Llanbabo & Llyn Alaw	Negligible	Negligible
Llannerchymedd	Minor	Negligible
Llandyfrydog	Negligible	Minor
Capel Parc & Penycraigwen	Negligible	Negligible
Penysarn	Negligible	Negligible
Dulas	Negligible	Negligible
Hebron & Maenaddwyn	Minor	Minor
Mynydd Bodafon	Negligible	Negligible
Parciau & Llanallgo	Negligible	Negligible
Brynteg	Negligible	Negligible
Llanbedrgoch	Negligible	Negligible
Capel Coch	Minor	Minor
Llynfaes	Negligible	Negligible
Cefniwrch	Negligible	Negligible



<b>Table 17.18 Summary of Amenity Effects on Communities</b>		
<b>Community</b>	<b>Significance of effects during construction</b>	<b>Significance of effects during operation</b>
Rhosmeirch	Minor	Minor
Bodffordd	Negligible	Negligible
Pentraeth	Negligible	Negligible
Talwrn	Negligible	Minor
Llangefni	Minor	Minor
Rhostrehwfa	Negligible	Negligible
Llangristiolus	Negligible	Negligible
Penmynydd	Negligible	Negligible
Pentre Berw	Negligible	Negligible
Gaerwen	Negligible	Negligible
Llanddaniel Fab	Minor	Negligible
Star	Minor	Negligible
Llanfairpwll	Minor	Negligible
Llangaffo	Negligible	Negligible
Brynsiencyn	Negligible	Negligible
Plas Newydd	Negligible	Negligible
Bangor	Negligible	Negligible
Pentir	Minor	Negligible
Rhiwlas	Negligible	Negligible
Glasinfryn	Negligible	Negligible

Table 17.18 Summary of Amenity Effects on Communities		
Community	Significance of effects during construction	Significance of effects during operation
Y Felinheli	Negligible	Negligible
Bethel	Negligible	Negligible
Penisa'r Waun	Negligible	Negligible

### *Community facilities*

- 9.2.4 Where a significant effect within a community was identified, potential effects on individual community facilities within that community were also assessed, during both the construction and operational phases.

#### Construction

- 9.2.5 Effects on communities during construction are assessed as **not significant** in all communities and, accordingly, effects on community facilities during construction are also assessed as **not significant**.

#### Operation

- 9.2.6 Effects on communities during operation are assessed as **not significant** in all communities and, accordingly, effects on community facilities during operation are also assessed as **not significant**.

### *Welsh language*

- 9.2.7 Effects relevant to the community assessment were identified in the WLIA (**Document 5.26**). The assessment concludes that effects on community amenity (Q6) and schools (Q13) would be **not significant** (neutral), and effects on the provision of local services (Q15) would be **not significant** (negligible beneficial). On this basis, no further consideration is given to potential Welsh language effects in relation to community amenity effects.

### *Well-being*

- 9.2.8 The WBR (**Document 5.27**) considers the findings of the ES (section 9.2) in relation to the well-being goals for 'A resilient Wales', 'A healthier Wales', and 'A More Equal Wales'. The report concludes that no significant effects of relevance to these goals have been identified.

### 9.3 AMENITY EFFECTS – PROWS

- 9.3.1 Direct effects on PROWs, such as temporary diversions and closures, are assessed in Chapter 13 Traffic and Transport (**Document 5.13**) and appropriate management is set out in the Public Right of Way Management Plan (**Document 7.6**).
- 9.3.2 Amenity effects on PROWs have been assessed following the approach set out in section 4.5. Each of the constituent amenity topics take a different approach to the assessment of PROWs, as follows.
- Visual Effects: each PROW is assessed in the same way other visual receptors are assessed; the effects on views is assessed from each of the PROWs in the study area (see **Document 8.2.4**).
  - Traffic & Transport: PROWs are assessed in a similar way to highway links except that duration is included in the determination of magnitude.
  - Construction Noise: A qualitative approach is taken which considers the receptor type as a whole; individual PROWs are not assessed.
  - Air Quality: PROWs are only considered with regards to dust effects. A qualitative approach is taken which considers the receptor type as a whole; ; individual PROWs are not assessed.
  - Operational Noise: An assessment of potential noise effects from the operation of the proposed OHL on existing PROWs was undertaken based on the outcome of the noise model. The results of the assessment are presented in Appendix 16.5 (**Document 5.16.2.5**).
- 9.3.3 Of the 195 PROWs assessed, a number are part of national routes, such as the Wales Coast Path and National Cycle Routes (NCR) NCR5, NCR8 and NCR566. Findings for these receptors are drawn out separately to the wider discussion of effects on PROWs in general. Summaries of the potential effects are provided below. Full details are presented in Appendix 17.1 (**Document 5.17.2.1**).

#### *Construction*

##### Wales Coast Path

- 9.3.4 Minor adverse visual effects are anticipated for the various links of the Wales Coast Path in close proximity to the Proposed Development. Traffic and transport effects are predicted to be minor adverse. However, there would be no significant construction noise or air quality effects. It is concluded,

therefore, that there would be **minor** adverse amenity effects, which are assessed as **not significant**.

#### Llanddeiniolen, Pentir and Y Felinheli Paths

- 9.3.5 Moderate adverse visual effects are anticipated for the Pentir Path during construction and negligible effects are predicted for traffic and transport, noise and air quality; therefore, the overall amenity effect is assessed as negligible (**not significant**). Minor visual effects are predicted for the Llanddeiniolen, and the traffic and transport assessment also reports minor effects on this PRoW; however, negligible effects are predicted for noise and air quality during construction, therefore the overall effect on amenity is assessed as negligible (**not significant**). Negligible effects are predicted for the Y Felinheli Path from all topics, therefore the overall effect on amenity is also assessed as negligible (**not significant**).

#### National Cycle Routes 5, 8 and 566

- 9.3.6 Minor adverse visual effects are predicted for NCR5 and NCR566; negligible effects are predicted for traffic and transport, noise and air quality. For NCR8, minor adverse visual and traffic and transport-related effects are predicted, and negligible effects are predicted for noise and air quality. On this basis, the overall amenity effect on these cycle routes is assessed as **not significant**.

#### Other footpaths

- 9.3.7 A number of the other footpaths that are currently oversailed by the existing OHL and/or would be oversailed by the proposed OHL have been predicted to have moderately adverse visual effects during construction. These PRoWs are in the community areas of Cemaes, Tregele, Llanfechell, Rhosybol, Rhosgoch, Llandyfrydog, Hebron & Maenaddwyn and Talwrn.
- 9.3.8 No significant effects are predicted for transport, noise or air quality at any of these locations and therefore the overall amenity effect on these other footpaths is assessed as **not significant**.

#### *Operation*

- 9.3.9 Only visual and noise effects apply to the assessment of operation effects, as follows.

### Wales Coast Path

- 9.3.10 Minor adverse visual effects are anticipated for the various links of the Wales Coast Path in close proximity to the Proposed Development. No significant effects are predicted for operational noise. It is concluded, therefore, that effects on this footpath are **not significant**.

### Llanddeiniolen, Pentir and Y Felinheli Paths

- 9.3.11 Moderate adverse visual effects are anticipated for the Pentir Path during operation. No significant effects are predicted for operational noise on any of the three paths. It is concluded, therefore, that effects on these footpaths are **not significant**.

### National Cycle Routes 5, 8 and 566

- 9.3.12 Minor adverse visual effects are predicted for NCR5, NCR566, and NCR8. No significant effects are predicted for operational noise on any of the three routes. It is concluded, therefore, that effects on these cycle routes are **not significant**.

### Other footpaths

- 9.3.13 A number of the other footpaths which are currently oversailed by the existing OHL and/or would be oversailed by the proposed OHL have been predicted to be moderately adversely affected for views during operation and are located in the community areas of Cemaes, Tregele, Llanfechell, Rhosybol, Rhosgoch, Llandyfrydog, Hebron & Maenaddwyn and Talwrn.
- 9.3.14 No significant effects are predicted for operational noise.
- 9.3.15 It is concluded, therefore, that effects on these cycle routes are **not significant**.

## **9.4 AMENITY EFFECTS – TOURIST ATTRACTIONS AND RECREATIONAL RESOURCES**

- 9.4.1 Of the 37 receptors considered in the assessment, 13 were considered to be of high value from a socio-economic perspective (see Appendix 17.1 (**Document 5.17.2.1**)).
- 9.4.2 Out of the 13, only two are within 1 km of the Proposed Development: Vaynol Park and Plas Newydd House and Gardens. A minor adverse effect is predicted on the nearest Highway Links (Link 16 for Plas Newydd and Link 19 for Vaynol Park); however, negligible or no effects are anticipated for visual, air quality and noise effects at these locations during construction; as

such the overall amenity effect is assessed as **not significant**. During operation, there would be no operational noise effects and the adverse visual effect would be minor, meaning the overall amenity effect would be **not significant**. Accordingly, there would be limited potential for an impact on tourism revenue (only Plas Newydd is fee-paying; Vaynol Park is non-fee-paying with limited public access).

- 9.4.3 Bryn Celli Ddu, an important prehistoric site, is located approximately 2 km from the Order Limits. The site, which is non-fee-paying, can be accessed from a number of routes, including the A4080, via the A55. The A4080, identified as Link Road 16 in Chapter 13 Traffic and Transport (**Document 5.13**), is assessed to have minor adverse construction traffic effects. No significant effects are reported at this receptor by any of the other constituent topics (visual, air quality and noise effects) and therefore amenity effects at Bryn Celli Ddu are assessed to be **not significant**.
- 9.4.4 A further seven important tourism and recreational resources are located within 10 km of the Proposed Development: Dingle Local Nature Reserve, Greenwood Forest Park, Oriel Ynys Mon (Arts Centre), RNLI Gwylfan Moelfre Seawatch Centre, the Oriel Tegfryn Gallery, Penrhyn Castle and Plas Menai Outdoor Pursuit Centre. Of the seven, only three are fee-paying and therefore have potential for revenue generation: Greenwood Forest Park, Penrhyn Castle and Plas Menai Outdoor Pursuits Centre.
- 9.4.5 **No significant amenity effects** have been identified in any of these locations during construction or operation. No disruption is anticipated to the use of these resources and therefore there would be no potential for an impact on tourism revenue.

#### *Welsh language*

- 9.4.6 The WLIA (**Document 5.26**) concludes that no significant adverse effects are expected on local businesses, including tourism, recreational receptors or tourism revenue. As such, **no significant adverse effects** are expected on Welsh-speaking businesses (Q8, negligible adverse).

## **9.5 AMENITY EFFECTS – COMMERCIAL RECEPTORS**

- 9.5.1 Commercial receptors are categorised as tourism and non-tourism, and each category is assessed separately. A full list of tourism and non-tourism receptors, together with an assessment of effects, is provided in Appendix 17.1 (**Document 5.17.2.1**).

9.5.2 Over 1,000 commercial receptors were initially considered in the assessment, of which 193 were screened for detailed assessment (section 4.5.35).

*Tourism accommodation*

9.5.3 A summary of the amenity effects on tourism accommodation is presented in Table 17.19.

Table 17.19: Amenity assessment – tourism accommodation during construction and operation					
Type	No. within 1 km	Construction		Operation	
		Number with potentially significant sources of effects	Likelihood / effect	Number with potentially significant sources of effects	Likelihood / effect
Bed and Breakfasts / holiday lets	34	1	Likely: One <b>moderate adverse</b> (visual effects)	10	Likely: <b>Three major adverse</b> (visual effects only) Seven possibly <b>moderate adverse</b> (visual effects only)
Self-catering facilities	4	0	N/A	0	N/A
Hotels	12	0	N/A	1	One <b>moderate adverse</b> (visual effects only)
Camping and caravan sites	13	1	Likely: One <b>moderate adverse</b>	2	Likely Two <b>moderate adverse</b>

**Table 17.19: Amenity assessment – tourism accommodation during construction and operation**

Type	No. within 1 km	Construction		Operation	
		Number with potentially significant sources of effects	Likelihood / <b>effect</b>	Number with potentially significant sources of effects	Likelihood / <b>effect</b>
			(visual effects)		(visual effects only)
Total	63	2		13	

9.5.4 There are no significant amenity effects on tourism accommodation businesses during construction, however there are two tourism accommodation businesses that may experience a **moderate adverse** secondary effect (loss of trade), resulting from visual effects.

9.5.5 There are no significant amenity effects on tourism accommodation businesses during operation. Thirteen tourism accommodation businesses may experience a major or moderate adverse secondary effect during operation of the Proposed Development. The nature of these businesses is such that views are likely to be an important factor in the attractiveness of their 'offer'. As such, it is considered likely that they could be affected by adverse secondary effects (loss of trade).

9.5.6 Given that there are several hundred tourism accommodation facilities listed in the TTWA (see Table 17.14), the relatively small number of facilities affected means that the overall effect on the tourism accommodation sector in Anglesey and Gwynedd is assessed as **not significant**.

9.5.7 As described in section 7.4, the Business Survey indicates that a substantial number (23%) of businesses surveyed considered that the Proposed Development would have a significant adverse effect on their business. It is noted, however, that the ex-post assessments described in section 7.4 demonstrate a very low effect on such businesses. For example, the 2011 Ex-Post report on the Second Yorkshire Line (Ref 17.18) found that between 1% and 3% of local tourism-related businesses reported a medium negative impact throughout pre-construction, construction and operation (i.e. up to 10% reduction in turnover/visitors/customers). Just 1% maintained they had experienced a major negative impact (a reduction in business of up to 15%), and 96% of tourism-related businesses experienced no negative impacts. It



is concluded therefore that these concerns are most likely based on a 'fear-factor', and that the adverse effects are unlikely to be realised.

### *Non-tourism businesses*

9.5.8 A summary of the assessment of other commercial receptors screened into the assessment is provided in Table 17.20.

<b>Table 17.20: Amenity assessment – non-tourism businesses</b>					
Type	No. within 1 km	Construction		Operation	
		Number with potentially significant sources of effect	Sensitive to effect? <sup>4</sup>	Number with potentially significant sources of effects	Sensitive to effect?
Automotive	10	1	No	2	No
Care services	7	0	N/A	0	N/A
Cattery / kennel	3	0	N/A	0	N/A
Construction	9	0	N/A	0	N/A
Other	48	0	N/A	1	No
Poultry	4	0	N/A	0	N/A
Pub / bar / restaurant	26	0	N/A	0	N/A
Retail	19	0	N/A	0	N/A
Sound recording / TV	4	0	N/A	0	N/A
<b>Total</b>	<b>130</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>0</b>

<sup>4</sup> The heading in Table 17.20 differs to the one in Table 17.19. The reason for this is that all tourism businesses are assumed to be sensitive to effects, whereas for non-tourism businesses likelihood would only be considered once sensitivity had been ascertained.

- 9.5.9 Out of the total of 130 non-tourism businesses considered in the assessment, only one is assessed to have a possible significant amenity effect during construction, having both a **moderate adverse** visual effect and a **moderate adverse** noise effect during construction. Given the nature of the business (vehicle hire), neither of these effects (either in combination or individually) is considered likely to lead to a significant effect on the business and no secondary effect is anticipated.
- 9.5.10 During operation, there are four businesses that could be significantly affected by the Proposed Development by **moderate adverse** visual effects: three are automotive, and one electrical contractor. None of these businesses is considered to be sensitive to visual effects. As a result, no secondary effects are anticipated. Overall, the effects on non-tourism commercial receptors are considered to be **not significant**.

#### *Welsh language*

- 9.5.11 The WLIA (**Document 5.26**) concludes that no significant adverse effects are expected on local businesses, including tourism, recreational receptors or tourism revenue. As such, **no significant adverse effects** are expected on Welsh-speaking businesses (Q8, negligible adverse).

## **9.6 LAND USE EFFECTS**

- 9.6.1 Land use effects arise when land-take or access could disrupt the existing use of the land. These effects can be temporary (during construction only), or permanent (required for operation).
- 9.6.2 The majority of land within the Order Limits is agricultural, primarily pasture land, with discrete areas of mixed and arable land. The assessment of effects of temporary and permanent land-take on agricultural land is reported in Chapter 18 Agriculture (**Document 5.18**).
- 9.6.3 The main findings of the land use assessment are as follows:
- Up to three properties have been identified for acquisition, which would no longer be occupied as private residences as a result of the Proposed Development. In addition, there is a derelict property that would be prevented from being brought back into residential use. One property is located in Section A (Wylfa to Rhosgoch), two in Section B (Rhosgoch to Llandyfrydog) and one in Section D (B5110 North of Talwrn to Ceint). See Chapter 3 Description of the Proposed Development (**Document 5.3**) for an explanation of route sections.

- There are no land use effects (direct or indirect, permanent or temporary) on community land or development land;
- No development land or employment land allocations are present within the Order Limits;
- There is no requirement for permanent land-take or access of non-agricultural land as a result of the Proposed Development;
- Temporary land-take and access would be required on non-agricultural private land owned by the Nuclear Decommissioning Authority;
- No severance effects are anticipated on non-agricultural land; and
- No planning applications for large scale developments have been identified within the Order Limits.

9.6.4 Only one commercial operation (a caravan park in Llandyfrydog) is identified as being affected by temporary land-take and access.

9.6.5 A small number of additional commercial operations are expected to be affected by temporary scaffolding on their premises (three to four months approximately), including a GP surgery and a property management company in Star, and a poultry operation in Llanddaniel.

9.6.6 Construction of the Menai Science Park is already underway and it is expected to be occupied when construction of the Proposed Development commences. Given that this development is due for completion before the commencement of the Proposed Development, the Science Park is included as a potential receptor in the assessment of commercial receptors.

9.6.7 There are no land use effects that would result in a permanent restriction or change to the current use of land, and there is no severance of access. In conclusion, **no effects** on non-agricultural land use are anticipated.

## 9.7 WIDER EFFECTS – OVERVIEW

9.7.1 The following potential 'wider effects' are considered in the assessment.

- tourism accommodation;
- visitor numbers;
- employment; and
- expenditure and supply chain.

- 9.7.2 No mitigation is proposed in relation to these effects. As such the following assessment reports the residual effects.

## 9.8 WIDER EFFECTS – TOURISM ACCOMMODATION

### *Peak construction workforce numbers*

- 9.8.1 The assessment of effects on tourism accommodation is based on an evaluation of peak construction workers over the course of the construction programme.
- 9.8.2 At the time of the assessment, three possible scenarios remain for the construction of the tunnel, as presented in Table 17.11. There are two tunnel boring machine (TBM) scenarios for tunnel construction, Scenario 1, tunnelling from Braint (drive shaft) to Tŷ Fodol (reception shaft) and Scenario 2, tunnelling from Tŷ Fodol (drive shaft) to Braint (reception shaft). A third 'drill and blast' scenario is also assessed (tunnelling from both ends concurrently). Construction workforce programmes have been prepared to cover all three scenarios. The three tunnelling options are summarised as follows:
- Scenario 1 – TBM Braint to Tŷ Fodol;
  - Scenario 2 – TBM Tŷ Fodol to Braint; and
  - Scenario 3 – Drill and blast from both ends.
- 9.8.3 Refer to Chapter 4, Construction, Operation, Maintenance and Decommissioning of the Proposed Development (**Document 5.4**) for further details of the three scenarios.
- 9.8.4 As illustrated in Image 17.4, the estimated peak workforce for the Proposed Development is 447, based on the peak workforce for Scenario 3. The differences in the peak workforce occur due to differences in the way construction activities are envisaged to overlap.
- 9.8.5 The following points are noted:
- The construction programmes for each of the tunnelling scenarios are indicative only, based on the knowledge and experience of National Grid.
  - For all three programmes the total duration is approximately 75 months.
  - For Scenario 1, the average number of construction workers per month is 218.

- For Scenario 2, the average number of construction workers per month is 212.
- For Scenario 3, the average number of construction workers per month is 224.
- The overall average (indicative) number of construction workers per month for all three scenarios is 218 over the 75-month programme.
- The programme for OHL construction, substation construction, and commissioning is the same for all three options. The programme only varies in relation to the three tunnelling scenarios.

9.8.6 A breakdown of the construction activities during the programme is provided in Image 17.5 (Scenario 1), Image 17.6 (Scenario 2) and Image 17.7 (Scenario 3).

#### *Accommodation headroom assessment*

9.8.7 Within this assessment, headroom is the term used to describe the remaining bed spaces available when peak occupancy rates are applied. This headroom constitutes the available accommodation supply to cater for demand from construction workers. The assumptions underpinning this assessment of headroom are presented in Appendix 17.2 (**Document 5.17.2.2**), including a summary of peak demand for each type of accommodation.

9.8.8 As presented in the baseline (section 7.4) headroom in the TTWA is estimated at over 6,000. Assuming around 450 construction workers at peak, this represents 7.1% of headroom in the peak month of August. When home-based workers are accounted for, this figure reduces to 6.4%. When the peak monthly average is applied (224 for Scenario 3) and home-based workers are accounted for, the number of workers accounts for less than 4% of headroom.

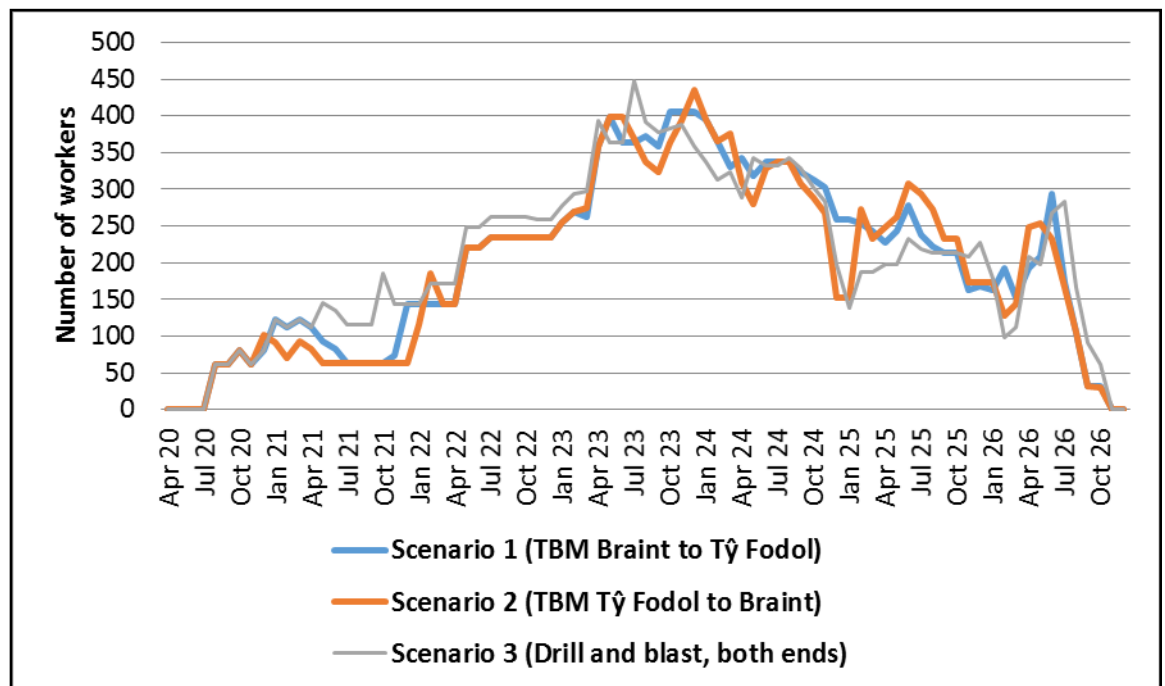
9.8.9 Image 17.8 illustrates the breakdown of accommodation type expected to be taken up by construction workers on the Proposed Development (Scenario 3, overall peak demand).

9.8.10 As detailed in section 4, it is estimated that 10% of jobs would be taken up by local (home-based) workers. A sensitivity test of this assumption is presented in Appendix 17.2 Workforce Analysis Assumptions Log (**Document 5.17.2.2**), which considers accommodation demand under two further scenarios: 0% uptake and 20% uptake of local workers. The conclusion of this additional

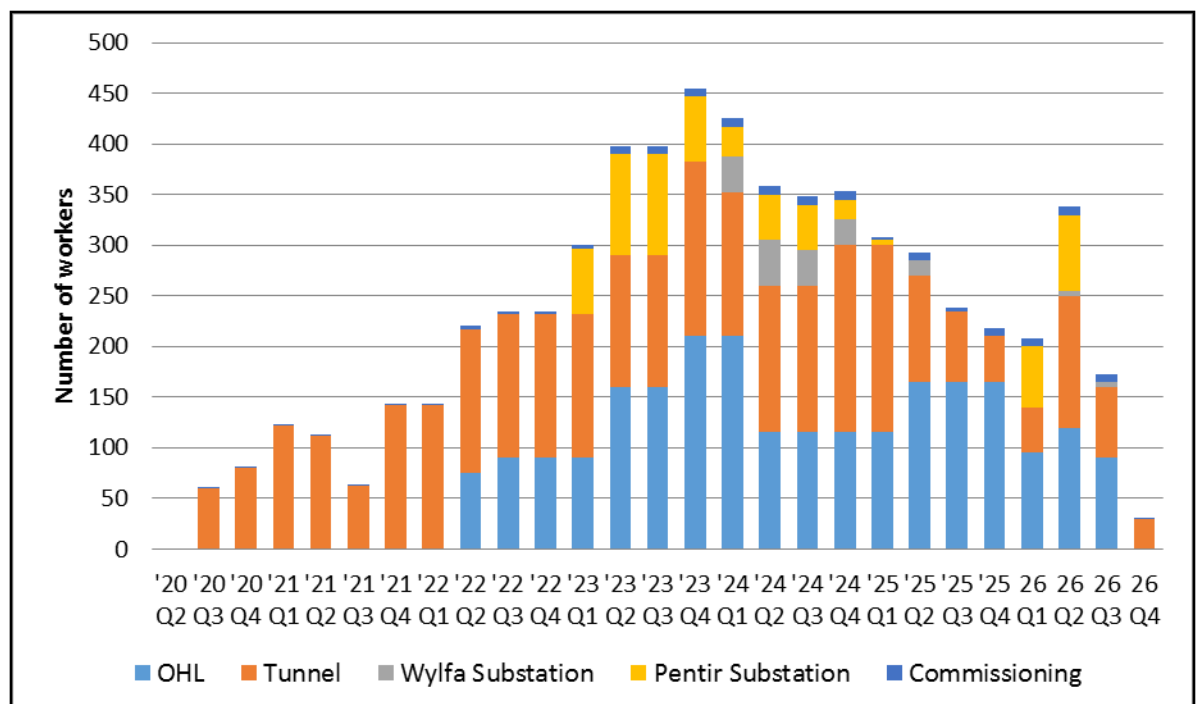
analysis is that the assessment findings are not sensitive to either 0% or 20% of jobs being taken up by local workers.

- 9.8.11 As presented in Image 17.8, camping and caravanning is expected to take the largest proportion of workers (36%) followed by the PRS (22%).

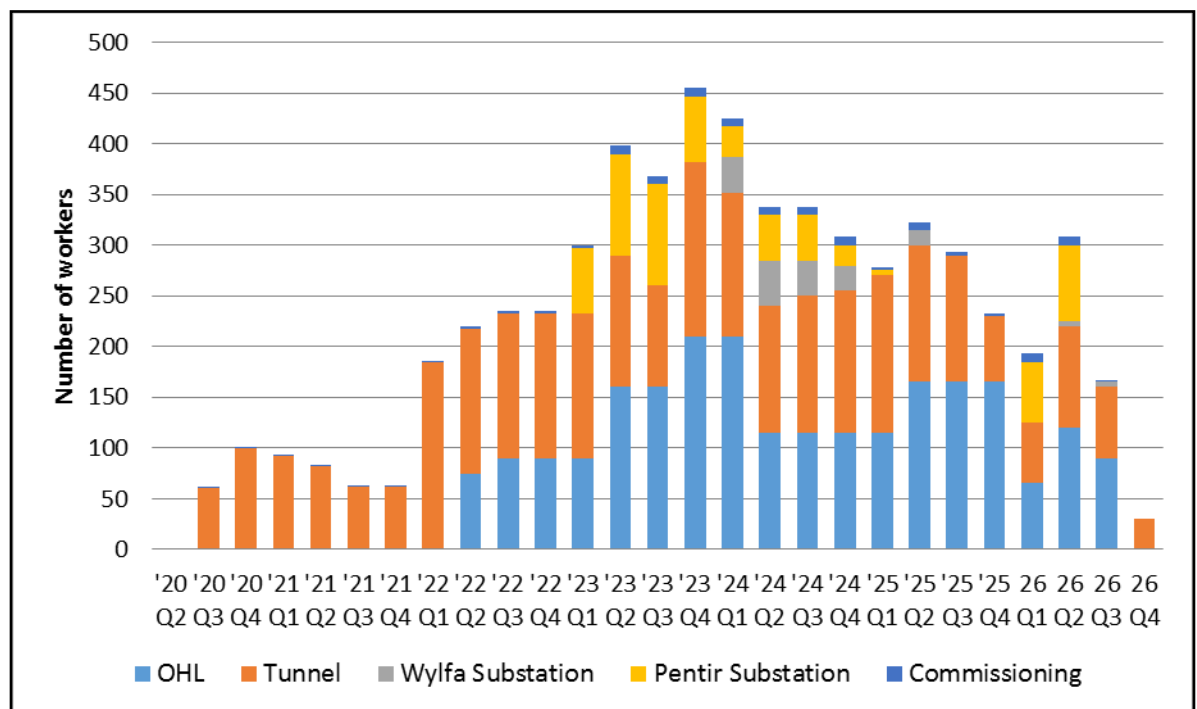
**Image 17.4 Worker numbers for Scenario 1, Scenario 2 and Scenario 3**



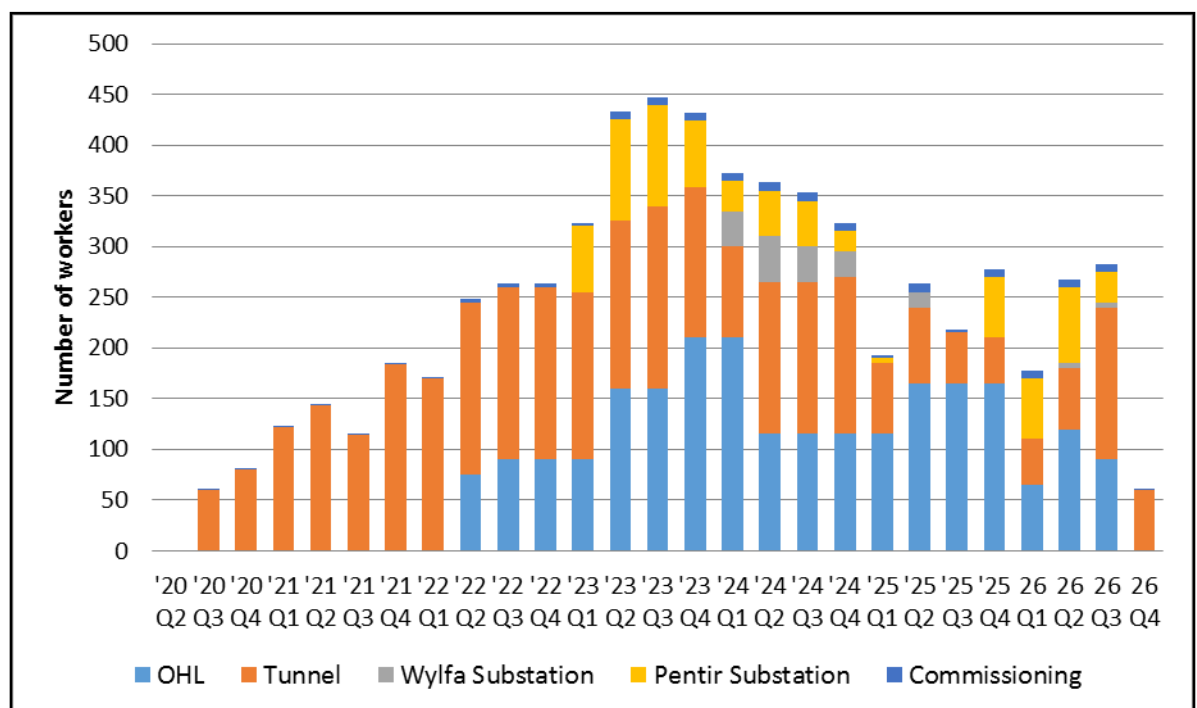
**Image 17.5 Construction programme (Scenario 1)**



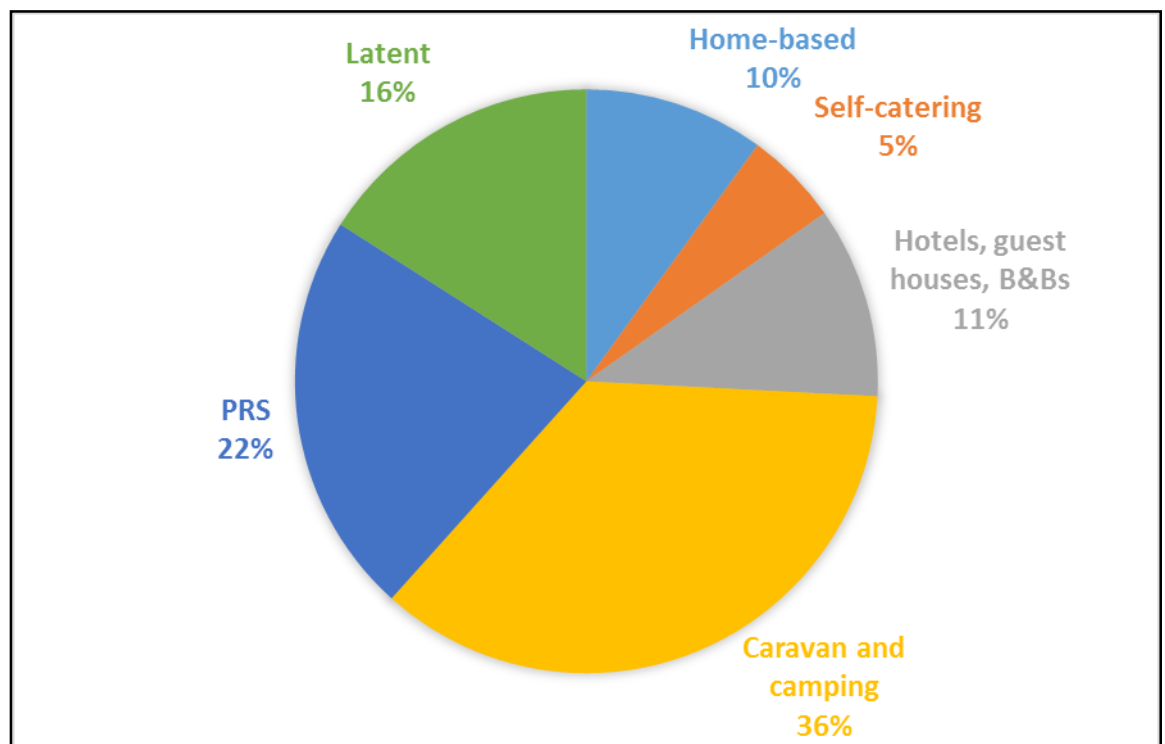
**Image 17.6 Construction programme (Scenario 2)**



**Image 17.7 Construction programme (Scenario 3)**



**Image 17.8 Accommodation breakdown**



9.8.12 Peak demand (as generated by Scenario 3) for different types of tourism accommodation has been compared against headroom, as presented in Table 17.21. The results indicate that peak demand is less than 10% of headroom for all categories of accommodation.

**Table 17.21: Accommodation bed spaces in the TTWA (2013)**

Subcategory	Bed spaces	Headroom	Peak demand	% headroom taken
Hotels, guest houses and Bed and Breakfasts	5,200	884	47	5.4%
Self-catering	7,087	638	23	3.7%
Caravan / camping	39,784	4,774	160	3.3%

9.8.13 On the basis of this assessment it is concluded that the peak construction workforce associated with the Proposed Development could be accommodated without placing significant demand on the existing tourism



accommodation stock within the TTWA. As such, effects on tourism accommodation are assessed as **not significant**.

- 9.8.14 This analysis, however, does not take account of other projects in the area that would create competing demand for available tourism accommodation. These cumulative effects are considered in section 10.

#### *Private rented sector*

- 9.8.15 As defined in Appendix 17.2 (**Document 5.17.2.2**) and Image 17.8, as a worst case it is estimated that 100 workers (22%) would take up accommodation in the PRS. Considering that construction workers are highly likely to share accommodation, the number of properties required is likely to be substantially lower than 100.
- 9.8.16 As presented in Table 17.14, it is estimated that there are around one thousand vacant private rental properties in Anglesey and Gwynedd, additional to what is required by the PRS market (i.e. over and above the natural movement within the stock of PRS accommodation). This is based on a worst case (i.e. lowest) vacancy rate of 8% (see section 7.4).
- 9.8.17 It is acknowledged that the area of Gwynedd from which these figures are taken extends beyond the TTWA. However, it is reported in the PRS review report that much of the PRS market in Gwynedd is focused around Bangor (Ref 17.26), which is within the TTWA.
- 9.8.18 It is highly unlikely that all 100 workers would take up single-occupancy of private rental households, and highly unlikely that they would only locate themselves in Anglesey. It is much more likely that, due to the constraints imposed by the industry standard nightly subsistence allowance, workers would share accommodation, and would be spread across locations in both Anglesey and Gwynedd. On the basis of two workers per household, these 100 workers would take up 5.0% of the available headroom in Anglesey and Gwynedd. If Anglesey headroom only is considered, this figure is 14%. If Gwynedd headroom only is considered, this figure is 7.7%. On this basis, it is highly unlikely that workers taking up accommodation in the PRS would impact on the functioning of the market. The effect is therefore assessed as **not significant**.
- 9.8.19 In 2016, the median rent for private sector accommodation was £536 per month in Anglesey and £524 per month in Gwynedd (Ref 17.26). Based on the subsistence allowance of £36 per night, it is likely that workers would be able to afford properties in the mid-range of the market.

### *Welsh language*

- 9.8.20 No significant effects relevant to the assessment of construction workers were identified in the WLIA (**Document 5.26**). In assessing the number of non-home-based construction workers, the assessment concludes that there would be **no significant effects** on population levels (Q1, negligible adverse), out-migration (Q3, negligible beneficial), the age structure of the community (Q4, neutral), provision of schooling (Q13, neutral), health care provision (Q14, neutral), and no threat of increased crime or violence (Q7, neutral).
- 9.8.21 No significant adverse effects are expected on local businesses, including tourism, recreational receptors or tourism revenue. As such, **no significant adverse effects** are expected on Welsh-speaking businesses (Q8, negligible adverse).
- 9.8.22 No significant effect on the cost of housing during construction is expected. As such, life would not be made more expensive for local residents, and there would be no increased risk of financial problems or stress within the local Welsh-speaking population. The effect on health (Q5) is assessed as neutral.
- 9.8.23 The WLIA concludes that effects on Welsh language resulting from in-migration (Q2) would be minor adverse. As set out in section 3.5.8, this is sufficient to trigger the need for mitigation under the SPG for WLIA (refer to **Document 5.26**). Measures to mitigate this effect are provided in the CEMP (**Document 7.4**), as set out in section 9.1. These measures are considered appropriate and sufficiently robust to mitigate the minor adverse effect on Welsh language and no further consideration of in-migration effects is given in the socio-economic assessment.

### *Well-being*

- 9.8.24 The WBR (**Document 5.27**) considers the findings of the ES (section 9.8) in relation to the well-being goals for 'A resilient Wales'. The report concludes that no significant effects of relevance to this goal have been identified.

## **9.9 WIDER EFFECTS – VISITOR NUMBERS**

- 9.9.1 The assessment of effects on visitor numbers is based primarily on the findings of the visitor survey, together with evidence available in the literature, for which references have been cited (Ref 17.17, Ref 17.18 and Ref 17.29).
- 9.9.2 The majority of respondents to the visitor survey (77%) said that the construction process for additional pylons would make no difference to the likelihood of them revisiting. Similarly, the majority of respondents (84%) said

that the presence of additional pylons/OHLs (i.e. during operation) would make no difference to the likelihood of them revisiting.

- 9.9.3 These figures are repeated for the type of recreational activity undertaken. The majority of respondents (78%) reported that the construction process would make no difference to the type of activities undertaken in the area. The figure is 84% for activities undertaken during operation.
- 9.9.4 As set out in section 7.4, the results of the visitor survey indicate that traffic effects are the greatest cause for concern for visitors during construction and the visual effects are the greatest cause for concern for visitors during operation.
- 9.9.5 When asked about the construction process, 132 of 739 (18%) reported that the additional pylons and power lines would make them less likely to visit Anglesey/this part of Gwynedd again. Out of the 132, 69 cited the reason as disruption to access caused by increased traffic.
- 9.9.6 It is acknowledged that the survey revealed a perception amongst respondents that construction traffic would disrupt access in Anglesey. However, the assessment of traffic and transport effects in Chapter 13 Traffic and Transport (**Document 5.13**) indicates that after mitigation, significant residual traffic effects would be limited to one location only: the Pont Rhonwy link (link 15), the proposed primary access to Braint THH/CSEC. It is therefore concluded that perceived effects on visitor numbers would be unlikely to be realised.
- 9.9.7 Out of 84 visitors who said they would be less likely to return during operation, the most common reason was that the pylons would be “a blot on the landscape”<sup>5</sup> (47 out of 84). However, it is noted that out of the 47, only 20 said the existing pylons interfered with the enjoyment of their visit, and only 27 of the 47 had actually seen the existing pylons during their visit.
- 9.9.8 A variety of locations were chosen for the visitor survey, with some locations in close proximity to the Proposed Development already having visibility of the existing OHL (Image 17.2). Visitors to these locations are already influenced by the existing OHL and therefore the Proposed Development would not be a new element within views. Other locations were distant (or not in view) of the Proposed Development or the existing OHL. The only primary visitor access point where the Proposed Development may be visible would be from the A55 when crossing the Menai Strait. The Proposed Development would not be visible from Holyhead or Anglesey Airport, and

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<sup>5</sup> Full response category: “Blot on the landscape/spoils the scenery/eyesore/noisy”

would only be minimally visible from the railway (existing vegetation screens views, which are transient, and the train is typically passing at high speed).

- 9.9.9 Both ex-ante (before) and ex-post (after) evidence for effects of OHLs on tourism is relatively limited. However, the literature identified here (Ref 17.17, Ref 17.18 and Ref 17.29) covers numerous projects across the country in varying geographies and environments and over an extensive period. As described in section 7.4, the evidence indicates that there is a tendency for ex-ante appraisal to overestimate the likely negative impacts on tourism, with the ex-post evidence indicating that the extent of negative effects upon visitor numbers and their behaviour is typically less than anticipated.
- 9.9.10 A total of 63 tourism accommodation receptors were captured in the amenity assessment; 13 of which are expected to have significant visual effects during operation. Given that on the UK's largest tourist accommodation website there are 229 properties listed in Anglesey (Ref 17.47), only 5.7% of these have significant visual effects. It is therefore considered unlikely that a significant effect on visitor numbers would be realised.
- 9.9.11 It is important to note that where visitors are deterred from locations close to the route towards other areas of Anglesey and Gwynedd, this would constitute a distributional effect rather than a net loss in tourism for the local economy.
- 9.9.12 The potential for an effect on visitor numbers and behaviour is recognised but, on the basis of the available evidence, it is considered unlikely that this effect would be realised. In conclusion, **no significant effects** are anticipated.

## 9.10 WIDER EFFECTS – EMPLOYMENT

- 9.10.1 To understand how employment generation would impact on the overall labour market, average monthly employment on the Proposed Development was considered within the context of total employment. Average monthly employment is a suitable indicator as this takes into account peaks and troughs in worker numbers throughout the construction programme. As reported in section 9.8, the overall average (indicative) number of construction workers per month for all three tunnelling scenarios is 218 over the 75-month programme. Applying the assumption that 10% of workers are local, the number of jobs filled locally is 22. Applying a multiplier of 1.3 for additionality, the total number of direct and indirect jobs filled from the local resident workforce is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would attract 0.033% of total employment. The effect on local employment is therefore assessed to be **not significant**.

- 9.10.2 In terms of the potential for adverse effects as a result of reducing the local construction workforce available to service local people and businesses, a higher percentage of local workers would represent a worst case. In this context it could be argued that 20% of local workers would constitute the reasonable worst case: the more local workers employed, the greater the risk of a construction skills shortage for projects outside of the Proposed Development. On this basis, the number of direct and indirect jobs filled locally would increase to 57, or 0.067% of total employment. It is assumed, therefore, that the local workforce could easily absorb this additional demand for jobs without impacting on other businesses. It is considered highly unlikely that the creation of jobs could result in a skills shortage within the construction sector. Staff shortages in other sectors, such as tourism, are also considered highly unlikely. Further, any adverse effects relating to a skills shortage would, in any case, need to be considered in the context of the beneficial direct and indirect effects of employment generation.
- 9.10.3 It is concluded that employment generated by the Proposed Development would have an overall positive effect on the local employment market, but that overall the effect is **not significant**.

*Welsh language*

- 9.10.4 No significant effects relevant to the employment assessment were identified in the WLIA (**Document 5.26**). The assessment concludes that employment generated by the Proposed Development would have an overall positive effect on the local employment market (Q9), but that this effect would **not be significant** (negligible beneficial).
- 9.10.5 The assessment also concludes that, although many of the construction jobs would generally provide a higher weekly earning than the current median weekly earnings for the TTWA, resulting in higher wages and salary levels, displacement of staff from local businesses would not be significant, and the overall effect on salary levels (Q11) would be **negligible beneficial**.

*Well-being*

- 9.10.6 The WBR (**Document 5.27**) considers the findings of the ES (section 9.10) in relation to the well-being goals for 'A prosperous Wales'. The report concludes that no significant effects of relevance to this goal have been identified.

## 9.11 WIDER EFFECTS – EXPENDITURE AND SUPPLY CHAIN

- 9.11.1 Within this section, the local economy is taken as the economy within the administrative areas of Gwynedd and Anglesey.
- 9.11.2 Total expenditure on the Proposed Development is expected to be in the region of £600 million, as set out in the Funding Statement (**Document 3.2**). This is broadly expected to be broken down as £325 million on capital expenditure and £275 million on labour expenditure.
- 9.11.3 In order to estimate the supply chain benefits, labour expenditure has been excluded to avoid double-counting with employment benefits (assessed separately in section 9.10).
- 9.11.4 Given the nature of the Proposed Development, most of the capital expenditure is expected to be captured outside of the target area (in this case, outside of Anglesey and Gwynedd). It is estimated that 10% of capital expenditure would be captured within the local supply chain. A multiplier of 1.3 was applied to the direct expenditure in order to estimate indirect and induced effects, in line with the local multiplier for England and Wales provided in Table 4.12 of the Additionality Guide (Ref 17.10). The calculation of total expenditure and supply chain benefits is presented in Table 17.22.

Table 17.22: Additionality calculation for capital expenditure	
Parameter	Value
Total expenditure	£600 million
Capital expenditure	£325 million
Proportion captured locally (%)	10%
Net local direct effects	£32.5 million
Indirect effects	£9.75 million
<b>Total</b>	<b>£42.3 million</b>

- 9.11.5 The total contribution to the local economy resulting from capital expenditure is estimated to be in the region of £42 million.
- 9.11.6 The additionality calculation for accommodation expenditure is presented in Table 17.23. The assessment is based on the CIJC subsistence allowance (Ref 17.23). The number of nights of accommodation demand is extracted from the construction workforce programme presented in section 9.8, and is estimated to be around 500,000. A multiplier of 1.3 was applied, in line with

the local multiplier for England and Wales provided in Table 4.12 of the Additionality Guide (Ref 17.10).

Table 17.23: Additionality calculation for accommodation expenditure	
Parameter	Value
Number of nights	500,000
Nightly allowance	£36
Net local direct effects	£16.2 million
Indirect effects	£4.9 million
<b>Total</b>	<b>£21.1 million</b>

9.11.7 The total contribution to the local economy resulting from accommodation expenditure is estimated to be in the region of £21 million.

9.11.8 The additional supply chain benefits and expenditure on tourism accommodation amount to an estimated £63 million over the construction period. Given that the combined GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum, this represents a 1.9% increase in GVA in any single year during construction. The effect on economic growth is assessed as **not significant**.

#### *Welsh language*

9.11.9 No significant effects relevant to the expenditure assessment were identified in the WLIA (**Document 5.26**). No significant adverse effects are expected on local businesses, including tourism, recreational receptors or tourism revenue. As such, no significant adverse effects are expected on Welsh-speaking businesses (Q8, negligible adverse).

9.11.10 Given the limited employment opportunities and the range of job roles offered during the construction phase, the effect on economic diversity within the TTWA (Q10), which would be beneficial to the Welsh language and culture in terms of helping to retain local people, would be negligible beneficial.

#### *Well-being*

9.11.11 The WBR (**Document 5.27**) considers the findings of the ES (section 9.11) in relation to the well-being goals for the well-being goal for 'A healthier Wales'. The report concludes that no significant effects of relevance to this goal have been identified.



## 10 Cumulative Effects

### 10.1 INTRODUCTION

- 10.1.1 This section of the assessment considers the cumulative effects of the various elements of the Proposed Development and the accumulated effects of the proposals with other developments proposed in the vicinity.

### 10.2 INTRA-PROJECT CUMULATIVE EFFECTS

- 10.2.1 The intra-project cumulative assessment considers the potential for socio-economic effects to impact on receptors covered by other topics, and vice versa. The two key areas with potential for intra-project cumulative effects were identified as amenity effects and tourism sector effects.

#### *Amenity assessment*

- 10.2.2 The amenity assessment in section 9 takes into account in-combination effects on receptors and groups of receptors and as such constitutes an intra-project assessment of air quality, noise, visual and traffic effects. A residential visual amenity assessment is provided in Appendix 8.3 (**Document 5.8.2.3**) to Chapter 8 Visual Assessment (**Document 5.8**) and this has been considered in the amenity assessment.

#### *Tourism sector assessment*

- 10.2.3 This section pulls together the various strands of tourism assessment in section 9 and considers the potential for a net intra-project cumulative effect on the tourism sector.
- 10.2.4 A summary of all potential effects converging on the tourism sector is presented in Table 17.24.

Table 17.24: Overall assessment of effects on the tourism sector	
Topic	Significance
Amenity effects on tourism businesses	Two tourism accommodation businesses would be subject to a significant amenity effect during construction. Thirteen tourism



Table 17.24: Overall assessment of effects on the tourism sector	
Topic	Significance
	accommodation businesses would be subject to a significant amenity effect during operation, including three with a major effect. Whilst the potential for significant effects on individual businesses is acknowledged, within the context of Anglesey and Gwynedd, the overall effect on the tourism accommodation sector is assessed as <b>not significant</b> (see section 9.5).
Amenity effects on PRowS	Overall the amenity effects on PRowS are assessed to be <b>not significant</b> (see section 9.3).
Amenity effects on tourist attractions and recreational resources	Overall the amenity effects on tourism-related receptors are assessed to be <b>not significant</b> (see section 9.4).
Accommodation demand effects	Effects on tourism accommodation stock are assessed to be <b>not significant</b> (see section 9.8).
Labour availability effects	Employment effects are assessed to be <b>not significant</b> therefore effects on tourism labour availability are considered unlikely (see section 9.10).
Visitor number effects	Effects on visitor numbers and visitor behaviour are assessed to be <b>not significant</b> (see section 9.9).
Accommodation expenditure	Expenditure on tourism accommodation is not expected to result in significant growth in the local economy. Overall the effect

Table 17.24: Overall assessment of effects on the tourism sector	
Topic	Significance
	is assessed to be <b>not significant</b> (see section 9.11).

10.2.5 As illustrated in Table 17.24, no significant effects are anticipated for any of the tourism parameters considered in the assessment. In conclusion, no significant cumulative intra-project effects on the tourism sector in Anglesey and Gwynedd are expected.

10.2.6 Intra-project effects are reported in Chapter 19, Intra-Project Effects (**Document 5.19**).

### 10.3 INTER-PROJECT CUMULATIVE EFFECTS

10.3.1 Inter-project cumulative effects occur when two or more planned developments have an effect on the same receptor leading to an overall effect of greater significance. Note that these 'other developments' are developments that have not yet been constructed and are not operational; where developments are constructed and operational they are considered to form part of the existing baseline.

10.3.2 Chapter 20 Inter-Project Cumulative Effects (**Document 5.20**) presents a methodology for determining whether inter-project cumulative effects could occur as a result of these 'other developments' being built and/or operated at the same time as the Proposed Development. This methodology is based upon the Planning Inspectorate Advice Note 17, which deals with cumulative effects assessment. A long list of other developments needs to be developed and agreed initially. Once this is agreed, the methodology consists of four main stages as follows:

10.3.3 Stage 1: a long list of other developments is identified and outline information gathered. Consideration is given to whether the other development is within the zone of influence (ZOI) for each topic; if it is, then the assessment progresses to stage 2.

10.3.4 Stage 2: consideration is given to the potential temporal overlap i.e. whether the construction or operational effects of the other development could coincide with those of the Proposed Development. Consideration is also given to the scale and nature of the other development, the nature of the receiving environment and whether there are shared receptors, and whether there is a

‘pathway’ for a cumulative effect to occur. At the end of stage 2 a shortlist of other developments is considered in stages 3 and 4.

- 10.3.5 Stage 3: detailed information is gathered about each of the shortlisted other developments, typically in the form of ESs or Scoping Reports.
- 10.3.6 Stage 4: cumulative effects are assessed and mitigation identified, and apportioned, where necessary. The securing mechanism for any necessary mitigation is identified.
- 10.3.7 The potential for cumulative effects to occur is considered for any effects that are minor, moderate or major. However, where the residual effects on a shared receptor are concluded to be negligible for either the Proposed Development or the other development, it is not considered possible for there to be a resulting inter-project cumulative effect. Where all effects related to a particular topic are negligible, for either the proposed Development or other development, the other development is screened out at stage 2.
- 10.3.8 Details about the ‘other developments’ on the long list considered at stage 1 are provided in Chapter 20 Inter-Project Cumulative Effects (**Document 5.20**) and its appendices.

#### *Stage 1 and Stage 2*

- 10.3.9 Table 17.25 provides a summary of stages 1 and 2 of the socio-economic inter-project cumulative effects assessment. Where the effects of other developments are either outside the ZOI or outside the temporal scope of the Proposed Development, they have not been included in this table.
- 10.3.10 The study area for Socio Economics covers a much wider area than most other assessment topics. For the purpose of the Inter-project effect the study area for the Socio Economic assessment typically extends to the administrative areas of Anglesey and Gwynedd. Therefore all the ‘other developments’ on the long list have progressed to stage 2 of the CEA. Table 17.25 therefore provides a summary of stages 2 of the socio-economic inter-project cumulative effects assessment.

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**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
Wylfa Newydd Power Station	Potential overlap between both the construction and operational phases.	<p>Shared receptors: administrative areas of Anglesey and Gwynedd and amenity community receptors.</p> <p>Potential for cumulative effects on shared receptors during the construction phase. Potential effects common to both developments include changes in employment, increased expenditure in the local economy (expenditure and supply chain), increased demand for tourism accommodation, change in visitor numbers and increased demand for accommodation in the private rented sector.</p> <p>During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a '<b>no change</b>' or '<b>no impact</b>' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.</p> <p>Potential for cumulative community amenity effects on shared receptors during the construction phase. The Proposed Development considered a total of 50 community settlements for potential effects on community amenity. Cemaes and Tregele are the nearest communities to the Wylfa Newydd Development Area, located to the north of Anglesey, and bordering the site boundary in some places. The effects from the Proposed Development for Cemaes during construction are assessed as <b>negligible</b> and therefore cumulative effects are considered unlikely and Cemaes are not considered further in this assessment.</p> <p>are not considered further</p>	Yes
Wylfa Nuclear Power Station Decommissioning	Overlap between all phases of the Wylfa Nuclear Power Station Decommissioning and the construction and operation of the Proposed Development.	<p>Shared receptors: administrative areas of Anglesey and Gwynedd.</p> <p>Potential for cumulative effects on shared receptors during the construction phase. Potential effects common to both developments include beneficial and adverse effects on employment.</p> <p>During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a '<b>no change</b>' or '<b>no impact</b>' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.</p> <p>During Decommissioning, Care and Maintenance preparations for the Wylfa Nuclear Power Station Decommissioning, no requirement for permanent workers is expected. During final site</p>	Yes

**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
		clearance, low numbers of staff are anticipated therefore impacts are reported as <b>negligible</b> and cumulative effects are unlikely so are not considered further in this assessment. Effects on visitor numbers due to the closure of the Magnox Information Centre are not considered since the closure of the centre predates construction of the Proposed Development.	
Penrhos Leisure Village	Overlap between the full build out of the sites and the Proposed Development's construction and also an overlap between the operational phases of the developments.	Shared receptors: Administrative areas of Anglesey and Gwynedd. Potential for beneficial cumulative effects on shared receptors during the construction and operational phases resulting from expected increases in employment and expenditure in the local economy. Due to the scale and nature of Penrhos Leisure Village, it is not anticipated that there would be any significant cumulative adverse effects. During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
Anglesey Eco Park	The first phases of the Eco Park would be constructed by 2018 however full development would run to 2020/2021 therefore there is an overlap between the construction phases of this development and the Proposed Development. There would also be an overlap in the operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd. No significant effects are reported from Anglesey Eco Park (Ref 17.72) however, there is potential for beneficial cumulative effects relating to employment and the local economy. It is not expected that there would be any adverse effects. During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
Parc Cybi	The spine road and a truck stop has been completed. The hotel would be completed prior to the construction of the Proposed Development. Other elements of the outline permission may be constructed at the same time as the Proposed Development (timescale currently unknown). There would also be an overlap in the operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd. Potential for beneficial cumulative effects on shared receptors during construction resulting from expected increases in employment and expenditure (expenditure and supply chain) in the local economy. Due to the scale and nature of Parc Cybi, it is not anticipated that there would be any significant cumulative adverse effects. During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed	Yes

**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
		Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	
Rhyd-y-Groes Re-power	Construction works have commenced and are expected to have been completed prior to the construction of the Proposed Development. There would be an overlap in the operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Cumulative effects are unlikely as the development would be operational by the time construction commences on the Proposed Development and there is little potential for shared operational receptors.	No
Holyhead Waterfront Re-development	Construction programme is anticipated to last 7 years in its entirety, which is likely to occur on a phased basis, however, the start date is unknown. Therefore an overlap could occur in construction and operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Potential for beneficial cumulative effects on shared receptors during the construction and operational phases resulting from expected increases in employment, expenditure in the local economy, and visitor numbers. It is not anticipated that there would be any significant cumulative adverse effects.  During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.  Given that the Proposed Development reports expenditure and supply chain effects during construction and the Holyhead Waterfront Redevelopment reports effects during operation, the two assessments are not directly comparable. Effects would not occur at the same time and therefore no cumulative effect would be expected.	Yes
Glyn Rhonwy Pumped Storage	Construction is expected to last four years with the development operational by 2019. However as construction does not appear to have started yet, it is assumed that there could be an overlap between construction and operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Potential for beneficial cumulative effects on shared receptors during construction and operational phases resulting from expected increases in employment, expenditure in the local economy and visitor numbers. It is not anticipated that there would be any significant cumulative adverse effects.  During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes



**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
Underground Grid Connection between Glyn Rhonwy Pumped Storage Development and Pentir Substation	The connection is expected to take less than a year however as the start date is not currently known, it is assumed there could be overlap in the construction and operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Significant cumulative effects are not considered likely due to the short construction period of less than a year, and the planned implementation of appropriate traffic management measures.	No
West Anglesey Demonstration Zone	Marine and planning consent is not currently in place. Therefore timescales are unknown.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Potential for beneficial cumulative effects on shared receptors during construction and operational phases due to creation of temporary construction jobs and long-term jobs during operation. Beneficial effects on the local economy are likely as a result of local expenditure. It is not anticipated that there would be any significant cumulative adverse effects.  During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
Holyhead Deep	0.5 MW unit would be in place prior to the construction of the Proposed Development. Marine and planning consent for the 10 MW scheme are not currently in place. Therefore timescales are unknown.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Potential for beneficial cumulative effects on shared receptors during construction and operational phases resulting from expected increases in employment and investment into the supply chain. It is not anticipated that there would be any significant cumulative adverse effects.  During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
A487 Caernarfon to Bontnewydd Bypass	Overlap between construction phases in 2020 to 2021 and the operational phases.	Shared receptor: administrative areas of Anglesey and Gwynedd.  There is potential for beneficial cumulative effects on the local economy to occur once the development is operational.	Yes



**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
Menai Science Park	The first phase of the development would be completed prior to the construction phase of the Proposed Development however the remainder of the development would take approximately 10 years to complete (more detailed timescale currently unknown) therefore is likely to overlap with both the construction and operation phases of the proposed development.	Shared receptors: administrative areas of Anglesey and Gwynedd.  There is potential for beneficial cumulative effects on the local economy and local employment market to occur during construction and operational phases.	Yes
Third Menai Crossing	Potential for the construction phases to overlap (construction timescale currently unknown anticipated to be 2020/2021 to 2022/2023). The operations phases would also overlap.	Potential shared receptors: administrative areas of Anglesey and Gwynedd and shared communities and PRowS.  There is potential for cumulative amenity effects on shared receptors during the construction phase (communities and PRowS). The communities in closest proximity to the Third Menai Crossing are Bangor, Llanfairpwll and Pentir. The following effects are <b>negligible</b> and are not considered further: construction effects on Bangor and operation effects for all communities. Effects during construction on both Llanfairpwll and Pentir are identified as <b>minor</b> adverse and these are therefore considered further.  PRowS within the above communities are considered for potential cumulative effects. There are no PRowS in Bangor or Llanfairpwll within the study area and a <b>negligible</b> effect is predicted for those within Pentir during both construction and operation. Therefore significant cumulative effects on PRowS are considered unlikely and are not considered further in this assessment.  There is potential for beneficial cumulative effects on the local economy (expenditure) and supply chain.	Yes
A55 Junction 15 & 16 improvements	Potential for the construction phases to overlap (timescales currently unknown but expected to be between autumn 2020 to autumn 2022). The operational phases would also overlap.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Limited socio-economic information is available. Worker numbers are not available but would be expected to be very low. The effects of the A55 junction improvements are likely to be in relation to traffic and transport effects, relating to journey times, accessibility and driver stress, and are therefore unlikely to be relevant to the assessment of socio-economic effects.	No

**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
A55 Abergwyngregyn to Tai'r Meibion Improvement	Overlap between construction phases in 2020 and the operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Limited socio-economic information is available. Worker numbers are not available but would be expected to be very low. The effects of the A55 junction improvements are likely to be in relation to traffic and transport effects, relating to journey times, accessibility and driver stress, and are therefore unlikely to be relevant to the assessment of socio-economic effects.	No
Nant y Garth Landfill Site	Overlap of operation of landfill (time-limited to the end of July 2021) and construction of the Proposed Development.	Shared receptors: communities.  Planning consent was granted subject to the restoration of all trees and shrubs, and the removal of buildings and compounds at the end of the project. It is considered that due to the secluded location of the landfill, the surrounding topography masking the views, and the conditions created to ensure visual amenity of the area, significant cumulative community amenity effects would be unlikely.	No
Caernarfon Brickworks Quarry	Overlap between Proposed Development construction phase and operational phase of the compound and mineral extraction. Overlap of Proposed Development operation and restoration of the quarry.	Shared receptors: administrative areas of Anglesey and Gwynedd.  It is noted in the Caernarfon Brickworks Quarry scoping report (Ref 17.74) that the study area for community effects includes areas within the Caernarfon Brickworks Quarry site boundary and immediate surrounding network of footpaths and open space. Due to the scale and nature of the quarry, and the localised nature of effects, there are unlikely to be any significant cumulative effects.	No
Amlwch Liquid Natural Gas (LNG)	The construction phase may coincide with that of the Proposed Developments depending on planning consent (construction start date currently unknown). Likely to be an overlap in operation phases.	Shared receptors: administrative areas of Anglesey and Gwynedd.  Potential for cumulative effects on the local employment market during construction phase. During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
Green Wire	Timescales currently unknown. If connection in place as per the agreement (completed by end of 2020) there would be an overlap with the OHL and tunnel construction however not with works at Pentir. Likely to be an overlap in operation phases.	Shared receptors: communities  No environmental information is available; however, since both developments are expected to have elements located at Pentir Substation, there is potential for localised cumulative effects on community amenity.  A total of 50 community settlements are considered by the Proposed Development for potential effects on community amenity. Both developments are expected to have elements located at	Yes

**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
		Pentir Substation, resulting in the potential for localised cumulative effects on community amenity.	
Llanbadrig Solar Farm	It is likely that this development would be constructed before the construction phase of the Proposed Development. There would be an overlap with the operational phases.	Shared receptors: communities. A total of 50 community settlements are considered by the Proposed Development for potential effects on community amenity. Both developments have elements located in the community of Bodewryd, therefore there is potential for cumulative amenity effects on this community. However, since the Proposed Development concluded <b>negligible</b> amenity effects for Bodewryd this are not considered further in this assessment as significant cumulative effects are unlikely.	No
Codling Wind Park	On-shore elements are not currently the subject of a planning application therefore timescales are unknown. Potential for overlap between construction and operational phases.	Shared receptors: administrative areas of Anglesey and Gwynedd and communities. There is potential for beneficial cumulative effects on the local employment market and economy during the construction phase, as reported in the ES (Ref 17.70). During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
Grŵp Llandrillo Menai Llangefni Campus	Although some elements would be completed prior to the construction phase of the Proposed Development there is the potential for overlap between the full build out of the site (timescale currently unknown) and the construction of the Proposed Development. There is also overlap between the operational phases of the developments.	Shared receptors: administrative areas of Anglesey and Gwynedd. Potential for beneficial cumulative effects on shared receptors during construction and operational phases due to increases in local employment and increased investment in the local supply chain. During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a ' <b>no change</b> ' or ' <b>no impact</b> ' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.	Yes
Dinorwig Cables	Potential overlap between construction phases (cable installation is programmed for between 2019 and 2025) along with overlap in the operational phases.	Shared receptors: communities. For the Proposed Development a total of 50 community settlements are considered for potential effects on community amenity. There is potential for cumulative community amenity effects due to both developments having elements located at Pentir and Rhiwlas. There is insufficient information as yet about the effects of the Dinorwig Cables development to allow a cumulative assessment to be undertaken and, as such, the potential cumulative effects with the	Yes

**Table 17.25 Summary of Stage 2 of the Inter-Project CEA for Socio Economics**

Development Name	Stage 2		
	Overlap in Temporal Scope?	Scale and Nature of Development likely to have Significant Cumulative Effects? Relevant Shared Receptors and/or Pathways?	Progress to Stage 3/4?
		Proposed Development would need to be a consideration during the relevant assessment and consenting for that development. The Community Amenity Assessment for the Proposed Development concluded <b>minor</b> community amenity effects for Pentir and <b>negligible</b> Rhiwlas; the minor effect therefore has some potential for significant cumulative effects and is considered at stages 3 and 4. are not considered further	
Holyhead Port Expansion	Potential overlap between construction and operational phases.	<p>Share receptors: administrative areas of Anglesey and Gwynedd</p> <p>There is potential for beneficial cumulative effects on shared receptors during construction and operational phases due to increases in local employment and increased investment in the local supply chain, and effects on visitor numbers.</p> <p>During operation of the Proposed Development, activities are expected to be undertaken by existing National Grid employees and the numbers would be expected to be low. Any employment generation that could be directly attributed to the operation of the Proposed Development would be minimal and represent a 'no change' or 'no impact' scenario and therefore cumulative effects on employment during operation are considered unlikely and are not considered further in this assessment.</p> <p>The potential for an effect on visitor numbers and behaviour during construction and operation of the Proposed Development is recognised but on the basis of the available evidence it is considered unlikely that this effect would be realised. In conclusion, no significant effects are anticipated.</p> <p>The Holyhead port expansion is located to the west of Anglesey and approximately 20 km from the Proposed Development. It is therefore considered that during construction and operation, due to the distance of the scheme from the Proposed Development, cumulative effects on visitor numbers are unlikely to be significant and are not considered further in this assessment are not considered further</p>	Yes

### *Stage 3 and Stage 4*

10.3.11 At the end of Stage 2 the original long list of other developments was reduced to a short list of other development where there would be potential for a significant cumulative effect to occur. The short list of other developments is as follows:

- Wylfa Newydd Nuclear Power Station;
- Wylfa Nuclear Power Station Decommissioning;
- Penrhos Leisure Village;
- Anglesey Eco Park;
- Parc Cybi;
- Holyhead Waterfront Redevelopment;
- Glyn Rhonwy Pumped Storage;
- West Anglesey Demonstration;
- Holyhead Deep;
- A487 Caernarfon to Bontnewydd Bypass;
- Menai Science Park;
- Third Menai Crossing;
- Amlwch Liquid Natural Gas (LNG);
- Green Wire;
- Codling Wind Park;
- Grŵp Llandrillo Menai Llangefni Campus;
- Dinorwig Cables; and
- Holyhead Port Expansion.

10.3.12 Stage 3 requires the gathering of detailed information; however, a substantial amount of information about the other developments had already been gathered to support stages 1 and 2.

10.3.13 The results of the Stage 4 assessment of cumulative effects and mitigation are presented in Table 17.26 below.

10.3.14 Professional judgement has been applied in determining whether the combination of effects from two developments could result in a significant effect overall. In the case of minor effects, it is considered highly unlikely that effects could prove to be additive; however, professional judgement has been applied to check that two or more minor effects do not have potential to accumulate, thereby resulting in a potentially significant effect.



Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
Wylfa Newydd Power Station	<u>Community amenity:</u> <b>Minor</b> Adverse for Treglele during construction.	<u>Community amenity:</u> <b>Major</b> Adverse effects for Treglele are anticipated during construction and operation.	The <b>minor</b> adverse effect on Treglele from the Proposed Development during construction is largely as a result of visual effects ( <b>moderate</b> adverse) and so have the potential to combine with the Wylfa Newydd Power Station effects. Visual effects from the Proposed Development are unlikely to be sufficient to result in a change in significance when the two developments are considered cumulatively. The overall cumulative effect is assessed as <b>minor</b> adverse.	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not Significant</b>
	<u>Tourism accommodation (excluding caravan and camping accommodation):</u> Adverse ( <b>not significant</b> ) during construction.	<u>Tourism accommodation (excluding caravan and camping accommodation):</u> <b>Minor</b> Adverse (not significant) during construction.	As shown in Appendix 17.2 ( <b>Document 5.17.2.2</b> ), peak demand for tourism accommodation during construction of the Proposed Development would be 71 (excluding caravan and camping accommodation), compared to headroom of 1,522 (4.6%). It is concluded that the peak construction workforce associated with the Proposed Development could be accommodated without placing significant demand on the existing tourism accommodation stock within the Travel to Work Area (TTWA). For Wylfa Newydd Power Station, it is estimated that the majority of the demand for tourism accommodation would be in Anglesey North and Anglesey West. Based on the available capacity in these areas, <b>no adverse effects</b> on availability are predicted. Nonetheless, it is recognised that uncontrolled access to this stock could create some localised effects. Based on this uncertainty and the sensitivity of this stock. Take up of headroom would increase from 15% to 17% when the two developments are considered cumulatively. The cumulative effect on tourism accommodation in Anglesey north and Anglesey west is assessed as <b>minor</b> adverse.	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not significant</b>
	<u>Tourism accommodation (Camping and caravanning accommodation):</u> Adverse ( <b>not</b>	<u>Tourism accommodation (Camping and caravanning accommodation):</u> Adverse ( <b>not</b>	Peak demand for caravan and camping accommodation during construction of the Proposed Development would be 160, compared to headroom of 4,774 (3.4%). It is concluded that the peak construction workforce associated with the Proposed Development could be accommodated without placing significant demand on the existing tourism	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
	<b>significant</b> ) during construction.	<b>significant</b> ) during construction.	accommodation stock within the TTWA. As such, effects on tourism accommodation are assessed as <b>not significant</b> .  Expected demand for camping and caravan accommodation across the Key Socio-Economic Study Area (KSA) for Wylfa Newydd Power Station is 650 bed spaces, equivalent to 20% of headroom. As such, significant effects on the availability of camping and caravan accommodation are not expected (no conclusion was drawn as to whether the effect is <b>negligible</b> or <b>minor</b> ).  When the two developments are considered cumulatively, the take up of caravanning and camping headroom would increase from 20% to 25%. On this basis, significant cumulative effects are not expected.		greater than the effects considered separately.  <b>Not significant</b>
	<u>Private rented sector:</u> Adverse (not significant) during construction.	<u>Private rented sector:</u> <b>Minor</b> Adverse (not significant).	As a worst case it is estimated that 22% of the construction workforce would take up accommodation in the Private Rented Sector (PRS), equivalent to 100 workers. Considering that construction workers are highly likely to share accommodation, the number of properties required is likely to be substantially lower than 100. On this basis, it is highly unlikely that workers taking up accommodation in the PRS would impact on the functioning of the market.  The assessment for Wylfa Newydd Power Station concludes that the peak construction workforce could absorb around 55% of the estimated capacity within the PRS. In acknowledgement of potential local constraints on this sector, the residual effect of the Wylfa Newydd Power Station on PRS accommodation stock in the KSA during construction is assessed as <b>minor</b> adverse.  Based on headroom in the KSA, this would increase uptake of PRS capacity from 55% to 61%. Given that demand would still be within the available headroom, the overall cumulative effect on the PRS is considered to be <b>minor</b> adverse	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.  <b>Not significant</b>
	<u>Visitor numbers:</u> Adverse (not significant) during construction and operation.	<u>Visitor numbers:</u> <b>Minor</b> Adverse (not significant).	The potential for an effect on visitor numbers and behaviour during construction and operation of the Proposed Development is recognised but on the basis of the available evidence it is considered unlikely that this effect would be realised.	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is



Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			<p>The assessment for the Wylfa Newydd Power Station recognises that the destination brand of Anglesey could be affected by the Wylfa Newydd Power Station. A Tourism Fund is proposed as mitigation as a measure to support the Anglesey tourism sector in terms of destination management.</p> <p>Based on the available evidence, it is considered unlikely that the two developments would combine to create a significant effect on visitor numbers; the overall cumulative effect on visitor numbers is therefore considered to remain <b>minor</b> adverse.</p>		<p>unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> <b>Major</b> Beneficial (significant) during construction and operation.	<p>The peak workforce for the Proposed Development is expected to be in the region of 450 workers, with an approximate monthly average of 218 workers throughout the construction program. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would attract 0.033% of total employment.</p> <p>During construction and operation, changes to employment in the construction sector in the Daily Construction Commuting Zone (DCCZ) resulting from the Wylfa Newydd Power Station are assessed to be <b>major</b> beneficial.</p> <p>Given that the Proposed Development is assessed to have no significant effect on employment, the overall cumulative effect is also assessed as <b>major beneficial</b>, although it is acknowledged that the majority of this benefit would be derived from Wylfa Newydd Power Station.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Significant</b></p>
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and supply chain:</u> <b>Moderate</b> Beneficial	<p>During construction, total expenditure on the Proposed Development is expected to be in the region of £600 million. An estimated £63 million is expected to be contributed to the local economy. Given that the Gross Value Added (GVA) for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction</p> <p>Given that the Proposed Development is assessed to have a beneficial effect (not significant) on expenditure and supply chain, the overall cumulative effect is also assessed as <b>moderate</b> beneficial. It is acknowledged that the majority of this benefit would be derived from Wylfa Newydd Power Station.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Significant</b></p>

**Table 17.26 Socio Economics CEA**

Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
Wylfa Nuclear Power Station Decommissioning.	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> <b>Major</b> Adverse during decommissioning with the residual significance assumed to be <b>Minor</b> Adverse (not significant).	<p>The peak workforce for the Proposed Development is expected to be in the region of 450 workers with an average of 218 workers per month throughout the construction programme. Applying the assumption that 10% of workers are local, the number of jobs filled locally is 22. Applying a multiplier of 1.3 for additionality, the total number of direct and indirect jobs filled from the local resident workforce is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would attract 0.033% of total employment.</p> <p>The decommissioning of the power station would result in the loss of 689 staff (589 staff and 100 contractors) and could result in the loss of a further 108 full time equivalent jobs elsewhere from the local economy. However, employees are expected to be redeployed to other large-scale developments within Anglesey, thereby reducing the effect.</p> <p>As the effect of the Proposed Development is beneficial, whereas the effect of the decommissioning is adverse, there could theoretically be a cumulative reduction in the effects of the decommissioning project; however, the employment generated by the Proposed Development is considered too small to reduce the overall significance. During construction, the cumulative effect on employment is therefore assessed as <b>minor</b> adverse.</p> <p>No cumulative effects are anticipated during operation.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
Penrhos Leisure Village	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> Significant beneficial effect during construction.	<p>On average, 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>The construction of the leisure village would sustain approximately 420 construction jobs each year, of which 110-170 would be employed locally.</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Penrhos Leisure Village also concludes beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>However, during construction, based on the best case of 170 workers employed locally in Penrhos, the overall employment (28+170) of the two</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			developments combined is expected to provide only 0.23% of the total employment in the regions of Anglesey and Gwynedd. Therefore, the cumulative effects are considered not significant.		
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and supply chain:</u> Beneficial	<p>During construction, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction</p> <p>It is expected that construction of the leisure village would benefit the supply chain, particularly for construction materials and services, with up to 40% of all construction expenditure benefiting local construction contractors (Ref 17.58).</p> <p>Similarly, an estimated £7.7m per year is expected to be generated within the local economy by the residents of the new residential housing development.</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Penrhos Leisure Village concludes beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>However, during construction, in the context of a total £3.3 billion per annum GVA in Anglesey and Gwynedd, increase in GVA as a result of the two schemes combined is unlikely to be significant. Therefore, the cumulative effects on the economy are considered to be not significant.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
Anglesey Eco Park	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> Beneficial.	<p>On average, 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>Limited information about the Eco Park development is available; however, it is expected that during construction 800 to 1,000 jobs would be created (Ref 17.56).</p> <p>Socio-economic information is limited; however, given that the Proposed Development concludes beneficial effects (not significant) and the Penrhos</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>

**Table 17.26 Socio Economics CEA**

Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			<p>Leisure Village would have beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>During construction, the overall employment of the two schemes combined is expected to temporarily provide 1.2% of the total employment in the regions of Anglesey and Gwynedd.</p> <p>Therefore, the cumulative effects are considered not significant.</p>		
	<p><u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.</p>	<p><u>Expenditure and supply chain:</u> Beneficial</p>	<p>During construction, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>The overall investment value of the development is estimated at £1 billion (Ref 17.56).</p> <p>The Proposed Development would have a beneficial effect on expenditure and supply chain but the effect would not be significant. Given that the beneficial effects of the Eco Park are likely to be significant, there could theoretically be a significant beneficial cumulative effect, although the majority of this benefit would be derived from the Anglesey Eco Park development.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Significant</b></p>
Parc Cybi	<p><u>Employment:</u> Beneficial (not significant) during construction.</p>	<p><u>Employment:</u> <b>Minor</b> Beneficial (not significant) during construction</p>	<p>On average, 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>The Parc Cybi assessment concludes that employment associated with construction would likely result in a temporary direct increase in the level of local employment. Approximately eight Full Time Equivalent jobs would be employed for the construction of the hotel, however the exact number of construction jobs created across the wider development is not known (Ref 17.59).</p> <p>Given that the Proposed Development would have a beneficial effect (not significant), and Parc Cybi concludes that effects would be <b>minor</b> beneficial, theoretically there could be a beneficial cumulative effect.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>



Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			However, in the context of 85,000 employees in Anglesey and Gwynedd, the cumulative employment effects during construction would be <b>minor</b> . Therefore, the effects on employment are considered not significant.		
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and supply chain:</u> Beneficial.	<p>During construction, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>The Parc Cybi assessment predicts an increase in household income and associated local spending in the community (i.e. local shops and services) from the employed workers living in the surrounding area. Planning permission has also been granted for an 80-bedroom hotel on the site, including a restaurant and bar which is likely to generate £0.4m of GVA, benefiting the local economy (Ref 17.60).</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Parc Cybi development concludes beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>However, in the context of the £3.3 billion GVA in Anglesey and Gwynedd, the combined contribution of the two developments is considered not significant.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
Holyhead Waterfront Redevelopment	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> <b>Moderate</b> Beneficial.	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>During construction, the infrastructure components are likely to involve a minimum of around 100 workers for a minimum of 12 months rising to 200-250 people during subsequent development phases. A high proportion are expected to be sourced locally (Ref 17.62).</p> <p>Given that the Proposed Development concludes beneficial effects (not significant), and the Holyhead Waterfront Redevelopment concludes beneficial effects, there could theoretically be a beneficial cumulative effect.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			<p>However, during construction, applying a best case of 250 local workers, combined with 28 local workers from the Proposed Development results in an overall increase in employment of approximately 0.26%. This represents 0.33% of total employment in the Anglesey and Gwynedd region.</p> <p>Therefore, the cumulative effects are considered not significant.</p>		
	<p><u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.</p>	<p><u>Expenditure and supply chain:</u> <b>Moderate</b> Beneficial (significant) during operation</p>	<p>During construction of the Proposed Development, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>During construction, a <b>moderate</b> positive residual effect is expected in encouraging economically active 18-65 year olds to stay in the locality (Ref 17.62). Similarly, positive effects are expected through support of catering, transportation, retail and accommodation businesses by construction workers outside of the high season.</p> <p>During operation, it is likely that income generation from the marina would be in the region of £6.6 million-£7.7 million per annum directly and indirectly related to marina berths. Substantial income generation to the locality is also expected from the increased residential population and the associated use of new leisure and restaurant facilities resulting in significant permanent economic benefits (Ref 17.62).</p> <p>Given that the Proposed Development reports effects during construction and the Holyhead Waterfront Redevelopment project reports effects during operation, the two assessments are not directly comparable. Effects would not occur at the same time and no cumulative effect would be expected.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not Significant</b></p>
	<p><u>Visitor numbers:</u> Adverse (not significant) during construction and operation.</p>	No information available.	<p>The potential for an effect on visitor numbers and behaviour during construction and operation of the Proposed Development is recognised but on the basis of the available evidence it is considered unlikely that this effect would be realised. In conclusion, no significant effects are anticipated.</p> <p>The Holyhead Waterfront Redevelopment is located to the west of Anglesey and approximately 20 km from the Proposed Development.</p>	No additional mitigation is considered necessary.	<p>Since the Proposed Development concludes no significant effects on visitor numbers, the overall</p>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			It is therefore considered that during construction, due to the distance of the scheme from the Proposed Development, cumulative effects on visitor numbers are unlikely to be significant.		cumulative effect is assessed as not significant. <b>Not significant</b>
Glyn Rhonwy Pumped Storage	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> <b>Minor</b> Beneficial (not significant) during construction.	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>On average there would be up to 100 construction staff on site at any one time. At the peak of construction this could increase to approximately 250 construction staff dependent on the build programme. The assessment concludes that effects on employment would have temporary regional <b>minor beneficial</b> effects (Ref 17.63).</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Glyn Rhonwy Pumped Storage development could also have potential beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>However, during construction, the combined contribution to the employment market of the two developments represents 0.33% of total employment in the Anglesey and Gwynedd region.</p> <p>Therefore, the cumulative effects are considered not significant.</p>	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not significant</b>
	<u>Visitor numbers:</u> Adverse (not significant) during construction and operation.	<u>Visitor numbers:</u> <b>Minor</b> Adverse during construction.	<p>The potential for the Proposed Development to have an effect on visitor numbers and behaviour during construction and operation is recognised but on the basis of the available evidence it is considered unlikely that this effect would be realised.</p> <p>The Glyn Rhonwy Pumped Storage assessment concludes that during construction, increased traffic is expected to result in adverse impacts on local tourism facilities. However, any decrease in tourist visitor numbers due to the construction activities would only be temporary in nature and mitigated through a CTMP (Ref 17.63).</p>	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not significant</b>

**Table 17.26 Socio Economics CEA**

Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			Given that the Proposed Development concludes no significant effects and the Glyn Rhonwy Pumped Storage development reports potential temporary localised <b>minor</b> adverse effects, overall cumulative effects would be expected to remain <b>minor</b> adverse.		
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and supply chain:</u> Indirect <b>Minor</b> Beneficial (not significant) effects during construction and operation.	<p>During construction, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>Indirect effects from Glyn Rhonwy Pumped Storage are expected on the local economy from the use of local services such as accommodation providers, shops and restaurants by construction and decommissioning staff. Given that a proportion of the construction workforce would be outsourced from the local area, there would also be local expenditure in hotels, guest houses and B&amp;Bs (Ref 17.63).</p> <p>During operation of Glyn Rhonwy, permanent effects on the local and regional economy are expected from the increased viability and longevity of the storage network.</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Glyn Rhonwy Pumped Storage development concludes that beneficial effects would be <b>minor</b>, any potential effects on expenditure and supply chain are considered not significant.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
West Anglesey Demonstration Zone	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> Beneficial (significant).	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>The West Anglesey Demonstration Zone development would create temporary construction jobs and long term employment during the operation phase. Where possible, opportunities for local residents and businesses would be maximised (Ref 17.64).</p> <p>Given that the Proposed Development concludes that effects are beneficial but not significant and the West Anglesey Demonstration Zone</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Significant</b></p>



Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			development has potential for significant beneficial effects, the combined effect could be significant.		
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and supply chain:</u> <b>Minor</b> Beneficial (not significant).	<p>During construction, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction</p> <p>Investment into local infrastructure such as Holyhead Harbour, the local transport network and other public services is expected to have <b>minor</b> positive effects on expenditure and supply chain in Anglesey (Ref 17.64).</p> <p>The value of the investment is not provided in the available documentation, however, given that the demonstration project would aim to develop and utilise local supply chains (Ref 17.65), there would be potential for significant beneficial effects on the local economy.</p> <p>Limited data are available on which to base the assessment of cumulative effects; however, given that the Proposed Development would have beneficial effects (not significant), and the demonstration project would potentially have significant beneficial effects, there could theoretically be a significant beneficial effect.</p>	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Significant</b>
Holyhead Deep	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> <b>Minor</b> Beneficial (not significant).	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>A total of seven direct Full Time Equivalent jobs were created at Minesto project headquarter prior to commissioning of Holyhead Deep. Following commission in June 2018 (Ref 17.75), it is expected that additional job opportunities would be created in the areas of project management, engineering, assembly, testing, operations, maintenance and servicing.</p> <p>This is expected to provide <b>minor</b> positive effects in terms of local employment in Anglesey (Ref 17.66).</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Holyhead Deep development reports <b>minor</b> beneficial effects. However, the scale of the Holyhead Deep development is</p>	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not significant</b>

**Table 17.26 Socio Economics CEA**

Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			<p>expected to be on a smaller scale and require a smaller workforce than the Proposed Development.</p> <p>Even if the level of employment was on the same scale as the Proposed Development, the combined schemes would attract only 0.066% (0.033% + 0.033%) of the total employment in Anglesey and Gwynedd.</p> <p>Therefore, the cumulative effects on employment are assessed as not significant.</p>		
	<p><u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.</p>	<p><u>Expenditure and supply chain:</u> Beneficial.</p>	<p>During construction, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum (Ref 17.54), this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>Minesto estimates a potential investment of £10 million associated with the Project. There are also plans to invest in the local economy by sourcing services, facilities, vehicles and office goods locally, which would have a <b>positive effect</b> on the local supply chain in Holyhead and Anglesey (Ref 17.66).</p> <p>The Proposed Development concludes beneficial effects (not significant) and the Holyhead Deep development reports potential beneficial effects. However, in the context of the £3.3 billion GVA in Anglesey and Gwynedd, the combined contribution of the two developments is considered not significant.</p>	<p>No additional mitigation is considered necessary.</p>	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
A487 Caernarfon to Bontnewydd Bypass	<p><u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.</p>	<p><u>Expenditure and supply chain:</u> Beneficial.</p>	<p>During construction of the Proposed Development, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum, this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>Limited environmental information is currently available on the A487 Caernarfon to Bontnewydd Bypass, however, the development is valued at approximately £141 million (Ref 17.72).</p> <p>The Proposed Development concludes beneficial effects (not significant) and the A487 development could also have potential beneficial effects.</p>	<p>No additional mitigation is considered necessary</p>	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Significant</b></p>

**Table 17.26 Socio Economics CEA**

Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			The combined contribution of the two developments (£63 million + £141 million) represents 6.2% of the region's total GVA. This could have a significant beneficial effect on the local economy. However, the majority of the benefit would derive from the A487 Bypass.		
Menai Science Park	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and supply chain:</u> Beneficial.	<p>During construction of the Proposed Development, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum, this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>Limited environmental information is available for the Menai Science Park, however, the development is valued at approximately £20 million (Ref 17.57).</p> <p>Given that the Proposed Development concludes beneficial effects (not significant) and the Menai Science Park development could also have beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>The Menai Science Park development is expected to have a value of approximately £20 million. In the context of the £3.3 billion GVA in Anglesey and Gwynedd, the combined contribution of the two developments is unlikely to be significant.</p>	No additional mitigation is considered necessary	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
Third Menai Crossing	<u>Amenity effects—communities:</u> <b>Minor</b> Adverse (not significant) for Llanfairpwll and Pentir during construction.	No information available.	<p>There is insufficient information as yet about the effects of the other development, and as such the potential cumulative effects with the Proposed Development would need to be a consideration during the relevant assessment and consenting for that development.</p> <p>The Third Menai Crossing Environmental Constraints Plan acknowledges that local communities, facilities would be sensitive to any loss of land or facilities, severance, changes in noise or air quality and social effects; many of these matters could combine to affect overall amenity (Ref 17.67).</p> <p>There is potential for cumulative effects on amenity, however since Pentir and Llanfairpwll are the only communities likely to be affected by both the Proposed Development and the Third Menai Crossing, in the context of the entire study area across Anglesey and Gwynedd, effects on communities are considered not significant.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	No information available.	<p>There is insufficient information as yet about the effects of the other development, and as such the potential cumulative effects with the Proposed Development would need to be a consideration during the relevant assessment and consenting for that development.</p> <p>During construction of the Proposed Development, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum, this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>It is expected that the net present value of the scheme, dependent on the design option chosen, would be in the region of £59 million - £114 million (Ref 17.67).</p> <p>Given that the Proposed Development concludes that effects would be beneficial (not significant) and the assessment for the Third Menai Crossing development indicates the potential for beneficial effects, there could theoretically be a beneficial cumulative effect.</p> <p>A best case scenario would result in a combined value of both schemes of £177 million, representing 5.4% of the GVA for Anglesey and Gwynedd. This could have a significant beneficial effect on the local economy. However, the majority of the benefit would derive from the Third Menai Crossing development.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Significant</b></p>
Amlwch Liquid Natural Gas (LNG)	<u>Employment:</u> Beneficial (not significant) during construction.	Employment: Beneficial.	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>This construction process is expected to take two to three years and would provide approximately 300 new jobs. When the site is operational, a further 60 jobs are expected (Ref 17.68). The original ES was unavailable for review and therefore the significance of these effects is unknown.</p> <p>It is assumed that there would be some effect on local employment and therefore there could theoretically be a beneficial cumulative effect.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>



Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			<p>However, during construction, the combined contribution to the employment market of both developments would increase by 0.35% representing 0.37% of total employment market in the Anglesey and Gwynedd region.</p> <p>During operation, the contribution to total employment would be even lower.</p> <p>Therefore, the cumulative effects are considered not significant.</p>		
Green Wire	<p><u>Amenity effects – communities:</u> <b>Minor</b> Adverse (not significant) for Pentir during construction.</p>	No information available.	<p>There is insufficient information as yet about the effects of the other development, and as such the potential cumulative effects with the Proposed Development would need to be a consideration during the relevant assessment and consenting for that development.</p> <p>Both developments are expected to have elements located at Pentir Substation, there is potential for localised cumulative effects on community amenity.</p> <p>The assessment for the Proposed Development concluded <b>minor</b> community amenity effects. This effect would need to be substantially greater in order to be considered significant.</p>	No additional mitigation is considered necessary.	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
Codling Wind Park	<p><u>Employment:</u> Beneficial (not significant) during construction.</p>	<p><u>Employment:</u> Beneficial.</p>	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>Up to 200 skilled and non-skilled construction workers would be employed during the three to seven-year construction period. A number of these workers are likely to be sourced locally however there is potential for the sourcing of workers from Ireland. Over the lifetime of the windfarm, 15-20 technicians and management staff would also be employed as permanent staff (Ref 17.70).</p> <p>Given that the Proposed Development concludes that effects would be beneficial (not significant) and the Codling Wind Park development concludes potential beneficial employment effects, there could theoretically be a beneficial cumulative effect.</p>	No additional mitigation is considered necessary	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			During construction, applying a best case of 200 local workers, combined with 28 local workers from the Proposed Development, the increase in employment in the context of total employment would be 0.23%. On this basis, cumulative effects on employment are assessed as not significant.		
	<u>Expenditure and supply chain:</u> Beneficial (not significant) during construction.	<u>Expenditure and Supply Chain:</u> Beneficial (not significant).	<p>During construction of the Proposed Development, an estimated £63 million is expected to be contributed to the local economy. Given that the GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum, this represents an overall increase in GVA of 1.9% for a single year of construction.</p> <p>The investment value of the installation of the Codling Wind Park would be around £800m. This could have a significant beneficial impact on the Anglesey and Gwynedd economy.</p> <p>The Proposed Development concludes beneficial effects (not significant) and the Codling Wind Park development reports potential beneficial effects.</p> <p>The combined contribution of the two developments (£63 million + £800 million) represents 26% of the region's total GVA. This could have a significant beneficial effect on the local economy. However, the majority of the benefit would derive from the Codling Wind Park development.</p>	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Significant</b>
Grwp Llandrillo Menai Llangefni Campus	<u>Employment:</u> Beneficial (not significant) during construction.	<u>Employment:</u> Beneficial.	<p>On average 218 workers per month would be required on the Proposed Development throughout the construction programme. The total of direct and indirect jobs filled by locals is 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, the Proposed Development would only attract 0.033% of total employment.</p> <p>The construction of a New Engineering Centre (NEC), hotel and restaurant would create jobs in the long term, which would provide wider economic benefits in terms of indirect job creation and additional goods and services produced locally (Ref 17.71).</p> <p>Given that the assessment for the Proposed Development concludes that effects would be beneficial (<b>not significant</b>) and the Grwp Llandrillo development assessment indicates the potential for beneficial effects, there could theoretically be a beneficial cumulative effect.</p>	No additional mitigation is considered necessary	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not significant</b>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
			Given the employment market in Anglesey and Gwynedd is in the region of 85,000, cumulative effects on employment are assessed as not significant.		
Dinorwig Cables	<u>Community Amenity:</u> <b>Minor</b> Adverse (not significant) for Pentir during construction.	No information available	It is not possible to accurately assess the potential cumulative effects in the absence of further information about the Dinorwig Cables project. However, the constituent topics for the amenity assessment do not combine to identify a significant cumulative effect with this project and the only topic to identify a significant cumulative effect is visual. As there would be little potential for a significant visual effects as a result of the Dinorwig Cables, as they are underground, it is considered unlikely that there could be a significant cumulative effect.	No additional mitigation is considered necessary	<b>Not significant.</b>
Holyhead Port Expansion	Employment: Beneficial (not significant) during construction.	No information available.	There is insufficient information as yet about the effects of the other development, and as such the potential cumulative effects with the Proposed Development would need to be a consideration during the relevant assessment and consenting for that development. However, the scale of the Holyhead Port Expansion development is expected to be on a smaller scale and require a smaller workforce than the Proposed Development. Even if the level of employment was on the same scale as the Proposed Development, the combined schemes would attract only 0.066% (0.033% + 0.033%) of the total employment in Anglesey and Gwynedd. Therefore, the cumulative effects on employment are assessed as not significant.	No additional mitigation is considered necessary.	Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately. <b>Not significant</b>

Table 17.26 Socio Economics CEA					
Development Name	Effects on shared receptors from the Proposed Development	Effects on shared receptors from the 'other development'	Assessment of Cumulative effect with Proposed Development	Proposed Mitigation applicable to the Proposed Development including any apportionment	Residual Cumulative Effect
	Expenditure and supply chain: Beneficial (not significant) during construction.	No information available	<p>There is insufficient information as yet about the effects of the other development, and as such the potential cumulative effects with the Proposed Development would need to be a consideration during the relevant assessment and consenting for that development.</p> <p>However, the port currently contributes more than £2.4m to the Welsh economy each year. Therefore, once operating at full capacity, there is potential for beneficial effects on the economy, although these would be unlikely to be significant.</p>	No additional mitigation is considered necessary	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>
	Visitor Numbers adverse (not significant) during construction and operation.	No information available	<p>The potential for an effect on visitor numbers and behaviour during construction and operation of the Proposed Development is recognised but on the basis of the available evidence it is considered unlikely that this effect would be realised. In conclusion, no significant effects are anticipated.</p> <p>The Holyhead port expansion is located to the west of Anglesey and approximately 20 km from the Proposed Development.</p> <p>It is therefore considered that during construction, due to the distance of the scheme from the Proposed Development, cumulative effects on visitor numbers are unlikely to be significant.</p>	No additional mitigation is considered necessary	<p>Although there is likely to be some cumulative effect, the overall significance is unlikely to be any greater than the effects considered separately.</p> <p><b>Not significant</b></p>



### Conclusion

10.3.15 Taking into consideration all of the 'other developments' for which a potential cumulative effect have been identified, the majority of cumulative effects are beneficial, although in the main these would not be significant. No significant adverse cumulative effects have been predicted.

10.3.16 As can be seen from Table 17.25, on balance, the majority of cumulative effects are beneficial, and the only significant cumulative effects are beneficial effects on employment and the local economy.

Table 17.25: Significance of cumulative effects for all developments	
Significance concluded	Number of developments with this conclusion (cumulatively with the Proposed Development)
Significant Adverse Moderate	None
Significant Adverse Major	None
Adverse (Not significant)	4 – Community Amenity 1 – Tourism Accommodation 1 – PRS 4 – Visitor Numbers
Significant Beneficial Moderate	1 – Local Economy
Significant Beneficial Major	1 – Employment
Beneficial (Significant)	1 – Employment 5 – Local Economy
Beneficial (Not significant)	11 – Employment 7 – Local Economy

### Wylfa Newydd Power Station

10.3.17 This section provides supplementary information that has informed the assessment of cumulative effects for the Proposed Development and the Wylfa Newydd Power Station development. As indicated in Table 17.26, further information is provided under the following headings:

- Tourism accommodation;
- PRS;

- Visitor numbers; and
- Employment.

#### Tourism accommodation

10.3.18 The tourism accommodation assessment for the Proposed Development concludes that the peak construction workforce could be accommodated without placing significant demand on the existing tourism accommodation stock within the TTWA. Effects on tourism accommodation are assessed to be **not significant** (section 9.8).

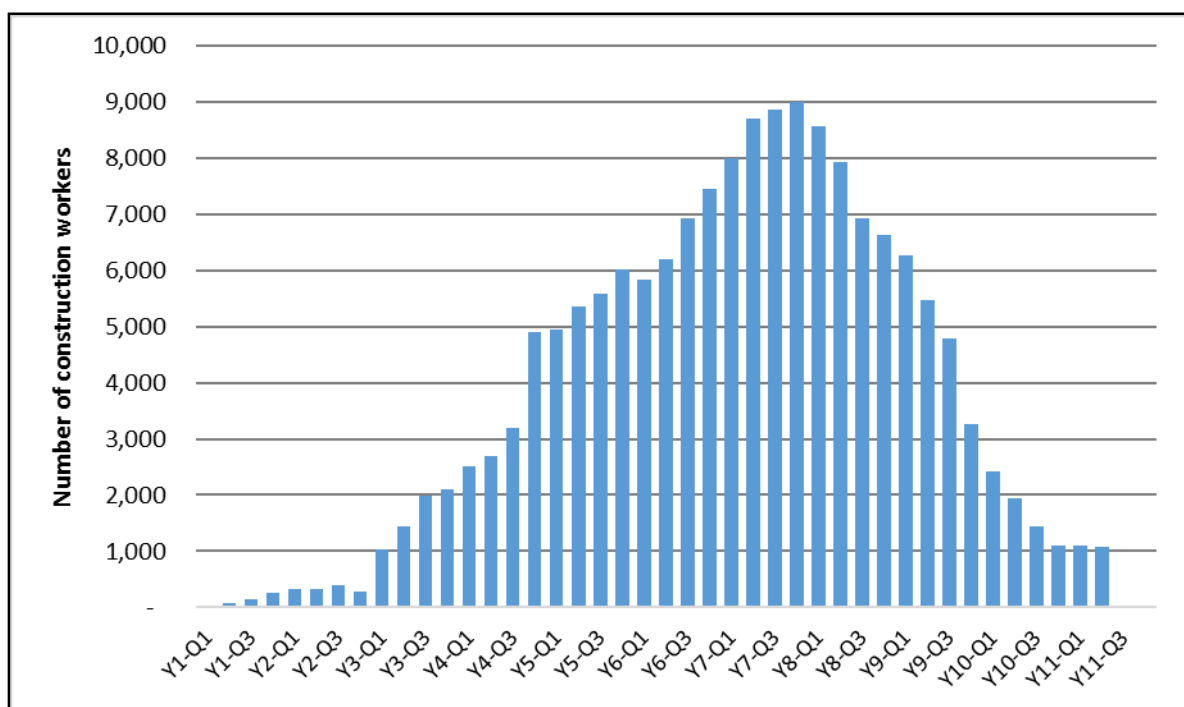
10.3.19 For OHL construction, there would be two main construction compounds; one at Penmynydd Road in Anglesey and the other at Pentir in Gwynedd. There would also be working areas at each pylon site. It is assumed that workers would typically travel to Penmynydd Road or Pentir before moving to the area that they are working on that day. The components of the Proposed Development where work is more static i.e. the Tunnel Head Houses, Cable Sealing End Compounds, and the extension to Pentir Substation, are located in the south of Anglesey and in Gwynedd.

10.3.20 Peak demand for different types of tourism accommodation has been compared against headroom, as presented in Table 17.26. Peak demand for caravan and camping accommodation during construction of the Proposed Development would be 160, compared to headroom of 4,774. Peak demand for tourism accommodation during construction of the Proposed Development would be 71 (excluding caravan and camping accommodation), compared to headroom of 1,522. Note that the 'Tourism accommodation' category includes 'Hotels, guest houses and Bed and Breakfasts' and 'Self-catering' (see Table 17.21). Percent headroom is less than 5% for both categories of accommodation.

Table 17.26: Accommodation bed spaces in the TTWA (2013)				
Subcategory	Bed spaces	Headroom	Peak demand	% headroom taken
Caravan/camping	39,784	4,774	160	3.4%
Tourism accommodation (including hotels, guest houses, bed and breakfasts, and self-catering)	12,287	1,522	71	4.6%

10.3.21 The overall programme for site construction of the Wylfa Newydd Power Station is expected to have a duration of 11 years, as shown in Image 17.9. As a reasonable worst case scenario, the following cumulative assessment assumes that the peak workforce occurs concurrently on the two developments.

**Image 17.9 Construction workforce programme, Wylfa Newydd Power Station**



10.3.22 The Construction Workers Accommodation Strategy for the Wylfa Newydd Power Station includes provision of a temporary accommodation campus for 4,000 workers, within the Wylfa Newydd Development Area (WNDA)<sup>6</sup>. Around 2,000 workers are expected to be local residents commuting daily from their homes (Ref 17.52). This means that there would be 3,000 workers remaining who would require accommodation within reasonable commuting distance of the WNDA.

<sup>6</sup> The WNDA represents the indicative areas of land and sea that would be used for the construction and operation of the Power Station. This area is representative of the maximum area that would be physically affected by the construction of the power station.

10.3.23 Various measures have been proposed for the Wylfa Newydd Power Station to mitigate any effects, including:

- Worker Accommodation Management Service (previously called the Construction Worker Accommodation Management Portal) organised and administered by a Managing Agent and supported by an Oversight Board;
- Construction and management of a Site Campus (including embedded services and facilities) to accommodate up to 4,000 workers; and
- Funding for the provision of housing needs in the local communities.

Camping and caravan accommodation

10.3.24 As illustrated in Table 17.27 for the Wylfa Newydd Power Station, the expected demand for camping and caravan accommodation across the Key Socio-economic Study Area (KSA) is 650 bed spaces, equivalent to 20% of headroom. As 80% of the headroom would remain, significant effects on the availability of camping and caravan accommodation are not expected (no conclusion was drawn as to whether the effect is negligible or minor).

10.3.25 As illustrated in Table 17.27 for the Wylfa Newydd Power Station, the expected demand for tourism accommodation (excluding caravan and camping accommodation) across the KSA is 450 bed spaces, equivalent to 15% of headroom. The assessment of significance of this demand is presented below.

10.3.26 When the two projects are considered cumulatively, the take up of caravanning and camping headroom would increase from 20% to 25%. As 75-80% of the headroom remains, significant cumulative effects are not expected.

10.3.27 For tourism accommodation (excluding caravan and camping accommodation), the take up of headroom would increase from 15% to 17% when the two projects are considered cumulatively. As 85-83% of the headroom remains, significant cumulative effects are not expected.

**Table 17.27: Tourism accommodation cumulative assessment**

	Caravan & camping accommodation	Tourism accommodation
Headroom in the KSA	3,275	3,101

Table 17.27: Tourism accommodation cumulative assessment		
	Caravan & camping accommodation	Tourism accommodation
Peak demand – Horizon Nuclear Power (HNP)	650	450
HNP demand as a % of headroom	20%	15%
Peak demand - Proposed Development	160	71
Cumulative demand	810	521
Cumulative demand as a % of headroom	25%	17%

10.3.28 No additional mitigation measures for the Proposed Development are considered necessary, given the predicted effects are not significant.

Tourism accommodation (excluding caravan and camping accommodation)

10.3.29 For Wylfa Newydd Power Station, it is estimated that the majority of the demand for tourism accommodation (291 of the total 450 bed spaces, excluding caravan and camping accommodation) would be in Anglesey North and Anglesey West. As the headroom in these areas is estimated to be approximately 1,136 bed spaces (excluding caravan and camping accommodation), **no adverse effects** on availability are predicted (26% of headroom is absorbed in Anglesey North and Anglesey West). Nonetheless, it is recognised that uncontrolled access to this stock could create some localised effects. Based on this uncertainty and the sensitivity of this stock, the potential effect on tourism accommodation in Anglesey North and Anglesey West is assessed as **minor adverse**.

10.3.30 For Wylfa Newydd Power Station, the estimated tourism accommodation demand in Anglesey South and the Menai Mainland is 159 (excluding caravan and camping accommodation), compared to headroom of 1,966, equivalent to 8.1% of headroom. No adverse effects on availability are predicted (no conclusion was drawn as to whether the effect is negligible or minor).

10.3.31 Given the low number of workers on the Proposed Development compared to Wylfa Newydd Power Station, and given that workers on the Proposed Development are likely to concentrate in the south of Anglesey and on the mainland, it is considered highly unlikely that workers on the Proposed Development would concentrate in sufficient numbers to alter the pressure on

demand in Anglesey North and Anglesey West created by the power station project. The overall cumulative effect on tourism accommodation (excluding caravanning and camping) is therefore considered to remain **minor adverse**.

10.3.32 No additional mitigation measures for the Proposed Development are considered necessary, given the predicted effects are **not significant**.

#### Private Rented Sector

10.3.33 For the Proposed Development, as a worst case, it is estimated that 100 workers would take up accommodation in the PRS at the peak of construction. Headroom in the PRS is estimated as 345 for Anglesey and 646 for Gwynedd.

10.3.34 It is highly unlikely that all 100 workers would take up single-occupancy of private rental households, and highly unlikely that they would only locate themselves in Anglesey. It is much more likely that, due to the constraints imposed on affordability by the industry standard nightly subsistence allowance, workers would share accommodation, and would be spread across locations in both Anglesey and Gwynedd. On the basis of two workers per household, these 100 workers would take up 5.0% of the available PRS headroom in Anglesey and Gwynedd. If Anglesey PRS headroom only is considered, this figure is 14%. If Gwynedd headroom only is considered, this figure is 7.7%. On this basis, it is highly unlikely that workers taking up accommodation in the PRS would impact on the functioning of the market. The effect is therefore assessed as **not significant** for the Proposed Development alone.

10.3.35 According to the assessment for the Wylfa Newydd Power Station, the number of available bed spaces within the PRS (i.e. the headroom) is estimated to be 1,649. It is estimated that 900 workers seeking accommodation within the KSA would seek to move into the PRS. The assessment concludes that the peak construction workforce could absorb around 55% of the estimated headroom within the PRS market, and that the residual effect on availability of bed spaces within the PRS for non-home-based workers in the KSA would be **minor adverse** (not significant).

10.3.36 Based on headroom in the KSA, the cumulative effect of Wylfa Newydd Power Station and the Proposed Development would increase uptake of PRS headroom to 61%. Given that demand would still be within the available headroom, the overall cumulative effect on the PRS is considered to be **minor adverse (not significant)**, as supply would continue to be greater than demand.

### Visitor numbers

- 10.3.37 The potential for a significant effect on visitor numbers and behaviour as a result of the Proposed Development is recognised but it is considered unlikely that this effect would be realised. Based on the available evidence, effects of the Proposed Development alone are assessed to be **not significant**.
- 10.3.38 The assessment for the Wylfa Newydd Power Station states that visitor behaviours may change in response to the construction of the Power Station. These changes may include visitors choosing to undertake different activities while in Anglesey, staying for shorter periods of time, reducing the likelihood of repeat visits, or choosing not to visit at all. The results of the visitor behaviour survey suggest that the actual number of tourism visits that may be lost during construction is likely to be small; however, there is recognition that there could be a potentially significant loss in tourism revenue as a result of a small reduction in visitor numbers.
- 10.3.39 To mitigate any effects of reduced visitation on the tourism sector, a number of mitigation measures are proposed. A Tourism Fund is to be established (terms to be finalised) to provide a funding mechanism for early action to support the Destination Anglesey Management Plan (Ref 17.49) and provision of additional support to boost Visit Wales's 'Wales Visitor Survey'; 'Business Barometer' as well as local accommodation assessments. The data from these would provide evidence of changes in visitor numbers locally and where changes can be linked back to the Wylfa Newydd Power Station, requests for funding can be made.
- 10.3.40 A temporary visitor viewing area would also be provided during the construction phase to provide safe access for visitors to witness the construction of the power station. This area would also provide a potential draw to visitors to the north of the island thereby supporting the tourism businesses in the area and mitigating the potential for localised changes in visitor distribution around the island.
- 10.3.41 The assessment for Wylfa Newydd Power Station highlights the challenge in assessing effect on visitor numbers, noting the significant natural fluctuation within local visitor figures. Notwithstanding the recognised uncertainty, the potential effect is assessed to be **minor adverse**.
- 10.3.42 Based on the available evidence, it is considered unlikely that the two developments would combine to create a significant effect on visitor numbers; the overall cumulative effect on visitor numbers is therefore considered to remain **minor adverse**.

10.3.43 No significant cumulative effect on visitor numbers is expected and no further additional mitigation measures are proposed.

#### Employment

10.3.44 Employment generation for the Proposed Development is expected to be fairly modest (a peak of 447 workers for Scenario 3). Based on average monthly worker numbers over the duration of the Proposed Development of 218, the number of direct and indirect jobs created locally is estimated to be 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, this new job creation would constitute 0.033% of total employment. The effect on local employment is therefore assessed to be **not significant**.

10.3.45 It is expected that at peak construction up to 9,000 workers would be required for the Wylfa Newydd Power Station. They would consist of construction workers along with facilities management staff and operational staff. It is estimated that a further 2,000 jobs would be created in the construction commuting zone as a result of suppliers providing goods to the Wylfa Newydd Power Station and people employed by the development spending more money and requiring extra services, thereby supporting jobs in other areas of the economy.

10.3.46 For the Wylfa Newydd Power Station it is estimated that approximately 1,260 home-based workers would be sourced from Anglesey, accounting for approximately 63% of the total home-based workers (approximately 2,000) required for the project (Ref 17.52). The assessment concludes that this additional employment from the home-based workers represents an increase of 4% in employment levels in Anglesey. The significance of these effects is assessed to be **major beneficial (significant)** (Ref 17.52).

10.3.47 The majority of Horizon workers (90%+) would require special skill capability and security clearance, which may deter potential workers or lead to a skills shortage if specialist trades or skills cannot be recruited. Some ancillary (non-specialist) construction workers would also be required, for example, for the construction of the temporary accommodation blocks.

10.3.48 During construction and operation, changes to employment in the construction sector in the Daily Construction Commuting Zone (DCCZ)<sup>7</sup> are

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<sup>7</sup> The DCCZ is the defined area for assuming reasonable daily commuting behaviour to the Wylfa Newydd Development Area during the construction and operation of the Wylfa Newydd Power Station.



assessed to be **major beneficial**. The change in overall resident-based employment in Anglesey is also assessed to be **major beneficial**.

10.3.49 Given that the Proposed Development is assessed to have no significant effect on employment, the overall cumulative effect is also assessed as **major beneficial**, although it is acknowledged that the majority of this benefit is derived from Wylfa Newydd Power Station.

# 11 Summary

## 11.1 INTRODUCTION

- 11.1.1 A summary of all potential residual effects, cumulative effects, mitigation and enhancement is presented in Table 17.28, Table 17.29, and Table 17.30.

### *Welsh language*

- 11.1.2 As reported in the WLIA (**Document 5.26**), a minor adverse effect on Welsh language is anticipated as a result of in-migration. The measures included in the CEMP are considered appropriate and sufficiently robust to mitigate this effect. All other effects on Welsh language were assessed as neutral or negligible, as presented in **Document 5.26**. In conclusion, no residual effects on Welsh language are anticipated.

Table 17.28: Potential Socio-economic Effects of the Proposed Development: Amenity Effects						
Potential effects	Receptors	Receptor-based significance	Overall significance for Study Area	Mitigation	Residual significance for Study Area	Significant/Not significant
Community amenity effects	50 communities	<u>Construction</u> 13 communities assessed as having minor adverse effects, 37 communities assessed as having negligible effects. <u>Operation</u> 10 communities assessed as having minor adverse effects, 39 communities assessed as having negligible effects. One community was not within the study area during operation.	Not significant	None required	N/A	Not significant
Amenity effects on PRowS	11 PRowS are part of the Wales Coast Path, 4 PRowS connect to the Wales Coast Path, and 2 are NCRs	<u>Construction</u> 10 PRow assessed as having minor adverse effects, 7 PRow assessed as having negligible effects. <u>Operation</u> 17 PRow assessed as having negligible effects.	Not significant	None required	N/A	Not significant
	178 'other' footpaths	<u>Construction</u> 2 footpaths assessed as having minor adverse effects, 176 footpaths assessed as having negligible effects. <u>Operation</u> 178 footpaths assessed as having negligible effects.	Not significant	None required	N/A	Not significant
Amenity effects on tourist attractions and recreational resources	37 receptors within 10 km	<u>Construction</u> 7 receptors assessed as having negligible effects, 30 are not in the study area. <u>Operation</u> 4 receptors assessed as having minor adverse effects, 17 assessed as having negligible effects, 16 are not in the study area.	Not significant	None required	N/A	Not significant

Table 17.28: Potential Socio-economic Effects of the Proposed Development: Amenity Effects						
Potential effects	Receptors	Receptor-based significance	Overall significance for Study Area	Mitigation	Residual significance for Study Area	Significant/Not significant
Amenity effects on commercial receptors (tourism businesses)	63 tourism businesses	<p><u>Construction</u></p> <p>2 businesses were assessed as having moderate effects, 11 were assessed as having minor adverse effects, 42 were assessed as having negligible effects, 8 were not in study area.</p> <p><u>Operation</u></p> <p>3 businesses were assessed as having major effects, 10 were assessed as having moderate effects, 5 were assessed as having minor adverse effects, 14 were assessed as having negligible effects and 31 were not in study area.</p>	<p>A total of 2 out of 63 businesses (3%) would experience significant effects during construction.</p> <p>A total of 13 out of 63 businesses (21%) would experience significant effects during operation.</p> <p>Although individual receptors could experience a significant effect, in the context of the overall study area (63 receptors), effects are assessed as not significant.</p>	None required	N/A	Not significant
Amenity effects on commercial receptors (non-tourism businesses)	130 non-tourism businesses	<p><u>Construction</u></p> <p>3 businesses assessed as having minor adverse effects, 87 assessed as having negligible effects and 40 are not in study area.</p> <p><u>Operation</u></p> <p>4 businesses assessed as having minor adverse effects, 23 assessed as having negligible effects and 103 are not in study area.</p>	Not significant	None required	N/A	Not significant

**Table 17.29: Potential Socio-economic Effects of the Proposed Development: Land Use Effects**

Potential effects	Key receptors	Sensitivity	Mitigation	Residual Magnitude	Significance
Land-take and access (non-agricultural land)	There are no land use effects that could result in a temporary or permanent restriction or change to the current use of land, and there is no severance of access.	N/A	N/A	N/A	Not significant

**Table 17.30: Potential Socio-economic Effects of the Proposed Development: Wider Effects**

Potential effects	Key receptors	Sensitivity	Mitigation	Assessment	Significance
Pressure on supply of tourism accommodation	Tourism accommodation sector	N/A	N/A	The peak construction workforce would take up 5.4% of bed spaces in hotels, guest houses and Bed and Breakfasts, and 3.7% of bed spaces in self-catering. Only 3.3% of available caravan and camping bed spaces would be taken up. It is concluded that workers would not place significant demand on the existing tourism accommodation stock within the TTWA.	Not significant
Pressure on supply of private rented accommodation	Accommodation in the PRS	N/A	N/A	As a worst case it is assumed that 100 workers would take up accommodation in the PRS. On the basis of two workers per household, these 100 workers would take up 5.0% of the available headroom in Anglesey and Gwynedd. No significant effect on the PRS is expected.	Not significant
Change in visitor numbers or visitor behaviour	Tourism sector economy	N/A	N/A	The potential for a significant effect on visitor numbers and behaviour is recognised but it is considered unlikely that this effect would be realised. No significant effect on visitor numbers is expected.	Not significant
Adverse and beneficial employment effects	Local economy	N/A	N/A	The total number of direct and indirect jobs created during construction is estimated to be 28. Considering that total employment in Anglesey and Gwynedd is in the region of 85,000, this new job creation would constitute 0.033% of total employment. No significant effect on employment is expected.	Not significant
Adverse and beneficial expenditure effects	11.1.3 Local economy	N/A	N/A	The additional supply chain benefits and expenditure on tourism accommodation amount to an estimated £63 million over the five-year construction period. Given that the combined GVA for Anglesey and Gwynedd is in the region of £3.3 billion per annum, this represents a 1.9% increase in GVA in any single year during construction. The effect on economic growth is assessed as not significant.	Not significant

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