Partners in UK offshore wind

MORGAN OFFSHORE WIND PROJECT: GENERATION ASSETS

Preliminary Environmental Information Report

Volume 2, chapter 18: Socio-economics

Image of an offshore wind farm

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FINAL

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Glossary

Term	Meaning
Full-time equivalent (FTE)	Indicates the work time of an employed person in a way that makes jobs comparable (e.g. a Full Time Equivalent (FTE) of 1.0 is equivalent to a full time worker, while an FTE of 0.5 signals half a full time worker.
Local Impact Area	Term used in Morgan Generation Assets Scoping Report to describe potential sub-national study areas. Term now superseded by 'socio-economics regional study area'. Appears in some statutory consultation responses in Table 18.7.
Offshore Energy Alliance	The Offshore Energy Alliance is a newly established offshore and energy supply chain cluster for the North Wales and North West region of the UK. The Alliance is a collective of public and private partners who work together under one umbrella, to promote wider involvement in offshore wind and other low carbon energy sectors.
Person-years employment	The term 'person year' in employment terms is often used in construction labour reporting, in which one construction person year represents the work done by one person in a year comprising a standard number of working days. This method of measuring jobs created is important, as many workers working on the Morgan Generation Assets will work for a fixed period or be involved in other projects in parallel.
International Territorial Level 1	Geocode standard for referencing the subdivisions of the United Kingdom for statistical purposes, used by the Office for National Statistics (ONS). ITL1 statistical regions correspond with the regions of the UK as used by the ONS.
Standard Industrial Classification 2007	The current Standard Industrial Classification (SIC) used in classifying business establishments and other statistical units by the type of economic activity in which they are engaged.
Travel to Work Area	A Travel to Work Area is a statistical tool to indicate an area where a population would generally commute to a larger town, city or conurbation for the purposes of employment.

Acronyms

Acronym	Description
AONB	Area of Outstanding Natural Beauty
BRES	Business Register and Employment Survey
CEA	Cumulative Effects Assessment
CII	Construction impact industries
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
DLUHC	Department for Levelling Up, Housing and Communities
EIA	Environmental Impact Assessment
ES	Environmental Statement
FTE	Full Time Equivalent
GB	Great Britain
GDP	Gross Domestic Product
GVA	Gross Value Added
HJA	Hardisty Jones Associates
IACC	Isle of Anglesey County Council
IEMA	Institute of Environmental Management and Assessment
ILO	International Labour Organization
IPPR	Institute for Public Policy Research
ITL1	International Territorial Level 1
LEP	Local Enterprise Partnership
LIA	Local Impact Area
MDS	Maximum Design Scenario
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
MMO	Marine Management Organisation
N/A	Not Applicable
NIA	National Impact Area
NFER	National Foundation for Educational Research
NPS	National Policy Statement
OBR	Office for Budget Responsibility
OMII	Operations and maintenance impact industries
ONS	Office for National Statistics
ORE	Offshore Renewable Energy
OTNR	Offshore Transmission Network Review
OWIC	Offshore Wind Industry Council
PAYE	Pay As You Earn
PEIR	Preliminary Environmental Information Report
PPW	Planning Policy Wales
RYA	Royal Yachting Association

Acronym	Description
SIC	Standard Industrial Classification
SIC07	Standard Industrial Classification 2007
SLVIA	Seascape, Landscape, and Visual Impact Assessment
SOV	Service Operation Vessel
TAN	Technical Advice Note
TTWA	Travel to Work Area
UK	United Kingdom
UNESCO	The United Nations Educational, Scientific and Cultural Organization
WTA	Wales Tourism Alliance
ZTV	Zone of Theoretical Visibility

Units

Unit	Description
%	Percentage
£	Pound Sterling
£ m	Million pounds
£ bn	Billion pounds
m^2	Square Metres

18 Socio-economics

18.1 Introduction

18.1.1 Overview

18.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the assessment of the potential impact of the Morgan Offshore Wind Project Generation Assets (hereafter referred to as the 'Morgan Generation Assets') on socio-economics (including tourism and recreation).

18.1.1.2 The Morgan Offshore Wind Project and the Morecambe Offshore Windfarm (developed by Cobra Instalaciones Servicios, S.A. and Flotation Energy plc) were scoped into the Pathways to 2030 workstream under the Offshore Transmission Network Review (OTNR). Under the OTNR, the National Grid Electricity System Operator is responsible for conducting a Holistic Network Design Review to assess options to improve the coordination of offshore wind generation connections and transmission networks. The output of this process concluded that the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm should work collaboratively on a coordinated grid connection at Penwortham in Lancashire.

18.1.1.3 The Morgan Offshore Wind Project and Morecambe Offshore Wind Ltd are seeking consent for transmission assets comprising shared offshore export cable corridors to landfall and shared onshore export cable corridors to onshore substation(s), and onward connection to the National Grid electricity transmission network at Penwortham, Lancashire. This will be delivered as part of a separate application for consent and therefore this chapter of the PEIR provides an outline description of the Morgan Offshore Wind Project Generation Assets (hereafter referred to as the Morgan Generation Assets).

18.1.1.4 This chapter also assesses the likely significant effects of the Morgan Generation Assets on onshore receptors (landward of Mean Low Water Springs (MLWS) during the construction, operations and maintenance, and decommissioning phases.

18.1.1.5 With respect to the Morgan Generation Assets (as with other similar projects), there is a complexity with the socio-economic impacts associated with generation activities manifesting both onshore and offshore. This chapter's approach is focused on the 'source' of the impact, rather than the ultimate location of the physical infrastructure. This is consistent with the broader approach to assessing potential effects:

- Generation: if physical infrastructure and civil works are associated with the Morgan Generation Assets, any resulting potential impacts are assessed within this chapter. This is regardless of whether the impact manifests offshore or onshore.
- Transmission: if physical infrastructure and civil works are associated with the Morgan and Morecambe Offshore Wind Farms Transmission Assets, any resulting potential impacts are excluded from assessment of the project in isolation and are considered as part of the cumulative effects assessment instead. The potential impacts associated with the Morgan and Morecambe Offshore Wind Farms Transmission Assets will be assessed as part of a separate Development Consent Order (DCO) application. This chapter presents a cumulative assessment of the Morgan Generation Assets with the Morgan and Morecambe Offshore Wind Farms Transmission Assets in section 18.10.

18.1.1.6 The assessment presented is informed by the following technical chapters:

- Volume 2, chapter 11: Commercial fisheries of the PEIR
- Volume 2, chapter 12: Shipping and navigation of the PEIR
- Volume 2, chapter 14: Other sea users of the PEIR
- Volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR.

18.1.1.7 This chapter also draws upon information contained within volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR.

18.1.2 Purpose of chapter

18.1.2.1 The primary purpose of the PEIR is outlined in volume 1, chapter 1: Introduction of the PEIR. In summary, the primary purpose of an Environmental Statement is to support the DCO application for the Morgan Generation Assets under the Planning Act 2008 (the 2008 Act). The PEIR constitutes the Preliminary Environmental Information for the Morgan Generation Assets and sets out the findings of the Environmental Impact Assessment (EIA) to date to support the pre-application consultation activities required under the 2008 Act. The EIA will be finalised following completion of pre-application consultation and the Environmental Statement will accompany the application to the Secretary of State for Development Consent.

18.1.2.2 The PEIR forms the basis for statutory consultation which will last for 47 days and conclude on 28 May 2023 as outlined in volume 1, chapter 2: Policy and legislation of the PEIR. At this point, comments received on the PEIR will be reviewed and incorporated (where appropriate) into the Environmental Statement, which will be submitted in support of the application for Development Consent scheduled for quarter four of 2023.

18.1.2.3 In particular, this PEIR chapter:

- Presents the existing environmental baseline established from desk studies and consultation
- Identifies any assumptions and limitations encountered in compiling the environmental information
- Presents an assessment of the potential environmental impacts on socio-economics arising from the Morgan Generation Assets, based on the information gathered and the analysis and assessments undertaken
- Presents the possible environmental effects from the assessment
- Highlights any necessary mitigation and/or monitoring measures which could prevent, minimise, reduce or offset the possible environmental effects of the Morgan Generation Assets on socio-economics.

18.1.3 Potential socio-economics impacts

18.1.3.1 A range of potential impacts on socio-economics have been identified which may occur during the construction, operation and maintenance, and decommissioning phases of the Morgan Generation Assets project. A detailed discussion of these impacts can be found in section 18.6. The impacts that have been scoped into the assessment are:

- The impact on economic receptors including employment, GVA, and supply chain demand
- The impact of increased employment opportunities
- The impact on the demand for housing, accommodation and local services
- The impact on tourism and recreation.

18.1.4 Socio-economics study area(s)

18.1.4.1 The identification of the socio-economics study areas for the impact analysis has taken account of the spatial scale at which impacts upon different receptors are likely to materialise (i.e. to take effect). This is likely to vary across receptors and will therefore require a regional study area and a larger national study area, separated between socio-economics receptors respectively (Figure 18.1).

18.1.4.2 Potential expenditure on the following activities associated with the construction phase of the Morgan Generation Assets could support employment in companies that are directly engaged in the development, fabrication, and installation supply chain:

- Wind turbine manufacturing and supply – blades, nacelle, hub, tower
- Balance of plant manufacturing and supply – foundations, inter-array cables, Offshore Substation Platforms (OSPs), and interconnector cables
- Construction and installation of wind turbines and balance of plant– wind turbine, foundation and inter-array cable

18.1.4.3 Potential expenditure on the following activities associated with the operations and maintenance of the Morgan Generation Assets could support employment in companies that are directly engaged in the operations and maintenance supply chain:

- Wind turbine maintenance and servicing
- Balance of plant and transmission maintenance and servicing
- Vessel and crew activity
- Service Operation Vessels (SOV)
- Guard vessels.

18.1.4.4 Potential expenditure on decommissioning of wind turbines and balance of plant associated with the Morgan Generation Assets could support employment in Welsh and UK companies that are directly engaged in the decommissioning supply chain. The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known. No plans are in place to consider potential locations for decommissioning support ports. Given the need for large lay down areas, within the relevant consenting authorities of England and Wales the ports identified as being under consideration for the construction phase would have the greatest potential to accommodate decommissioning activities based on current circumstances. The workforce for the decommissioning of the offshore parts of the Morgan Generation Assets is likely to be supported in a similar way to installation, with the process taking place in reverse (i.e. construction phase activities minus fabrication).

18.1.4.5 The level at which impacts upon different receptors are likely to materialise is as follows:

- Socio-economics receptors: regional and national
- Community receptors: regional.

Socio-economics national study area(s)

18.1.4.6 National socio-economics study areas are defined to reflect the wider reach of Gross Value Added (GVA) and employment impacts that may materialise through the supply chain and demand for labour. As such, two socio-economics national study areas have been identified:

- United Kingdom (UK): understanding the UK content of potential economic impacts associated with offshore wind farm developments is an important aspect of considering a project's potential benefits. It is recognised, therefore, that assessing the potential impacts of the Morgan Generation Assets at the UK level will assist the Planning Inspectorate in its examination of the project application.
- Wales: assessing the potential impacts of the Morgan Generation Assets at the Wales level will assist the Planning Inspectorate in understanding the Morgan Generation Assets' potential economic benefits on a devolved nation with potential ports listed in Table 18.1. Wales can be defined as both a nation and a region of the UK. For the purposes of this assessment, Wales is defined as a nation.

Socio-economics regional study area(s)

18.1.4.7 The socio-economics regional study areas are linked to the selection of potential construction, operations and maintenance, and decommissioning ports that will support the associated supply of a range of inputs and services for the Morgan Generation Assets. These potential ports, and their socio-economic catchment areas are anticipated to focal points of impacts on socio-economic receptors. The selection process associated with the identification of ports, inputs and services is not expected to conclude until the post-consent phase Morgan Generation Assets, which is typical for offshore wind farms.

18.1.4.8 The following approach has been followed to define potential regional study areas:

Step 1:

- Identification of port facilities that are potential options for construction and/or operations and maintenance bases.

Step 2:

- Assess socio-economics study area(s) associated with potential port facilities

Step 1 – Identify port facilities that are viable options for construction and/or operations and maintenance bases

18.1.4.9 Assumptions adopted as part of this analysis are to inform the assessment alone and have been determined based on a consideration of ports well placed to service offshore developments within the Irish Sea. The final selection of ports, potential manufacturing and fabrication facilities, and delivery models required for the Morgan Generation Assets project has not yet been determined. The Applicant will explore ports, supporting infrastructure and labour markets to understand the potential capabilities, capacities and availability that exists. Subject to these findings, more than one port could be used to support elements of the construction, operations and maintenance, and decommissioning phases of the Morgan Generation Assets as part of a wider supply chain. Final selection of ports, potential manufacturing and fabrication facilities, and delivery models will be subject to ongoing engineering and procurement considerations – the use of assumptions for the purposes of this assessment does not indicate any preference or imply any decision.

18.1.4.10 To ensure the assessment is proportionate, it concentrates on ports within the relevant planning jurisdiction of England and Wales in proximity to the Irish Sea. Therefore, ports in north Wales and northwest England are considered as part of this assessment.

18.1.4.11 The number of ports involved in the project lifetime of an offshore wind farm can vary depending on the size and location of the project. Typically, an offshore wind farm project will require multiple ports throughout its lifetime, broadly covering the following:

- Fabrication port (construction phase): as technology develops and the size of offshore wind farm components continues to increase, the need to manufacture components in close proximity to the waterside also grows due to the challenges of transporting large components by road or railway. Components such as blades, towers, foundations, cables, and offshore substations will therefore typically require fabrication at a port (i.e. within reasonable proximity of the waterside). Components are typically built at the fabrication port and subsequently transferred to a marshalling port (assuming these are not the same port). The fabrication port delivering any component can be based anywhere in the world.
- Marshalling port (construction phase): serves as a hub for the coordination of components, equipment, and workforce during the construction phase, including storage and distribution. The marshalling port(s) will also serve as the staging area for installation and support vessels. The marshalling port(s) will typically be located within reasonable proximity of the offshore site.
- Operations and maintenance port: when an offshore wind farm has been commissioned, a port is utilised as the primary hub for ongoing maintenance of components, along with other operational requirements.

18.1.4.12 There are a number of considerations when identifying ports that have the potential to support fabrication and/or marshalling activities during the construction phase. It is possible that some ports will be better suited to the fabrication and marshalling requirements of certain components, whilst being unsuitable for other components. Considerations regarding port suitability include:

- Water depth: as the size of offshore wind farm components increases, so does the size of the associated transportation and installation vessels. A port should have adequate water depth to accommodate vessels and equipment.
- Infrastructure: a port should have the necessary infrastructure and facilities, including cranes capable of lifting and moving equipment and components, storage areas (indoor and outdoor), workshops, and offices.
- Transport links: a port should have suitable road and rail connectivity to allow for the efficient transfer of smaller components/subcomponents, equipment, and workforce.
- Labour market: consideration can also be given to the availability of skilled labour within the labour market catchment of the port.

18.1.4.13 Given the many variables associated with port selection during the construction phase, typical delivery models incorporate multiple ports which will each deliver the fabrication and/or marshalling needs of specific components, depending on requirements (e.g. foundations, offshore substations, inter array or export cables etc).

18.1.4.14 The Applicant has conducted an initial exploratory facilities appraisal to identify a potential list of ports in England and Wales that could support elements of each phase of the Morgan Generation Assets. This list is currently high level and does not contain granular detail regarding port suitability by component. This longlist is set out in Table 18.1.

18.1.4.15 Identified potential port facilities deemed to be suitable bases for elements of the construction phase are also assumed to be suitable for the decommissioning phase, given the similarities between activities associated with both phases.

Table 18.1 List of potential construction, operations and maintenance, and decommissioning port facilities in England and Wales.

Construction/decommissioning	Operations and maintenance
Holyhead	Holyhead
Mostyn	Mostyn
Liverpool[1]	Liverpool
Heysham	Heysham
Barrow	Barrow

[1] Liverpool and Birkenhead ports are under the ownership of Peel Ports, and are therefore considered together.

Step 2 – Assess socio-economics regional study area(s) associated with identified facilities

18.1.4.16 Labour catchment areas[2] associated with each long listed potential port facility have been defined using a 60 minute drive time catchment as a proxy[3].

18.1.4.17 Adopting a methodology which defines regional socio-economics study area(s) associated with offshore wind farm projects on the basis of local authority areas, is necessary given that government data sources are structured to reflect conditions at local authority level. Below this level of governance, data becomes increasingly scarce and can be less reliable when dealing with survey based data. It is also necessary to take account of wider policy and administrative designations in determining appropriate areas for consideration.

18.1.4.18 Therefore, 60 minute drive time catchments for each facility have been converted to the following best fit socio-economic regional study areas:

- North Wales: together, the Holyhead and Mostyn ports' 60 minute drive time catchments cover (at least partially) the six local authorities which de facto constitute 'north Wales'. As per the Welsh Government's National Development Framework (Welsh Government, 2021), these local authorities constitute the 'North' strategic planning region. North Wales is therefore an appropriate definition for a socio-economics regional study area. Since this assessment defines Wales as a nation, it is appropriate to define North Wales as a 'region' of Wales (although it should be noted the North Wales socio-economics regional study area does not meet the definition of a UK region).
- Northwest England: together, the Barrow, Heysham, and Liverpool ports' 60 minute drive time catchments cover (at least partially) 37 of 39 local authorities in the northwest region – the two exclusions being Allerdale and the City of Carlisle in northern Cumbria. Levelling Up the United Kingdom (Department for Levelling Up, Housing and Communities (DLUHC), 2022) – the UK government's social and economic programme for government – utilises regional definitions for the purposes of identifying the next steps the Government will take to deliver its programme. Northwest England is therefore an appropriate definition for a socio-economics regional study area. Note: the Northwest England socio-economics regional study area does meet the definition of a UK region.

18.1.4.19 The labour catchment areas of potential port facilities area shown in Figure 18.1[4].

18.1.5 Tourism regional study area(s)

18.1.5.1 Potential impacts of the construction, operations and maintenance, and decommissioning of the Morgan Generation Assets on tourism and recreation are indirect in nature. It is necessary to derive an assessment of significance of effects on tourism and recreation from the findings elsewhere in the PEIR, on the basis of visual amenity, overnight trips and accommodation.

18.1.5.2 Two tourism regional study areas have been identified:

- North Wales tourism regional study area
- Northwest England tourism regional study area.

18.1.5.3 Tourism regional study areas are shown in Figure 18.2.

Visual amenity

18.1.5.4 It is necessary to derive an assessment of significance of effects on visual amenity from the findings of volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR. The potential visual impacts of the construction, operations and maintenance, and decommissioning of the Morgan Generation Assets will be one of the most important considerations when assessing significance of effects on tourism and recreation. Using this assessment to inform a related assessment in this chapter of significance of effects on visual amenity indicates consideration of potential impacts on seascape, landscape and visual impact should be high priority.

18.1.5.5 On this basis, the tourism regional study area(s) draws on the Zone of Theoretical Visibility (ZTV) set out in volume 2, chapter 15: Seascape, landscape and visual resource of the PEIR.

Overnight trips and accommodation

18.1.5.6 It is necessary to derive an assessment of significance of effects on overnight trips and accommodation from the findings of the assessment within this chapter of potential impacts on demand for housing, accommodation and local services.

18.1.5.7 On this basis, the tourism regional study area(s) draws directly on the socio-economics regional study areas. These have been determined based on the location of potential ports, which is the main consideration in relation to the impact on overnight trips and accommodation.

Isle of Man

18.1.5.8 Consideration of potential tourism impacts in the Isle of Man is discussed further as part of section 18.14, Next steps.

[2] Labour catchment areas are commonly defined based on the locations from which people are typically drawn to an employment location such as a business, an employment centre (such as a port), or an entire town or city.

[3] As per non-binding guidance in Glasson, J. et al. (2020).

[4] Note: 60 minute drive time catchment for Liverpool is based on the Port of Birkenhead.

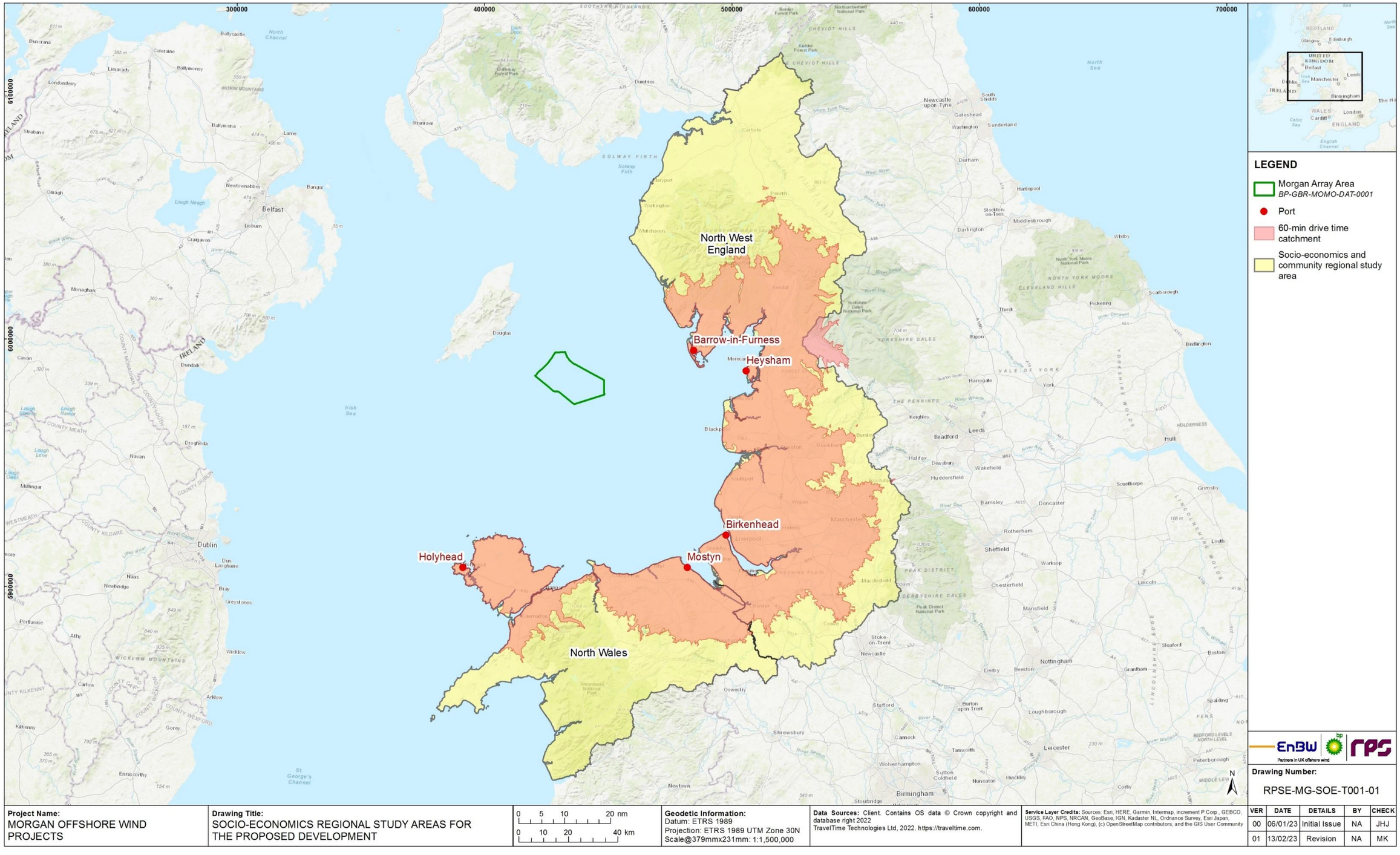

Figure 18.1: Socio-economics regional study areas for the proposed development.

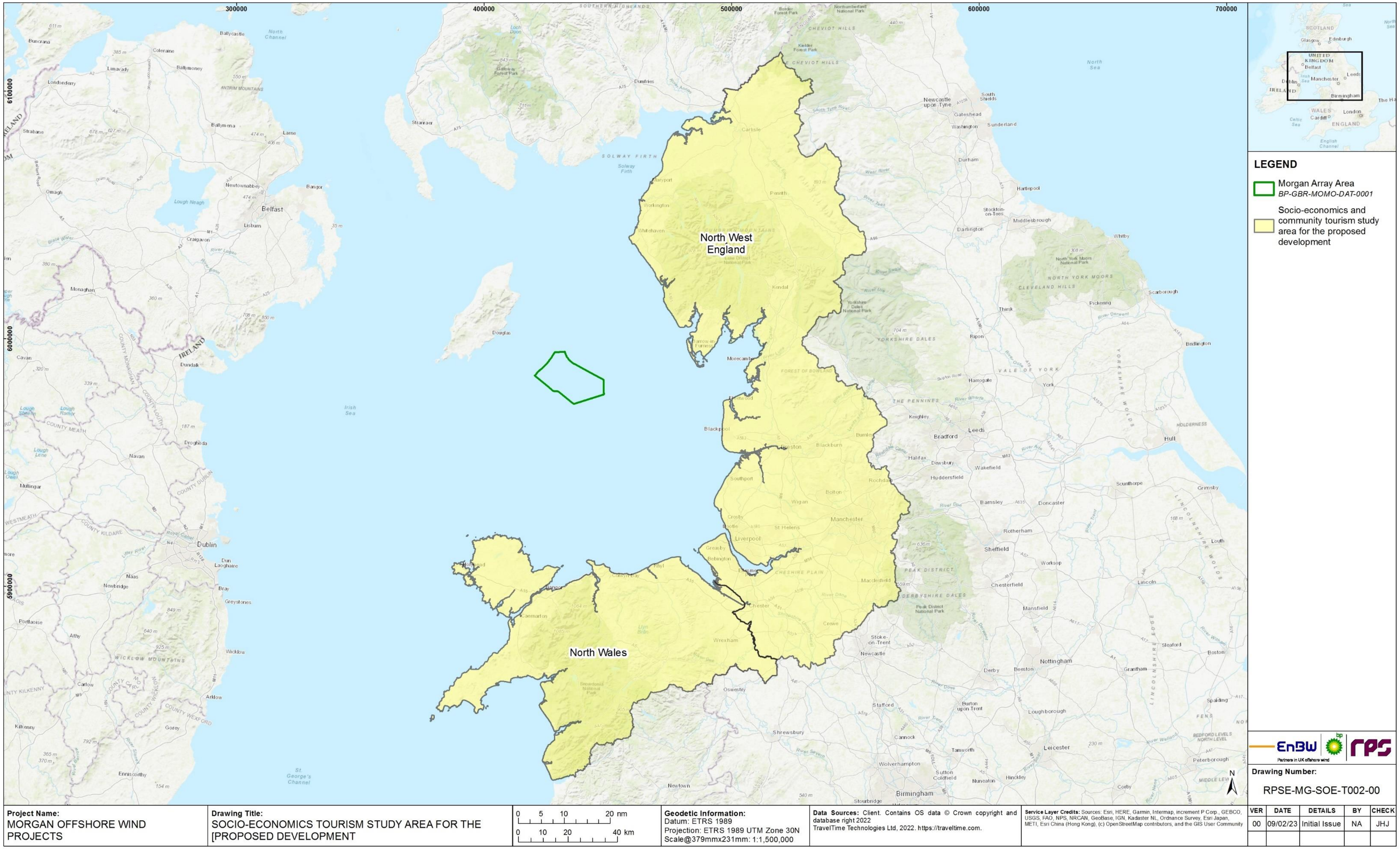

Figure 18.2: Socio-economics tourism regional study area for the proposed development.

18.2 Policy context

18.2.1 National Policy Statements

18.2.1.1 Planning policy on renewable energy infrastructure is presented in volume 1, chapter 2: Policy and legislation of the PEIR. Planning policy on offshore renewable energy Nationally Significant Infrastructure Projects, specifically in relation to socio-economics, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011a), and the NPS for Renewable Energy Infrastructure (EN-3, DECC, 2011b).

18.2.1.2 NPS EN-1 and NPS EN-3 include guidance on what matters are to be considered in the assessment. These are summarised in Table 18.2.

18.2.1.3 NPS EN-1 and NPS EN-3 also highlight a number of factors relating to the determination of an application and in relation to mitigation. These are summarised in Table 18.3 below.

18.2.1.4 Table 18.2 refers to the current NPSs, specifically NPS EN-1 (DECC, 2011a) and NPS EN-3 (DECC, 2011b). If the NPSs are updated prior to the application for Development Consent, the revised NPSs will be fully considered in relation to socio-economics within the Environmental Statement.

Table 18.2: Summary of the NPS EN-1 and NPS EN-3 provisions relevant to socio-economics.

Summary of NPS EN-3 and EN-1 provision	How and where considered in the PEIR
The impacts of an energy project on the creation of jobs and training opportunities should be considered. (EN-1, pg 106)	The potential impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance – see section 18.8.2. The impact of increased employment opportunities is assessed for its significance – see section 18.8.3. A skills and employment strategy will be included as a requirement in the draft DCO.
The assessment by the applicant should include effects on tourism from the energy project. (EN-1, pg 106)	The potential impact on the demand accommodation and local services is assessed for its significance – see section 0. The potential impact on tourism and recreation is assessed for its significance – see section 18.8.5.
Applicants' assessments should consider the impact of a changing influx of workers during the different construction, operations and maintenance, and decommissioning phases of the energy infrastructure. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development. (EN-1, pg 106)	The potential impact on the demand for housing, accommodation and local services is assessed for its significance – see section 0.
Cumulative effects must be factored into an assessment by an applicant. If development consent were to be granted to 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. (EN-1, pg 106)	Section 18.10 considers the potential cumulative impacts of relevant major projects – see section 18.10.2 for the assessment of potential cumulative effects on economic receptors including employment, GVA, and supply chain demand.
Applicants should describe the existing socio-economic conditions in the areas surrounding the Morgan Generation Assets and should also refer to how the developments socio-economic impacts correlate with local planning policies. (EN-1, pg 106)	Section 18.4 describes the existing socio-economic conditions in the areas surrounding the Morgan Generation Assets, including potential supporting infrastructure i.e. ports.
Socio-economic impacts may be linked to other impacts, for example the visual impact of a development should account for impacts on tourism and local businesses. (EN-1, pg 106)	The potential impact on tourism and recreation is assessed for its significance – see section 18.8.5. This assessment is informed by volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR.
Where a proposed offshore wind farm is visible from the shore, an assessment of the limit of visual perception from the coast and how people perceive and interact with the seascape should be undertaken (EN-3, pg 59). Applicants could draw attention to any examples of existing permitted infrastructure they are aware of with a similar magnitude of impact on sensitive receptors in the application's supporting evidence. (EN-1, pg 98).	The potential impact on tourism and recreation is assessed for its significance – see section 18.8.5. This assessment is informed by volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR, therefore the perception and interaction of individuals with the seascape is considered as part of this assessment.

Table 18.3: Summary of NPS EN-1 and NPS EN-3 policy on decision making relevant to socio-economics.

Summary of NPS EN-1 and EN-3 provision	How and where considered in the PEIR
Decision making for energy projects should consider the potential socio economic impacts of new energy infrastructure identified by the developer and from any other sources deemed relevant and important to decision making. (EN-1, pg 106)	This chapter fulfils this policy requirement.
Limited weight may be given to assertions of socio economic impact which are not supported by evidence. (EN-1, pg 107)	Volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR provides an evidence base which underpins the assessments made in this chapter. Section 18.4.6 Data limitations sets out any limitations in the evidence which supports the analysis of the baseline environments of the socio-economics regional study areas, socio-economics national study areas, and tourism regional study areas.
Decision making should consider any relevant positive provisions the developer is proposing to make to mitigate impacts, including options for phasing development, and any legacy benefits that may arise in relation to the socio economic impacts. (EN-1, pg 107)	The potential impact of increased employment opportunities is assessed for its significance – see section 18.8.3. A skills and employment strategy will be a requirement of the draft DCO.

Summary of NPS EN-1 and EN-3 provision	How and where considered in the PEIR
Decision makers should consider the necessity of mitigation measures to lessen any adverse socio-economic impacts of the development. For example, high quality design to improve the visual and environmental experience may mitigate impacts on visitors and the local community alike. (EN-1, pg 107)	The potential impact of disruption on tourism and recreation is assessed for its significance – see section 18.8.5. This assessment is informed by volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR. A skills and employment strategy will be a requirement of the draft DCO.
The decision maker will need to consider whether the visual impacts of the offshore wind farm on visitors to the local area will outweigh the benefits of the project. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast. (EN-1. pg 98).	The potential impact on tourism and recreation is assessed for its significance – see section 18.8.5. This assessment is informed by volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR.

18.2.2 North West Inshore and North West Offshore Coast Marine Plans

18.2.2.1 The assessment of potential changes to socio-economics has also been made with consideration to the specific policies set out in the North West Inshore and North West Offshore Coast Marine Plans (MMO, 2021). Key provisions are set out in Table 18.4 along with details as to how these have been addressed within the assessment.

Table 18.4: North West Inshore and North West Offshore Marine Plan policies of relevance to socio-economics.

Policy	Key provisions	How and where considered in the PEIR
NW-REN-1: Proposals that enable the provision of renewable energy technologies and associated supply chains, will be supported. (Pg 33)	Supply chains are recognised as important factors in harnessing the economic and social benefits of renewable energy in the UK. NWREN-1 will enable public authorities to support proposals that reduce costs, ensuring that businesses are operating competitively and with a long-term strategy. This will help develop stronger supply chains for renewable energy technology in the UK.	Employment and GVA baseline conditions in the offshore wind sector supply chain, and in the supply chain of industries which could potentially support activity in the offshore wind sector, are set out in section 18.4.4. Volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR presents information to inform the assessment of the direct, indirect, and induced economic impacts (employment and GVA), which apply throughout the offshore wind supply chain. An assessment of the direct, indirect, and induced economic impacts (employment and GVA) which apply throughout the offshore wind supply chain is set out in section 18.8.2.
NW-EMP-1: Proposals that result in a net increase in marine-related employment will be supported, particularly where they meet one or more of the following: 1) are aligned with local skills strategies and support the skills available 2) create a diversity of opportunities 3) create employment in locations identified as the most deprived 4) implement new technologies -in, and adjacent to, the north west marine plan areas. (Pg 38)	NW-EMP-1 encourages decision-makers and proponents to deliver additional employment benefits from proposals, particularly those benefits associated with the listed policy criteria. NW-EMP-1 seeks to maximise sustainable economic activity, prosperity and opportunities for all, both now and in the future.	Volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR presents information to inform the assessment of the direct, indirect, and induced economic impacts (employment and GVA), at regional and national levels. The impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance – see section 18.8.2. The impact of increased employment opportunities is assessed for its significance – see section 18.8.3.
NW-TR-1: Proposals that promote or facilitate sustainable tourism and recreation activities, or that create appropriate opportunities to expand or diversify the current use of facilities, should be supported. Proposals that may have significant adverse impacts on tourism and recreation activities must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse impacts so they are no longer significant. (Pg 44)	The north west marine plan recognises tourism and recreation as important industries which provide economic and social benefits to coastal communities and visitors to the region. NW–TR-1 addresses the potential impact of proposals on existing tourism and recreation use to minimise stakeholder or future potential activities. Proposals that cannot avoid, minimise and mitigate significant adverse impacts on tourism and recreation activities are unlikely to be supported.	The impact on tourism and recreation is assessed for its significance – see section 18.8.5. This assessment is informed by volume 2, chapter 14: Other sea users of the PEIR and volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR.
NW-CE-1: Proposals which may have adverse cumulative effects with other existing, authorised, or reasonably foreseeable proposals must demonstrate that they will, in order of preference: a) avoid b) minimise c) mitigate -adverse cumulative and/or in-combination effects so they are no longer significant. (Pg 52).	This policy is intended to ensure all relevant effects are taken account of and addressed, including those that may seem less significant in their own right. This will help to ensure that the cumulative effect on the wider environment of the north west marine area and other relevant receptors are effectively managed.	Section 18.10 Cumulative effects assessments considers the potential cumulative impacts of relevant major projects.
NW–INF-1: Proposals for appropriate marine infrastructure which facilitates land-based activities, or land-based infrastructure which facilitates marine activities (including the diversification or regeneration of sustainable marine industries), should be supported. (Pg 21)	NWINF-1 supports the integration of the marine and land based systems by encouraging proposals that improve existing or provide new, sustainable marine or land-based infrastructure that facilitates activity in the other system. Supporting infrastructure development, diversification and regeneration will provide socio-economic benefits and support marine businesses, including those that are land-based.	Volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR presents information to inform the assessment of the direct, indirect, and induced economic impacts (employment and GVA), which apply throughout the offshore wind supply chain – see section 18.8.2.

18.2.3 UK strategic policy

18.2.3.1 The assessment of potential changes to socio-economics has also been made with consideration to the UK Government's strategic planning policy on the matter of economic growth and renewable energy. Key considerations are set out in Table 18.5 along with details as to how these have been addressed within the assessment.

Table 18.5: UK strategic planning policies or relevance to socio-economics.

Policy	Summary of key considerations	How and where considered in the PEIR
British Energy Security Strategy, (UK Government, 2022).	The British Energy Security Strategy sets out the plan to achieve net zero carbon emissions from energy generation and reduce the UK's dependence on imported gas and oil. Offshore wind is identified as an important source of renewable energy and is anticipated to support 90,000 jobs in Britain by 2030, a proportion of which will be high skilled and high wage (pg 17). A key measure for progress in the development of wind energy is the improvement of community benefits in areas with strategic network infrastructure (pg 31).	Policy priorities for beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.
Industrial Strategy: Offshore Wind Sector Deal (UK Government, 2019)	The Sector Deal establishes the shared ambitions and commitments of the offshore wind sector and the UK government to support the continued growth of offshore wind in the UK. Mostyn in North Wales is identified as a hub of activity for construction and operations and maintenance that supports the growing number of offshore windfarms in the UK. The deal supports capitalising on existing hubs to create more opportunities for investment and growth in local economies (pg 36). The sector deal also sets out the importance of working with educational institutions for post 16 year olds to build early stage skills and knowledge accessibility and working with the UK government to address identified skills gaps in relevant routes including construction, engineering and manufacturing (pg 13).	Policy priorities for beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.
Net Zero Strategy: Build Back Greener (UK Government, 2021)	This policy sets out policies and proposals for decarbonising all sectors of the UK economy to meet the net zero target by 2050. Achieving 40GW of offshore wind by 2030 is a key policy for the UK government and aims to support this through investing in supply chains, infrastructure and offshore transmission networks to secure jobs and benefit communities across the UK (pg 94). The UK government has committed to investing in two ports in the North of England to upgrade their capacity to support the UK offshore wind manufacturing sector (pg 269).	Policy priorities for beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.
The Clean Growth Strategy (UK Government, 2017).	This strategy sets out the UK government's approach to reducing carbon emissions whilst supporting economic growth, which includes maximising the social and economic benefits from this transition. (pg 47).	Policy priorities for beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.

18.2.4 Wales strategic policy

18.2.4.1 The assessment of potential changes to socio-economics has also been made with consideration to Welsh strategic planning policy, evidence, and research on the matter of economic growth and renewable energy. Key considerations are set out in Table 18.6 along with details as to how these have been addressed within the assessment.

Table 18.6: Wales strategic planning policies or relevance to socio-economics.

Policy	Summary of key considerations	How and where considered in the PEIR
Planning Policy Wales (PPW) – Edition 11 (Welsh Government, 2021)	The PPW aims to ensure that the planning system within Wales contributes towards sustainable development, where opportunities for long term benefit (socially, economically, and environmentally) is achieved. The PPW commits to providing well-connected employment alongside sustainable development. The policy identifies that driving further renewable energy proposals, such as offshore wind, whilst including an element of local ownership, will allow for decarbonisation and the retainment of economic value. (pg.88/pg.96)	Policy priorities for potential beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.
Prosperity for All: economic action plan (Welsh Government, 2019)	The Prosperity for All: economic action plan aims to generate inclusive growth and promote even distribution of opportunities across Wales. The plan sets out an ambition to shift towards a low-carbon future and use this as an opportunity to diversify the economy, support businesses, and take advantage of existing and emerging markets in this sector. The Plan aims to accelerate the deployment of renewable energy generation and maximise the investment opportunities that could be presented by this to Wales. (pg.25/pg.29)	Policy priorities for potential beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.

Policy	Summary of key considerations	How and where considered in the PEIR
Technical Advice Note (TAN) 23 – Economic Development (Welsh Government, 2014)	TAN 23 for Economic Development advises on planning policy, creating guidelines in understanding the contribution of economic development projects. The TAN points out that planning decisions need to be made through balancing social, environmental and economic considerations. The TAN identifies that sustainable development is essential to build strong communities, helping to improve the alignment of housing and jobs and helping to generate income.	Policy priorities for potential beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.
Welsh National Marine Plan (Welsh Government, 2019)	The Welsh National Marine Plan integrates a set of objectives and policies for sustainable development and the management of inshore and offshore marine areas. It aims to ensure oceans and seas are protected to support economic, social, cultural, and environmental objectives. The Plan has ambitions to support further commercial deployment of offshore wind technologies to contribute to energy security, reduce carbon emissions, and stimulate investment in jobs and business. Given Wales's extensive wind resource, the Plan identifies the significant potential for growth in jobs related to device manufacture and deployment, and maintenance in the offshore wind sector. (pg.96)	Policy priorities for potential beneficial socio-economic impacts relevant to the Morgan Generation Assets are considered in the assessment of sensitivity of receptors. See sensitivity approach set out at paragraph 18.5.2.6 onwards. See also assessment of receptor sensitivity (value) in sections 18.8.2 and 18.8.3.
All Wales Plan 2021 – 2025, Working together to reach Net Zero. (Welsh Government, 2022).	This document outlines a set of pledges towards achieving Net Zero made by businesses, public sector bodies, communities, schools and individuals across Wales. These included: The Plan sets out an aim to provide advice and support for the marine energy industry to help deliver a low carbon economy and develop jobs and skills in the sector. (pg 15). Transport for Wales commits to procure at least 50% of its electricity from Welsh renewable sources by 2026. (pg 15). Awel Amen Tawe pledges to develop a low carbon education social enterprise centre and to enrol 50 more schools in their energy education and monitoring platform. (pg 14).	The potential impact of increased employment opportunities is assessed for its significance – see section 18.8.3.
Future Potential for Offshore Wind in Wales. (Welsh Government, 2018).	This report evaluates the case for offshore wind in Wales and sets out the potential for increased offshore wind deployment, the associated economic benefits, and the key considerations for policy makers. North Hoyle, Rhyl Flats, and Gwynt-y-Mor offshore wind farms are identified as having brought local economic benefits to Welsh businesses and communities in the region, particularly at the Port of Mostyn which served as the installation and operations and maintenance base and a hub for offshore wind activity whilst helping to support local companies, (pg 30). Using Mostyn as a full project lifetime base for operations and maintenance fostered local business investment and employment. Examples of this include Innogy which invested £8m in the Port of Mostyn and employed the majority of its technicians locally, as well as Total Wind, a wind power recruitment specialist based in Llandudno which played a vital role in supplying local engineers for early projects. (pg 92). Several local companies have also established offices at the Port of Mostyn as a result of these developments. (pg 98). The report includes an assessment of the supply chain capacity in Wales for future offshore wind developments. Wales has a medium to high capacity to serve the operation and maintenance phases of a development. This is because Wales has strengths in the provision of support vessels and safety equipment, where the Port of Mostyn can become a hub for supply chain companies, technology innovation and training activities. The longevity of operation activity can bring sustainable, long term employment in Wales. Wales has an overall low capacity to serve the construction phase. However, there are construction opportunities in the supply of array cable cores from Prysmian's Wrexham facility, which could result in increased employment for the workforce if volume orders can trigger additional expansion, (pg 122). Furthermore, if Welsh ports can be secured as construction bases, local Welsh companies are well placed to provide CTV and workboat vessels, equipment, and support services, but not installation works which are likely to go to established European contractors, (pg 123). A future opportunity may also lie in the decommissioning phase, given that North Hoyle is due to be decommissioned in the coming 5 years and may provide opportunities for Welsh companies to develop capabilities and knowledge in an increasingly growing area, (pg 124). The report recognises that the Welsh coastline supports a range of recreational activities, such as sailing, kayaking, and surfing, which play an important role on the Welsh tourism industry and therefore impacts on these activities should be considered in offshore wind developments. (pg 51).	The potential impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance – see section 18.8.2. The potential impact of increased employment opportunities is assessed for its significance – see section 18.8.3. The potential impact on the demand for housing, accommodation and local services is assessed for its significance – see section 0. The potential impact on tourism and recreation is assessed for its significance – see section 18.8.5.

Policy	Summary of key considerations	How and where considered in the PEIR
Future Wales, The National Plan 2040. (Welsh Government, 2021).	This plan is the national framework for all future development in Wales up to 2040. Policies 17 and 18 of the plan contain criteria for the determination of applications for renewable energy and low carbon developments. Together, these policies set out the Welsh Government's strong support for renewable energy development, but that proposals should describe the net benefits the scheme will bring in terms of social and economic improvements to local communities. Policy 18 for renewable energy developments of national significance details that the Welsh Government will use its policy powers to work with relevant stakeholders to help unlock the economic, social and cultural benefit renewable energy projects can bring. It recognises that large scale developments can generate direct social and economic benefits to local communities and recommends that developers should explore how infrastructure improvements associated with a development (e.g. transport and communications) may be utilised by the host communities to bring additional non planning related benefits, (pg 97). Policy 21 for North Wales Coastal settlements aims to support energy generation, storage, and management to play a role in the regional economy in the North, (pg 118). Policy 24 for North West Wales and energy supports the area as a location for new energy development and investment, and proposed developments associated with the Isle of Anglesey Energy Island Programme, Wylfa Newydd and Trawsfynydd will be supported in principle as means of creating significant economic benefits for the area. The policy also details that new energy-related development in the region should support local and regional communities; provide jobs and investment in training and skills; and work with universities and businesses across the region and the North West of England to co-ordinate and maximise new investment to support the wider region, (pg 124).	The potential impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance see section 18.8.2. The potential impact of increased employment opportunities is assessed for its significance see section 18.8.3. The potential impact on tourism and recreation is assessed for its significance see section 18.8.5.

18.3 Consultation

18.3.1.1 A summary of the key issues raised during consultation activities undertaken to date specific to this assessment is presented in Table 18.8 below, together with how these issues have been considered in the production of this PEIR chapter.

18.3.1.2 Three stakeholder consultation workshops were organised during January 2023. The focus of each workshop was tailored to the areas of knowledge and expertise of the participants as follows:

- Economy: discussion focused on potential ports, port infrastructure capacity, supply chain capacity, and skills and labour market capacity.
- Socio-economics: discussion focused on skills and labour market factors such as capacity and training, and local factors such as housing market capacity and community dynamics.
- Tourism and recreation: discussion focused on visual amenity, overnight accommodation, and recreation assets.

18.3.1.3 A range of key stakeholders were invited to participate in consultation to inform the assessment. This included national and regional representative organisations as well as local authority officers within the socio-economics regional study areas.

18.3.1.4 Table 18.7 summarises the invite list for each workshop.

Table 18.7: Socio-economics stakeholder consultation invite list.

Attended	
Economy – 25 January 2023	
Associated British Ports	Yes
Cumbria County Council	Yes
Cumbria Local Enterprise Partnership (LEP)	Yes
Liverpool City Region Combined Authority	Yes
ORE Catapult	Yes
Renewable UK Cymru	Yes
Welsh Government	Yes
Furness Economic Development Forum	No
Marine Energy Wales	No
Mersey Maritime	No
North Wales Economic Ambition Board	No
Offshore Energy Alliance	No
Socio-economics – 25 January 2023	
Denbighshire County Council	Yes
Isle of Anglesey County Council	No
Flintshire County Council	No
Conwy County Council	No
Lancaster City Council	No
Barrow-in-Furness Borough Council	No
Tourism and recreation – 25 January 2023	
Visit Wales	Yes
Wales Tourism Alliance	No
Go North Wales	No
Royal Yachting Association (RYA)	No
RYA Cymru	No

Attended	
Visit North West	No

18.3.1.5 Table 18.8 summarises the key issues related to socio-economics raised during stakeholder consultation activities to date and sets out where they have been considered in this chapter.

Table 18.8: Summary of key consultation issues raised during consultation activities undertaken for the Morgan Generation Assets relevant to socio-economics.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
Socio-economics			
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	The Scoping Report explains that Local Impact Area (LIA) centres will be based around likely port hub locations and the LIA then drawn from local authority areas predominantly within 60min drive of these centres in order to capture effective travel to work areas. The Environmental Statement (ES) should explain the basis for this assumption, providing the full reasoning behind the identification of the LIAs.	Considered as part of the selection of potential port locations to identify socio-economics regional study areas (section 18.1).
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	Identification of likely port hub locations is identified as the basis of the assessment. It is understood from the Scoping Report that these locations will not be confirmed prior to completion of the EIA. However, the ES should define them as far as possible, identify where uncertainty remains and assess the worst-case scenario, where possible.	Considered as part of the selection of potential port locations to identify socio-economics regional study areas (section 18.1).
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	The use of the larger spatial scale of National Impact Area (NIA) for employment and economy receptors is not explained in any detail in the Scoping Report. The ES should define the NIA and set out the reasoning behind its definition, including where professional judgement has been applied.	Considered as part of the selection of potential port locations to identify socio-economics regional study areas (section 18.1).
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	It is understood from the Scoping Report that as well as the desk-based sources listed, information from the marine vessel surveys will also be used in the assessment. The Inspectorate advises that the desk-study information is supplemented and ground-truthed as necessary with specific survey information, the specifics of which should be discussed with the relevant consultation bodies.	Considered as part of the consultation (section 18.3) – relevant stakeholders invited to input via series of consultation workshops during January 2023. Considered within the next steps (section 18.14).
12 December 2023	Isle of Anglesey County Council (IACC)	From a socio economic prospective, the IACC would be looking for the Environmental Statement to identify and confirm the socio-economic opportunities that will be available during all project phases. These relate to maximising local and regional employment, skills and supply chain opportunities. The IACC acknowledges that the socio-economic benefits that would be available for the Island would be very much dependable and influenced by which port will be used for project phases, Whilst the Scoping Opinion acknowledges the potential for positive economic impacts on employment and supply chain, the Environmental Statement should also identify and assess any negative socio-economic impacts that may occur. The IACC notes the confirmation within the Scoping Report that it is proposed to assess the impact on economic receptors including employment, GVA, and supply chain demand using a bespoke economic impact model and will be used to estimate the direct, indirect, and induced employment impacts of expenditure during the construction, operation and maintenance, and decommissioning of the offshore and onshore generation assets. The impact of increased local employment opportunities will also be assessed using the same bespoke economic impact model. The local employment (workplace based) will be assessed against local labour market capacity and informed by stakeholder consultation. IACC notes that in terms of the study area used for the socio-economics assessment will depend of the receptor type. The approach to defining LIAs is focused on the likely centres of impact. This will	Considered as part of selection of potential port locations to identify socio-economics regional study areas (section 18.1).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
		ensure the assessment of impacts relative to the baseline is meaningful and is not masked as a result of large and high-level LIAs which are unrelated to the location of the potential impact.	
12 December 2023	IACC	The IACC encourages that the assessment splits the construction phase into scenarios which is dependent on the proposed port locations – a 'no local construction port scenario' and a 'local port construction scenario'. The ES should clearly detail the number of anticipated full and part time jobs generated by all phases of the Proposed Development as part of each scenario. The IACC requests commitment that construction jobs that would come from the local region and North Wales. The IACC would encourage EnBW and bp to consider these opportunities now to enable local people, companies and education providers to train or upskill to capitalise on these opportunities. The IACC would also like to see minimum local employment targets set as well as the provision of apprenticeship and work placement opportunities to ensure that local young people can capitalise on the opportunities during all stages of the project. The IACC would encourage EnBW and bp to work with local education providers such as Coleg Llandrillo Menai and Bangor University to ensure that apprenticeship and work placement opportunities are in place so that local young people can capitalise on the opportunities during both construction and operation. Similarly, local companies need to be made aware early of the opportunities and of EnBW and bp supply chain requirements to allow them to plan accordingly. Local Supply Chain Events, for example, would be an effective way of communicating with local companies of the region. The Council would also advise you to engage with Ambition North Wales as to socio-economic opportunities to identify, collaborate and maximise potential opportunities. The IACC would welcome the opportunity to be involved in any relevant technical working groups in order to further explore and identify the local and regional opportunities.	Considered as part of selection of potential port locations to identify socio-economics regional study areas (section 18.1). Considered as part of consultation (section 18.3) – named stakeholders (including consultee) have been invited to engage with non-statutory consultation. Considered within the next steps (section 18.14) – consideration of scenario development for EIA, consideration of further measures to enhance beneficial effects e.g. Supply Chain Engagement Plan and Recruitment Plan.
12 December 2023	IACC	The Scoping Report states that the construction and operational and maintenance (O&M) port that will facilitate the project is unlikely to be identified under after the completion of the EIA. However, the IACC acknowledges that Holyhead Port has been identified within Table 6.4 of the Scoping Report (Local Impact Areas impact centre) as a possible construction, operational and decommissioning port. The port selection has the potential to offer major socio-economic benefits for the North Wales region at all project phases. With nearly 500,000 vehicles and 2 million foot passenger going through the Port each year, Holyhead Port is the second busiest ferry port in the UK. It handles over 70% of all road traffic moving between Ireland and Wales and is supported by the E22 arterial route between mainland Europe and Dublin. Stena Line Ports Ltd own and operate the port of Holyhead. Holyhead port is non-tidally restricted and is operational 24hrs / 365 days per year. In addition to ferry operations, the port has a wealth of experience in specialist handling of large project related cargoes. It has a deep-water berth as well as smaller berths and standage areas. The Port's	Considered as part of selection of potential port locations to identify socio-economics regional study areas (section 18.1).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
		experience includes serving windfarm vessels, jack-up rigs and support vessels, including handling abnormal Indivisible Loads. Recently, Stena Line Ports Ltd constructed a Manufacturing and Assembly Hall for the green energy supplier, Minesto Ltd, to enable construction of their offshore power generation equipment. Stena Line Ports Ltd have applied for a Harbour Revision Order (HRO) for the expansion of the Port. The expansion principally comprises of the reclamation of land to provide new berths for vessels and associated landside areas for Port related uses.	
12 December 2023	Isle of Anglesey County Council	The IACC has assessed section 6 of the EIA Scoping Report which identifies the seascape, landscape and visual resources and receptors for the Morgan Offshore Wind Project and considers the potential impacts arising from the construction, operation and maintenance, and decommissioning of the generation assets. The Anglesey Area of Outstanding Natural Beauty (AONB) is located south west of the proposed development. Careful consideration will therefore be required to ensure the proposal does not affect the setting and / or significant view into and out of the AONB. The Morgan seascape, landscape and visual study area for the generation assets will be based on the findings of an analysis of the ZTV for the generation assets, which will also inform the identification of representative viewpoints. It is acknowledged once the ZTV has been determined, representative viewpoints will be agreed with the relevant stakeholders. IACC would welcome being part of these discussion with respect to the potential impact upon the designated Anglesey AONB. There is also potential for cumulative effects to occur on sensitive receptors arising from the Morgan Offshore Wind Project Generation Assets alongside other developments. Potential cumulative effects with respect to seascape, landscape and visual resources will need to be given detailed consideration within the PEIR and the Environmental Statement. The IACC through the Energy Island Project is committed to working collaboratively with you and other stakeholders to provide advice and guidance to ensure that the project aligns with the vision of the Energy Island Project and to ensure that Anglesey and the region fully benefit from the potential opportunities associated with the proposed Morgan wind farm and to ensure that significant effects are avoided.	Considered as part of selection of identifying socio-economics regional study areas (section 18.1).
23 January 2023	Liverpool City Region Combined Authority Online consultation	Consider including Liverpool Port within North Wales impact area as it is closer to Mostyn.	Considered as part of selection of identifying socio-economics regional study areas (section 18.1).
23 January 2023	Barrow Port Online consultation	Consider capacity of ports and suitability of existing infrastructure in handling large scale construction.	Considered as part of selection of potential port locations to identify socio-economics regional study areas (section 18.1). Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Barrow Port Liverpool City Region Combined Authority Online consultation	Investment into infrastructure at port locations required to provide support during construction phase.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Barrow Port	Consider sharing work amongst ports across the Offshore Energy Alliance cluster to sustain capability.	Considered as part of assessment of significant effects (section 18.8).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
	Liverpool City Region Combined Authority Online consultation		Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Barrow Port Online consultation	Potential in sub-station construction, less so in larger fabrication and staging processes of blades and foundations.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Liverpool City Region Combined Authority Online consultation	Investment would be beneficial to upskill current businesses.	Considered as part of next steps – further measures for enhancing beneficial effects (section18.14)
23 January 2023	Barrow Port Cumbria LEP Online consultation	Already significant offshore wind supply base, especially with operations and maintenance, which could be increased.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Barrow Port Cumbria LEP Liverpool City Region Combined Authority Online consultation	Consider building apprenticeship programmes and using skills and training facilities already in place.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Welsh Government (relevant representative) Online consultation	Consider how to make skills sustainable beyond construction of single offshore wind farm and understand time scales for demand.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Welsh Government (relevant representative) Online consultation	Transferability of skills in the region from a range of past and current projects that can be adapted and taken advantage of.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
23 January 2023	Barrow Port Liverpool City Region Combined Authority Welsh Government (relevant representative) Online consultation	Consider what impact a temporary workforce may have on the region and how to negate any costs to the community.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
Tourism and Recreation			
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	The Inspectorate understands the approach described in the Scoping Report to assess impacts to tourism and community receptors on the LIA scale rather than a national spatial scale. The Inspectorate agrees that the Proposed Development is unlikely to result in significant effects on tourism and community at a national level, and that this matter can be scoped out.	Considered as part of selection of identifying socio-economics regional study areas (section 18.1). Considered as part of assessment of significant effects (section 18.8). Potential tourism and recreation impacts scoped out of assessment. Considered as part of cumulative effects assessment (section 18.10). Potential tourism and recreation effects scoped out of cumulative assessment.
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	Should explain why the use of the ZTV identified within the seascape, landscape, and visual effects assessment to identify tourism and recreation receptors is appropriate for the types of impact and resulting effect to be considered in this chapter.	Considered as part of Maximum Design Scenario (section 18.7). Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
15 June 2022	The Planning Inspectorate Statutory consultation response to Scoping Report	The potential impacts of the generation assets on visitor numbers to designated sites may be relevant to other matters assessed in the ES including the assessment of inter-project effects, and the Inspectorate advises that appropriate cross-reference is made to ensure consistency in the information presented.	Volume 2, chapter 15: Seascape, landscape and visual resources is reviewed for potential indirect impacts on tourism and recreation resulting from potential impacts on designated sites. Considered as part of Maximum Design Scenario (section 18.7). Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
25 January 2023	Visit Wales Online consultation	As offshore wind development becomes more established as a sector, negative perceptions of such developments – particularly in terms of visual impacts – have become less prevalent over time.	Understood this is an anecdotal observation and would need supporting with research findings to be relied upon as part of assessment of significant effects.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
25 January 2023	Visit Wales Online consultation	Consider impact of using bed stock from the tourism sector to provide accommodation for a non-workforce. Could create issues through taking away accommodation for visitors and reducing spend on attractions within the tourism industry.	Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).
25 January 2023	Visit Wales Online consultation	Consider a bigger demand for accommodation within the UK visitor sector.	Considered as part of baseline conditions (section 18.4). Considered as part of assessment of significant effects (section 18.8). Considered as part of cumulative effects assessment (section 18.10).

18.4 Baseline environment

18.4.1 Methodology to inform baseline

18.4.1.1 This section summarises the methodology applied to inform the analysis of the baseline environments of the socio-economics regional study areas, socio-economics national study areas, and tourism regional study areas.

Industry definitions

18.4.1.2 The definitions of industry terms utilised throughout the socio-economics and tourism EIA chapter are as follows:

- **All industries**: this industry definition includes all Standard Industrial Classification 2007 (SIC07) codes and can be thought of as the 'whole' economy
- **Impact industries**: various permutations of impact industries are utilised for each phase of development (construction, operations and maintenance, and decommissioning). Definitions of employment and GVA impact industries can be found in appendix 2 of volume 4, annex 18.1: Technical Impact Report – Socio-economics. These impact industries should not be seen as representing only activity that currently contributes to the offshore wind sector. Instead, these impact industries should be seen as representative activities in industries associated with the construction, operations and maintenance, and decommissioning of offshore energy infrastructure (i.e. not limited to offshore wind)
- **Offshore wind**: this industry definition represents activity that currently contributes to the offshore wind sector.

Impact industries

18.4.1.3 There is no widely agreed and accepted definition of the offshore wind industry based on SIC07. Enterprises within many SIC07 sectors can be active within the offshore wind industry.

18.4.1.4 The best available data on employment and GVA in the offshore wind sector is used to define existing baseline conditions in the offshore wind sector itself. Employment data is based on the Offshore Wind Skills Intelligence Report (Offshore Wind Industry Council (OWIC), 2022). GVA data is based on The Economic Value of Offshore Wind (ORE Catapult, 2017).

18.4.1.5 Data on employment and GVA in the offshore wind sector is very useful, however, it does not capture the potential wider supply chain that could service the offshore wind sector. To this end, impact industries have been defined to represent employment and GVA in industries with the potential to be associated with the construction, operations and maintenance, and decommissioning of offshore infrastructure (i.e. not limited to offshore wind). These definitions can be found in appendix 2 of volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR.

18.4.1.6 There is variance in the level of detail that employment and GVA data can be obtained via publicly available data sources:

- Employment: data can be obtained via the Office for National Statistics (ONS) Business Register and Employment Survey (BRES). BRES reports data as detailed as SIC07 'subclasses' (or five digit SIC07), which is the most detailed level of standardised industry classification available
- GVA: data can be obtained via ONS data[5]. This reports data as detailed as SIC07 'divisions' (or two digit SIC07), and in a number of cases aggregates a number of related divisions. This level of reporting is not as detailed as employment data available via BRES.

18.4.1.7 Because of these differences in statistical reporting, a more detailed definition of impact industries using SIC07 subclasses has been adopted for employment analysis, with SIC07 divisions (some aggregated) used for GVA analysis. Respective employment and GVA impact industries definitions are set out at appendix 2 of volume 4, annex 18.1: Socio-economics technical impact report of the PEIR.

Receptors and indicators

18.4.1.8 The summary of baseline conditions aligns with the potential socio-economic and tourism impacts set out in Table 18.32, and will therefore cover the receptors set out below, along with associated indicators:

- Economy (employment and GVA):
  - Total employment in all industries (2021)
  - Employment change in all industries (2015–2021)
  - Total employment in impact industries (2021)
  - Employment change in impact industries (2015–2021)
  - Estimated employment in offshore wind sector (2020)
  - Total GVA in all industries (2020)
  - GVA change in all industries (2015–2020)
  - GVA in impact industries (2020)
  - GVA change in impact industries (2015–2020).
- Labour market:
  - Economic activity (2021)
  - Unemployment (2021)
  - Economically inactive individuals that want a job (2021).
- Housing and local services:
  - Population (2020)
  - Dwellings (various)

[5] Regional GVA (balanced) by industry: local authorities by International Territorial Level 1 (ITL1) region

  - Unoccupied dwellings (various)
  - Dwellings within the private rented sector (various).
- Tourism and Recreation:
  - Employment in tourism sector (various)
  - GVA in tourism sector (various)
  - Overnight stays and day visits (various)
  - Key tourist and visitor attractions.

18.4.1.9 These indicators have been analysed on the basis of publicly available desktop sources as set out in Table 18.9.

18.4.2 Desktop study

18.4.2.1 Information on socio-economics within the socio-economics regional and national study areas was collected through a detailed desktop review of existing studies and datasets. These are summarised at Table 18.9 below.

Table 18.9: Summary of key desktop reports.

Title	Source	Year
Socio-economics		
Business Register and Employment Survey	ONS	2022a
Regional gross value added (balanced) by industry: local authorities	ONS	2022b
Regional gross value added (balanced) by industry: all ITL regions	ONS	2022c
Offshore Wind Skills Intelligence Report	OWIC	2022
Labour market		
Annual Population Survey	ONS	2022d
Annual Population Survey: model-based estimates of unemployment	ONS	2022e
Housing and accommodation		
Population estimates	ONS	2022f
Chargeable empty and second homes, by local authority	Stats Wales	2022b
Dwelling stock estimates by local authority and tenure	Stats Wales	2022a
Table 109 Dwelling stock: by tenure and region	DLUHC[6]	2022a
Table 615 Vacant dwellings by local authority district: England	DLUHC	2022b
Tourism		
Homepage	Wales Tourism Alliance	2022
Northwest England and Domestic Tourism	Visit England	2015
Providing recognition to tourism skills in North Wales	Ambition North Wales	2022
The Great Britain Day Visitor 2019 Annual Report	Visit England, Visit Scotland, and Visit Wales	2019
Tourism assets informed by various webpages – listed in 18.15.1.	Various	2022
Future		
Economic and fiscal outlook	OBR	2022
The Skills Imperative 2035: Occupational Outlook – Long-run employment prospects for the UK, Baseline Projections – Working Paper 2a	NFER and Nuffield Foundation	2022
Net Zero North Sea: A managed transition for oil and gas in Scotland and the UK after Covid-19	IPPR	2020
2020-based interim national population projections: year ending June 2022 estimated international migration variant	ONS	2023
Population projections for regions: Table 1	ONS	2020
Population projections by local authority and year	Stats Wales	2021

[6] Department for Levelling Up, Housing and Communities.

18.4.3 Site-specific surveys

18.4.3.1 No site-specific surveys have been undertaken to inform the socio-economics and tourism EIA. This is due to the availability of existing publicly accessible socio-economic data for the identified impact areas. Consultation has been undertaken with stakeholders across the identified socio-economics regional study areas, socio-economics national study areas, and tourism regional study areas (section 18.3).

18.4.4 Baseline environment

18.4.4.1 This section summarises relevant baseline data for the socio-economics regional study areas, socio-economics national study areas, and tourism regional study areas under the following headings:

- Employment
- GVA
- Labour market
- Housing and local services
- Tourism.

18.4.4.2 Some parts of the economy are likely to be more affected than others by the Morgan Generation Assets.

Economy – employment and GVA

18.4.4.3 Employment is a measure obtained by adding the number of working owners (not paid via Pay as You Earn (PAYE)) to the number of full and part time employees. This is a measure of persons and not measured in full time equivalents (FTE).

All industries

North Wales

18.4.4.4 All industries employment in the North Wales socio-economics regional study area in 2021 was approximately 310,000 (ONS, 2022a). Between 2015–2021, employed persons in the North Wales socio-economics regional study area increased by 4,000 (ONS, 2022a). This equates to an average annual growth of 0.2%.

18.4.4.5 All industries GVA in the North Wales socio-economics regional study area in 2021 was approximately £10.5 bn (ONS, 2022b). Between 2015–2021, GVA in the North Wales socio-economics regional study area increased by £1 bn (ONS, 2022b). This equates to an average annual growth of 2.0%.

Northwest England

18.4.4.6 All industries employment in the Northwest England socio-economics regional study area in 2021 was approximately 3.5 million (ONS, 2022a). Between 2015–2021, employed persons in Northwest England socio-economics regional study area increased by 280,000 (ONS, 2022a). This equates to an average annual growth of 1.4%.

18.4.4.7 All industries GVA in the Northwest England socio-economics regional study area in 2021 was approximately £187 bn (ONS, 2022c). Between 2015–2021, GVA in the Northwest England socio-economics regional study area increased by £22 bn (ONS, 2022c). This equates to an average annual growth of 2.5%.

Wales

18.4.4.8 All industries employment in Wales in 2021 was approximately 1.3 million (ONS, 2022a). Between 2015–2021, employed persons in Wales increased by 13,000 (ONS, 2022a). This equates to an average annual growth of 0.2%.

18.4.4.9 All industries GVA in Wales in 2021 was approximately £67 bn (ONS, 2022c). Between 2015–2021, GVA in Wales increased by £7.4 bn (ONS, 2022c). This equates to an average annual growth of 2.4%.

United Kingdom/Great Britain

18.4.4.10 All industries employment in Great Britain (GB) in 2021 was approximately 31.4 million (ONS, 2022a). Between 2015–2021, employed persons in GB increased by 1.5 million (ONS, 2022a). This equates to an average annual growth of 0.8%.

18.4.4.11 All industries GVA in the United Kingdom (UK) in 2021 was approximately £2 tn (ONS, 2022c). Between 2015–2021, GVA in the UK increased by £222 bn (ONS, 2022c). This equates to an average annual growth of 2.4%.

18.4.4.12 The figures for the socio-economics regional study areas and socio-economics national study areas are presented in Table 18.10.

Table 18.10: All industries economy indicators (employment and GVA) – count and change.

Source: Business Register and Employment Survey (BRES) (ONS, 2022a), Regional gross value added (balanced) by industry: local authorities (ONS, 2022b), and Regional gross value added (balanced) by industry: all ITL regions (ONS, 2022c).

Socio-economics study area	Total employment (2021)	Employment change (2015–2021)	Total GVA (£m, 2020)	GVA change (£m, 2015–2020)
Regional				
North Wales	310,000	+4,000	£10,500	+£1,000
Northwest England	3,500,000	+280,000	£187,000	+£22,000
National				
Wales	1,300,000	+13,000	£67,000	+£7,400
GB/UK	31,400,000	+1,500,000	£1,950,000	+£222,000

Construction impact industries

North Wales

18.4.4.13 Construction impact industries employment in the North Wales socio-economics regional study area in 2021 was approximately 8,000 (ONS, 2022a). Between 2015–2021, employed persons in construction impact industries in the North Wales socio-economics regional study area decreased by approximately 1,000 (ONS, 2022a). This equates to an average annual decrease of 1.9%.

18.4.4.14 Construction impact industries GVA in the North Wales socio-economics regional study area in 2021 was approximately £1.8 bn (ONS, 2022b). Between 2015–2021, GVA in construction impact industries in the North Wales socio-economics regional study area increased by £190m (ONS, 2022b). This equates to an average annual growth of 2.2%.

Northwest England

18.4.4.15 Construction impact industries employment in the Northwest England socio-economics regional study area in 2021 was approximately 64,000 (ONS, 2022a). Between 2015–2021, employed persons in construction impact industries in Northwest England socio-economics regional study area decreased by approximately 5,000 (ONS, 2022a). This equates to an average annual decrease of 1.2%.

18.4.4.16 Construction impact industries GVA in the Northwest England socio-economics regional study area in 2021 was approximately £28 bn (ONS, 2022c). Between 2015–2021, GVA in construction impact industries in the Northwest England socio-economics regional study area increased by £1.9 bn (ONS, 2022c). This equates to an average annual growth of 1.4%.

Wales

18.4.4.17 Construction impact industries employment in Wales in 2021 was approximately 35,000 (ONS, 2022a). Between 2015–2021, employed persons in construction impact industries in Wales decreased by 3,000 (ONS, 2022a). This equates to an average annual decrease of 1.4%.

18.4.4.18 Construction impact industries GVA in Wales in 2021 was approximately £12 bn (ONS, 2022c). Between 2015–2021, GVA in construction impact industries in Wales increased by £600m (ONS, 2022c). This equates to an average annual growth of 1.0%.

UK/GB

18.4.4.19 Construction impact industries employment in Great Britain (GB) in 2021 was approximately 577,000 (ONS, 2022a). Between 2015–2021, employed persons in construction impact industries in GB decreased by 42,000 (ONS, 2022a). This equates to an average annual decrease of 1.2%.

18.4.4.20 Construction impact industries GVA in the United Kingdom (UK) in 2021 was approximately £290 bn (ONS, 2022c). Between 2015–2021, GVA in construction impact industries in the UK increased by £13 bn (ONS, 2022c). This equates to an average annual growth of 0.9%.

18.4.4.21 The figures for the socio-economics regional study areas and socio-economics national study areas are presented in Table 18.11.

Table 18.11: Construction impact industries economy indicators (employment and GVA) – count and change.

Source: BRES (ONS, 2022a), Regional gross value added (balanced) by industry: local authorities (ONS, 2022b), and Regional gross value added (balanced) by industry: all ITL regions.

Socio-economics study area	Employment (2021)	Employment change (2015–2021)	GVA (£m, 2020)	GVA change (£m, 2015–2020)
Regional				
North Wales	8,000	–1,000	£1,800	+£190
Northwest England	64,000	–5,000	£28,000	+£1,900
National				
Wales	35,000	–3,000	£12,000	+£600
GB/UK	577,000	–42,000	£290,000	+£13,000

Operations and maintenance impact industries

North Wales

18.4.4.22 Operations and maintenance impact industries employment in the North Wales socio-economics regional study area in 2021 was approximately 2,500 (ONS, 2022a). Between 2015–2021, employed persons in operations and maintenance impact industries in the North Wales socio-economics regional study area decreased by approximately 1,500 (ONS, 2022a). This equates to an average annual decrease of 7.5%.

18.4.4.23 Operations and maintenance impact industries GVA in the North Wales socio-economics regional study area in 2021 was approximately £1.3 bn (ONS, 2022b). Between 2015–2021, GVA in operations and maintenance impact industries in the North Wales socio-economics regional study area increased by £100m (ONS, 2022b). This equates to an average annual growth of 1.6%.

Northwest England

18.4.4.24 Operations and maintenance impact industries employment in the Northwest England socio-economics regional study area in 2021 was approximately 33,000 (ONS, 2022a). Between 2015–2021, employed persons in operations and maintenance impact industries in Northwest England socio-economics regional study area increased by approximately 1,000 (ONS, 2022a). This equates to an average annual increase of 2.6%.

18.4.4.25 Operations and maintenance impact industries GVA in the Northwest England socio-economics regional study area in 2021 was approximately £17 bn (ONS, 2022c). Between 2015–2021, GVA in operations and maintenance impact industries in the Northwest England socio-economics regional study area increased by £2 bn (ONS, 2022c). This equates to an average annual growth of 0.5%.

Wales

18.4.4.26 Operations and maintenance impact industries employment in Wales in 2021 was approximately 9,000 (ONS, 2022a). Between 2015–2021, employed persons in operations and maintenance impact industries in Wales decreased by 4,000 (ONS, 2022a). This equates to an average annual decrease of 5.9%.

18.4.4.27 Operations and maintenance impact industries GVA in Wales in 2021 was approximately £7.2 bn (ONS, 2022c). Between 2015–2021, GVA in operations and maintenance impact industries in Wales increased by £300m (ONS, 2022c). This equates to an average annual growth of 0.9%.

UK/GB

18.4.4.28 Operations and maintenance impact industries employment in Great Britain (GB) in 2021 was approximately 273,000 (ONS, 2022a). Between 2015–2021, employed persons in operations and maintenance impact industries in GB decreased by 5,000 (ONS, 2022a). This equates to an average annual decrease of 0.3%.

18.4.4.29 Operations and maintenance impact industries GVA in the United Kingdom (UK) in 2021 was approximately £190 bn (ONS, 2022c). Between 2015–2021, GVA in operations and maintenance impact industries in the UK increased by £12 bn (ONS, 2022c). This equates to an average annual growth of 1.3%.

18.4.4.30 The figures for each socio-economics regional study area and socio-economics national study area are presented in Table 18.12.

Table 18.12: Operations and maintenance impact industries economy indicators (employment and GVA) – count and change.

Source: BRES (ONS, 2022a), Regional gross value added (balanced) by industry: local authorities (ONS, 2022), and Regional gross value added (balanced) by industry: all ITL regions.

Socio-economics study area	Employment (2021)	Employment change (2015–2021)	GVA (£m, 2020)	GVA change (£m, 2015–2020)
Regional				
North Wales	2,500	–1,500	£1,300	+£100
Northwest England	33,000	+1,000	£17,000	+£2,000
National				
Wales	9,000	–4,000	£7,200	+£300
GB/UK	273,000	–5,000	£190,000	+£12,000

Decommissioning impact industries

North Wales

18.4.4.31 Decommissioning impact industries employment in the North Wales socio-economics regional study area in 2021 was approximately 3,000 (ONS, 2022a). Between 2015–2021, employed persons in decommissioning impact industries in the North Wales socio-economics regional study area decreased by approximately 2,000 (ONS, 2022a). This equates to an average annual decrease of 8.2%.

18.4.4.32 Decommissioning impact industries GVA in the North Wales socio-economics regional study area in 2021 was approximately £1.4 bn (ONS, 2022b). Between 2015–2021, GVA in decommissioning impact industries in the North Wales socio-economics regional study area increased by £140m (ONS, 2022b). This equates to an average annual growth of 2.1%.

Northwest England

18.4.4.33 Decommissioning impact industries employment in the Northwest England socio-economics regional study area in 2021 was approximately 37,000 (ONS, 2022a). Between 2015–2021, employed persons in decommissioning impact industries in Northwest England socio-economics regional study area decreased by approximately 4,000 (ONS, 2022a). This equates to an average annual decrease of 1.7%.

18.4.4.34 Decommissioning impact industries GVA in the Northwest England socio-economics regional study area in 2021 was approximately £19 bn (ONS, 2022c). Between 2015–2021, GVA in decommissioning impact industries in the Northwest England socio-economics regional study area increased by £2.1 bn (ONS, 2022c). This equates to an average annual growth of 2.6%.

Wales

18.4.4.35 Decommissioning impact industries employment in Wales in 2021 was approximately 11,000 (ONS, 2022a). Between 2015–2021, employed persons in decommissioning impact industries in Wales decreased by 7,000 (ONS, 2022a). This equates to an average annual decrease of 7.9%.

18.4.4.36 Decommissioning impact industries GVA in Wales in 2021 was approximately £8.1 bn (ONS, 2022c). Between 2015–2021, GVA in decommissioning impact industries in Wales increased by £400m (ONS, 2022c). This equates to an average annual growth of 0.9%.

UK/GB

18.4.4.37 Decommissioning impact industries employment in Great Britain (GB) in 2021 was approximately 309,000 (ONS, 2022a). Between 2015–2021, employed persons in decommissioning impact industries in GB decreased by 11,000 (ONS, 2022a). This equates to an average annual decrease of 0.6%.

18.4.4.38 Decommissioning impact industries GVA in the United Kingdom (UK) in 2021 was approximately £210 bn (ONS, 2022c). Between 2015–2021, GVA in decommissioning impact industries in the UK increased by £12 bn (ONS, 2022c). This equates to an average annual growth of 1.3%.

18.4.4.39 The figures for the socio-economics regional study areas and socio-economics national study areas are presented in Table 18.13.

Table 18.13: Decommissioning impact industries economy indicators (employment and GVA) – count and change.

Source: Business Register and Employment Survey (BRES) (ONS, 2022a), Regional gross value added (balanced) by industry: local authorities (ONS, 2022b), and Regional gross value added (balanced) by industry: all ITL regions (ONS, 2022c).

Socio-economics study area	Employment (2021)	Employment change (2015–2021)	GVA (£m, 2020)	GVA change (£m, 2015–2020)
Regional				
North Wales	3,000	–2,000	£1,400	+£140
Northwest England	37,000	–4,000	£19,000	+£2,100
National				
Wales	11,000	–7,000	£8,100	+£400
GB/UK	309,000	–11,000	£210,000	+£12,000

Offshore wind sector

18.4.4.40 Whilst there is no agreed Standard Industrial Classification 2007 (SIC07) based sector definition for offshore wind, OWIC provides an estimate of direct and indirect employment in the sector for the whole of the UK (OWIC, 2021). This was established through collecting detailed workforce data via an industry survey of the offshore wind sector, with robust extrapolation formula, ratios, and government multipliers then used to estimate the total current workforce:

- Direct employment: refers to an FTE that is directly involved in the manufacturing, development, construction, or operations and maintenance of an offshore windfarm. This includes engineering, procurement, construction,

and installation of any of the wind farm's finalised kit including, wind turbines, foundations, substations and cables. OWIC estimates there were 15,205 jobs directly supported by the offshore wind sector as at December 2020. Given the continuing growth of the offshore wind sector in terms of development since 2020, the current number of jobs in the sector is likely to be higher than the OWIC estimate.

- Indirect employment: refers to employment in industries that supply and support the core activities of offshore wind renewable energy deployment. Usually, these workers do not consider themselves as working in renewables; they produce steel, plastics, or other materials, or they provide financial and other services. These industries are not directly involved in renewable energy activities but produce intermediate inputs along the value chain of renewable energy technologies. OWIC's review of employment factors indicates the inclusion of indirect jobs typically increases overall employment numbers by anywhere from 50% to 100%. OWIC adopted a ratio of 83% for their analysis. OWIC estimates there were 10,888 jobs indirectly supported by the offshore wind sector as at December 2020
- Total: OWIC estimates there were 26,093 jobs directly and indirectly supported by the offshore wind sector as at December 2020.

18.4.4.41 OWIC also provide a regional breakdown of the industry survey results, which account for 11,365 jobs (representing 44% of the estimated total UK offshore wind workforce). The survey reported 772 jobs based in Northwest England (7% of the UK total), and 145 jobs in Wales (1% of the UK total). No data is provided for North Wales.

18.4.4.42 A summary of OWIC's offshore wind employment estimates is provided in Table 18.14.

Table 18.14: Offshore wind sector employment estimates.

Source: OWIC (2021).

Note: some figures have been rounded and may not sum.

Socio-economics study area	Survey-based employment	Share of UK total	Estimated offshore wind sector employment[7]
Regional			
North Wales	Estimate not available		
Northwest England	772	7%	1,770
National			
Wales	145	1%	330
UK	11,365	100%	26,090

[7] Regional figures derived by HJA on the basis of regional shares of UK total.

Labour market

Economic activity

18.4.4.43 Economic activity is a measure of those in employment or self-employment, as well as those actively looking for work. Economic inactivity is defined as people not in employment who have not been seeking work within the last four weeks and/or are unable to start work within the next two weeks. The ONS also reports on the rate of economically inactive individuals that want a job.

North Wales

18.4.4.44 The economic activity rate in the North Wales socio-economic regional study area in 2021 was 76% (ONS 2022d). The number of economically active individuals increased by an annual average of <0.1% between 2015–2021 (ONS, 2022d).

18.4.4.45 The share of those who were economically inactive who wanted a job was 15% (ONS, 2022d). The number of economically inactive individuals who wanted a job decreased by an annual average of 7.4% between 2015–2021 (ONS, 2022d).

Northwest England

18.4.4.46 The economic activity rate in the Northwest England socio-economic regional study area in 2021 was 77% (ONS 2022d). The number of economically active individuals increased by an annual average of 0.2% between 2015–2021 (ONS, 2022d).

18.4.4.47 The share of those who were economically inactive who wanted a job was 18% (ONS, 2022d). The number of economically inactive individuals who wanted a job decreased by 5.1% between 2015–2021 (ONS, 2022d).

Wales

18.4.4.48 The economic activity rate in Wales in 2021 was 76% (ONS 2022d). The number of economically active individuals increased by an annual average of 0.3% between 2015–2021 (ONS, 2022d).

18.4.4.49 The share of those who were economically inactive who wanted a job was 17% (ONS, 2022d). The number of economically inactive individuals who wanted a job decreased by 7.6% between 2015–2021 (ONS, 2022d).

UK

18.4.4.50 The economic activity rate in the UK in 2021 was 76% (ONS 2022d). The number of economically active individuals increased by an annual average of 0.3% between 2015–2021 (ONS, 2022d).

18.4.4.51 The share of those who were economically inactive who wanted a job was 19% (ONS, 2022d). The number of economically inactive individuals who wanted a job decreased by 4.5% between 2015–2021 (ONS, 2022d).

18.4.4.52 The figures for the socio-economics regional study areas and socio-economics national study areas are presented in Table 18.15.

Table 18.15: Economic activity rate and economically inactive individuals that want a job.

Source: Annual Population Survey (ONS, 2022d).

Socio-economics study area	Economically active individuals (2021)	Economic activity (2021)	Economically inactive individuals that want a job (2021)	Share of economically inactive individuals that want a job (2021)
Regional				
North Wales	314,000	76%	15,000	15%
Northwest England	3,430,000	77%	192,000	18%
National				
Wales	1,450,000	76%	79,000	17%
GB	32,380,000	78%	1,670,000	19%

Unemployment

18.4.4.53 The ONS Annual Population Survey uses the International Labour Organization's (ILO) definition of 'unemployment' as follows: individuals without a job who are able to start work in the two weeks following their participation in the survey, and who had either looked for worked in the four weeks prior to survey or were waiting to start a job they had already obtained. The unemployment rate is therefore the share of economically active individuals over the age of 16 years who are unemployed according to the ILO definition.

North Wales

18.4.4.54 The number of unemployed individuals in the North Wales socio-economic regional study area in 2022 was 11,000 (ONS, 2022e). The share of the total workforce that were unemployed was 3.4% in 2022 (ONS 2022d). The number of unemployed individuals decreased by an annual average of 6.3% between 2015–2022 (ONS, 2022e).

Northwest England

18.4.4.55 The number of unemployed individuals in the Northwest England socio-economic regional study area in 2022 was 151,000 (ONS, 2022e). The share of the total workforce that were unemployed was 4.2% in 2022 (ONS 2022e). The number of unemployed individuals decreased by an annual average of 3.4% between 2015–2022 (ONS, 2022e).

Wales

18.4.4.56 The number of unemployed individuals in Wales in 2022 was 54,000 (ONS, 2022e). The share of the total workforce that were unemployed was 3.5% in 2022 (ONS 2022e). The number of unemployed individuals decreased by an annual average of 7.8% between 2015–2022 (ONS, 2022e).

UK

18.4.4.57 The number of unemployed individuals in the UK in 2022 was 1.3 million (ONS, 2022e). The share of the total workforce that were unemployed was 3.8% in 2022 (ONS 2022e). The number of unemployed individuals decreased by an annual average of 4.8% between 2015–2022 (ONS, 2022e).

18.4.4.58 The figures for the socio-economics regional study areas and socio-economics national study areas are presented in Table 18.16.

Table 18.16: Unemployed individuals and unemployed rate.

Source: Annual Population Survey (ONS, 2022e).

Socio-economics study area	Unemployed Individuals (2021)	Unemployment rate (2021)	Change in unemployed individuals – per annum (2015–2021)
Regional			
North Wales	11,000	3.4%	–6.3%
Northwest England	151,000	4.2%	–3.4%
National			
Wales	54,000	3.5%	–7.8%
GB	1,300,000	3.8%	–4.8%

Housing and accommodation

Population

North Wales

18.4.4.59 The population of the North Wales socio-economics regional study area in 2020 was approximately 703,000 (ONS, 2022f). This increased by approximately 10,000 over the period 2015–2020, at an annual average rate of 0.3%.

Northwest England

18.4.4.60 The population of the Northwest England socio-economics regional study area in 2020 was approximately 7.4 million (ONS, 2022f). This increased by approximately 192,000 over the period 2015–2020, at an annual average rate of 0.5%.

Wales

18.4.4.61 Wales' population in 2020 was approximately 3.2 million (ONS, 2022f). This increased by approximately 71,000 over the period 2015–2020, at an annual average rate of 0.5%.

UK

18.4.4.62 The UK's population in 2020 was approximately 67.1 million (ONS, 2022f). This increased by approximately 2 million over the period 2015–2020, at an annual average rate of 0.6%.

18.4.4.63 The figures for the socio-economics regional study areas and socio-economics national study areas are presented in Table 18.17.

Table 18.17: Total population and population change.

Source: analysis of Population Estimates (ONS, 2022f).

Socio-economics study area	Total population (2020)	Total population change (2015–2020)	Average annual population change (2015–2020)
Regional			
North Wales	703,000	+10,000	+0.3%
Northwest England	7,370,000	+192,000	+0.5%
National			
Wales	3,170,000	+71,000	+0.5%
GB	67,100,000	+1,970,000	+0.6%

Total dwellings

North Wales

18.4.4.64 Stats Wales provides data on *Dwelling stock estimates by local authority and tenure* in Wales. The dwelling stock estimates provide annual base line information on the overall amount of housing stock at a Wales and local authority level. It is used as evidence for policy making by both central and local government. The data are used by the Welsh Government, local authorities and other housing organisations to help monitor trends in the overall level of Welsh housing stock, as well as any changes in its tenure distribution over time. Dwelling stock estimates are also used by the private and third sectors to help develop a picture of demographic trends.

18.4.4.65 In 2020, the North Wales socio-economics regional study area had approximately 329,000 dwellings (Stats Wales, 2020a). This increased by approximately 5,900 over the period 2015–2020, at an average annual rate of 0.4%.

Northwest England

18.4.4.66 The Department for Levelling Up, Housing and Communities (DLUHC) (formerly Ministry of Housing, Communities & Local Government) provides *Live tables on dwelling stock (including vacants)*.

18.4.4.67 In 2022, the Northwest England socio-economics regional study area had approximately 3.4 million dwellings (DLUHC, 2022a). This increased by approximately 162,000 over the period 2015–2022, at an average annual rate of 0.8%.

18.4.4.68 The figures for the socio-economics regional study areas are presented in Table 18.18 below.

Table 18.18: Total dwellings.

Source: Dwelling stock estimates by local authority and tenure (Stats Wales, 2020) and Table 109 Dwelling stock: by tenure and region (DLUHC, 2022a).

Socio-economics study area	Total dwellings[8]	Total dwellings change[9]	Average annual dwellings change
Regional			
North Wales	329,000	+5,900	+0.4%
Northwest England	3,360,000	+162,000	+0.8%

Private rented sector

18.4.4.69 Understanding an area's private rented dwelling stock can provide a useful profile of the type of accommodation that might be utilised by, for instance, temporary workers relocating to participate in construction phase activities.

North Wales

18.4.4.70 In 2020, 43,000 dwellings were recorded within the private rented sector within the North Wales socio-economics regional study area (Stats Wales, 2020a). This represented 13.1% of the total dwelling stock.

Northwest England

18.4.4.71 In 2020, 591,000 dwellings were recorded within the private rented sector within the Northwest England socio-economics regional study area (DLUHC, 2022a). This represented 17.6% of the total dwelling stock.

18.4.4.72 The figures for the socio-economics regional study areas are presented in Table 18.19 below.

Table 18.19: Private rented sector dwellings.

Source: Dwelling stock estimates by local authority and tenure (Stats Wales, 2020a) and Table 109 Dwelling stock: by tenure and region (DLUHC, 2022a).

Socio-economics study area	Total dwellings in private rented sector[10]	Private rented sector as share of total dwellings[5]
Regional		
North Wales (2020)	43,000	13.1%
Northwest England (2021)	591,000	17.6%

[8] North Wales – 2020; Northwest England – 2021.

[9] North Wales – 2015–2020; Northwest England – 2015–2021

[10] North Wales – 2020; Northwest England – 2021.

Vacant dwellings

18.4.4.73 Understanding an area's unoccupied dwelling stock can provide a useful profile of how easily an area might accommodate workers relocating to participate in construction, operations and maintenance, or decommissioning activities.

North Wales

18.4.4.74 Stats Wales provides data on *Chargeable empty and second homes, by local authority (number of dwellings)* in Wales.

18.4.4.75 In the statistical period 2022–23, the North Wales socio-economics regional study area has approximately 4,300 total chargeable[11] long term empty dwellings (Stats Wales, 2022b). This represents 1.5% of the total dwelling stock.

Northwest England

18.4.4.76 DLUHC provides data on *Vacant dwellings by local authority district* in England.

18.4.4.77 In 2022, the Northwest England socio-economics regional study area has approximately 41,000 long term vacant dwellings (DLUHC, 2022b). This represents 1.2% of the total dwelling stock.

18.4.4.78 The figures for the socio-economics regional study areas are presented in Table 18.20.

Table 18.20: Unoccupied dwellings.

Source: Chargeable empty and second homes, by local authority (number of dwellings) (Stats Wales, 2020b) and Table 615 Vacant dwellings by local authority district: England (DLUHC, 2022b).

Socio-economics study area	Total unoccupied dwellings	Unoccupied dwellings as share of total dwellings	Total unoccupied dwellings change	Average annual unoccupied dwellings change
Regional				
North Wales	4,300	1.5%	–1,050)	–4.2%
Northwest England	41,000	1.2%	+420	+0.1%

Tourism

North Wales

18.4.4.79 Tourism in Wales makes a contribution of £6.2 billion to Wales' GDP, and supports over 172,000 jobs (Wales Tourism Alliance, 2022). The tourism sector contributes around £700 million in GVA to the North Wales economy and supports around 35,000 jobs in the region (Ambition North Wales, 2022).

18.4.4.80 Data from The Great Britain Day Visitor 2019 Annual Report showed that North Wales had an average of 21.9 million day visits per year between 2017–2019 (Conwy (6.5 million), Gwynedd (5.4M million, Denbighshire (4 million), Flintshire (3.7 million), Isle of Anglesey (2.3 million)). These day visits accounted for average expenditure of £635 million per annum over the period. (Conwy (£212 m), Gwynedd (£203 m), Denbighshire (£126 m), Flintshire (£50 m), Isle of Anglesey (£44m)) (Visit England, Visit Scotland, and Visit Wales, 2019).

Overnight trips and accommodation

18.4.4.81 In 2021, there were around 3 million visits ("trips") to North Wales. These trips accounted for £578 million in spending in North Wales. There were around 10 million trips to Wales in 2021, and around 37 million overnight visits. Data for overnight visits is not available for North Wales. However, assuming North Wales' share of Welsh overnight visits is roughly equal to North Wales' share of Welsh trips, this indicates there were around 13 million overnight visits to North Wales in 2021.

18.4.4.82 Overnight accommodation data is not available for North Wales. Therefore – in the absence of granular data – monthly occupancy figures for serviced accommodation in Wales are presented in Table 18.21

Table 18.21: Monthly occupancy figures for serviced accommodation, Wales.

Source: United Kingdom Occupancy Survey (Visit England, Visit Scotland, Visit Wales and Northern Ireland Statistics and Research Agency).

	2017	2018	2019	2020	2021	Average
January	43%	47%	45%	61%	32%	**46%**
February	53%	51%	49%	71%	37%	**52%**
March	55%	53%	50%	40%	38%	**47%**
April	64%	59%	60%	20%	35%	**48%**
May	65%	66%	66%	29%	56%	**56%**
June	69%	71%	70%	31%	74%	**63%**
July	74%	71%	74%	26%	81%	**65%**
August	75%	74%	75%	68%	86%	**76%**
September	71%	68%	70%	60%	79%	**70%**
October	63%	57%	61%	26%	75%	**56%**
November	57%	56%	53%	37%	69%	**54%**
December	47%	53%	50%	25%	56%	**46%**
Average	**61%**	**61%**	**60%**	**41%**	**60%**	**57%**

18.4.4.83 Based on these occupancy rates, there is some slack in accommodation capacity in the North Wales socio-economics regional study area. This assumes regional occupancy rates reflect national rates. The highest monthly occupancy figure during the period 2017–2021 was 86% during August 2021. It is notable that occupancy rates

[11] i.e. liable to pay Council Tax, whether at a discounted rate, a premium rate, or a standard rate.

from July 2021 onwards (when COVID-19 restrictions were mostly lifted) have been consistently higher than the average across the period 2017–2021.

18.4.4.84 Excluding the pandemic affected period from March 2020 onwards, the highest monthly occupancy figure during the period January 2017 – February 2020 was 75% during August 2021.

18.4.4.85 Average occupancy across the period 2017–2021 was 57%.

Visitor assets

18.4.4.86 North Wales is known for its opportunities to experience the natural landscapes. It supports a wide range of adventurous activities which draw in tourists:

- Cycling and mountain biking: North Wales is known for its natural landscapes and mountains, which provide a multitude of routes for cyclists and mountain bikers. There are 14 routes that carve through a former slate mine in *Antur Stiniog*, and Snowdonia has multiple popular routes including Coed y Brenin and the Penmachno Trails
- Walking: the region is extremely popular in bringing in tourists who want to go walking. The Wales Coast Path stretches 870 miles around the whole the country and there are multiple routes in North Wales such as Llyn Coast, Cardigan Bay, and Pilgrims Way, allowing visitors to enjoy the scenic beaches and landscapes. The highest mountain in England and Wales, Snowdon, boasts the most famous walk in Wales as it provides stunning views from its climb and summit
- Extreme sports/experiences:
  - White water rafting: the Tryweryn River in Snowdonia's national park is used for white water rafting with its intense river rapids
  - Canyoning: a popular activity in Snowdonia is to navigate gorges and water chutes and abseil into plunge pools
  - Zip lining: two key attractions that provide stunning views of the mountains and lakes are Europe's fastest zipline, Velocity 2 in Penryhn Quarry, and Europe's first 4-person zipline, Titan 2 in Blaenau Ffestiniog
  - Trampolining: constructed within a large underground chamber are huge trampolines, known as Bounce Below
  - Caverns: five underground slate caverns have been transformed into a unique adventure playground which include zip lines, tunnels, and rope bridges
- Golf: golf is popular in North Wales with its scenic courses, including the North Wales Golf Club, which has hosted the Welsh Team Championships, and the Royal St David's Golf Club, which has hosted the Open Championships
- Photography: with its numerous mountains, forests, beaches, lakes, and rivers, North Wales is able to deliver some of the most stunning landscapes which attracts photographers to visit. Snowdon, Newborough Nature Reserve, South Stack are amongst some sites that enable photographers to capture the beautiful flora, fauna, and landscapes on offer
- Culture and art: visitors can take a trip to museums and galleries such as the Ruthin Craft Centre, Oriel Mostyn, the National Slate Museum, and The Royal Cambrian Academy of Art. There are also more interactive ways to experience culture and art including the Alice in Wonderland trail in Llandudno
- History and heritage: the region is embedded with historic legacies such as the Clwydian Range, Plas Mawr, Castell y Bere, and Conwy Castle. North Wales has 3 UNESCO World Heritage Sites which are popular attractions: The Slate Landscape of North West Wales, Castles and Town Walls of King Edward I in Gwynedd, and Pontcysyllte Aqueduct and Canal.

Northwest England

18.4.4.87 In 2015, there were 13.55 million domestic overnight trips to Northwest England, with an associated spending of £2.6 billion (Visit England, 2015). In 2019, Northwest England had 174 million tourism day visits, with associated expenditure of around £7.4 billion (Visit England, Visit Scotland, and Visit Wales, 2019). A high number of trips and visits to Northwest England were found to be for outdoor activities with a slightly lower proportion for visitor attractions. (Visit England, 2015). Northwest England had 54 million 'activities core to tourism'[12] visits in 2019 with an associated expenditure of £2.1 billion (Visit England, Visit Scotland, and Visit Wales, 2019).

Overnight trips and accommodation

18.4.4.88 In 2021, there were around 13.3 million visits ("trips") to Northwest England. These trips accounted for £3.3 billion in spending in Northwest England. There were around 41.3 million overnight visits to Northwest England in 2021.

18.4.4.89 Overnight accommodation data is not available for Northwest England. Therefore – in the absence of granular data – monthly occupancy figures for serviced accommodation in England are presented in Table 18.22

Table 18.22: Monthly occupancy figures for serviced accommodation, England.

Source: United Kingdom Occupancy Survey (Visit England, Visit Scotland, Visit Wales and Northern Ireland Statistics and Research Agency).

	2017	2018	2019	2020	2021	Average
January	56%	65%	65%	65%	24%	**55%**
February	63%	74%	73%	73%	29%	**62%**
March	66%	75%	75%	37%	33%	**57%**
April	70%	77%	76%	22%	34%	**56%**

[12] Activities core to tourism (ACT) is subset of tourism day visits and includes entertainment (cinema, concert, and theatre, etc.), undertaking outdoor activities, watching live sports, going to visitor attractions (historic house, theme park, museum etc.), going to specialist public event (festival, exhibition, etc.), general days out to explore an area

	2017	2018	2019	2020	2021	Average
May	73%	79%	79%	23%	34%	**58%**
June	80%	82%	80%	24%	57%	**65%**
July	84%	86%	85%	29%	64%	**70%**
August	81%	83%	82%	47%	71%	**73%**
September	84%	84%	83%	46%	72%	**74%**
October	80%	83%	82%	41%	71%	**71%**
November	78%	79%	79%	28%	68%	**66%**
December	71%	72%	71%	27%	56%	**59%**
Average	**74%**	**78%**	**78%**	**39%**	**51%**	**64%**

18.4.4.90 Based on these occupancy rates, it can be estimated there is some slack in overnight accommodation capacity in the Northwest England socio-economics regional study area, this is based on the assumption that regional occupancy rates reflect national rates. The highest monthly occupancy figure during the period 2017–2021 was 86% during July 2018. It is notable that occupancy rates from July 2021 onwards (when COVID-19 restrictions were mostly lifted) have mostly been lower than the average across the period 2017–2021.

18.4.4.91 Average occupancy across the period 2017–2021 was 64%.

Visitor assets

18.4.4.92 Northwest England has a wide range of recreation assets to offer, with a mixture of rural and urban landscapes. With access to the coast and the Cumbrian lands as well as large urban centres, such as Liverpool and Manchester, the region is able to draw a great number of visitors each year.

- Walking: the region is home to the famous national parks the Lake District and Peak District, as well as the Cumbria Coastal Way, a continuous walking route of 182 miles from the Solway Firth to Morecambe Bay. These landscapes provide an opportunity to enjoy natural sceneries and work to expose visitors to the heritage and cultural attractions that can be found within the regions' towns and cities
- Cycling and mountain biking: popular outdoor activities, with trails that follow Northwest England's coastline, such as an 81-mile 'Bay Cycleway' going through Arnside and Silverdale, or up Cumbrian mountains, such as Penrith
- Beaches and Seaside Towns: St Bees (Cumbria), Blackpool Beach, New Brighton (Wallasey) Beach, St Annes Pier, Southport Pier, and South Pier (Blackpool) are popular destinations to visit
- Golf: running 22 miles from Liverpool to Southport is England's Golf Coast. There are numerous courses across the area, including Royal Liverpool, Royal Birkdale, and Royal Lytham and St Annes that have collectively hosted the Open Championships 32 times since 1897
- Sports culture: popular Premier League football teams, famously Manchester United, Manchester City, Liverpool, and Everton. Manchester is also home to the National Football Museum. Chester Racecourse is the oldest racecourse in England
- Culture and arts: Liverpool, which was awarded as the City of Culture 2008, offers more museums and galleries than any other city outside of London, including Albert Dock, the Walker Art Gallery, and Tate Gallery. The Lowry, located on the waterfront at Salford Quays, is popular tourist destination, hosting a variety of performing and visual arts
- Music: located in the urban centres of the North West are multiple music venues, such as Blackpool Opera House, Echo Arena, Manchester Arena, and Bridgewater Hall. These provide venues to host some of the biggest names in the music industry. Liverpool is also renowned for its legacy of the Beatles
- History and heritage: the Northwest England region has numerous museums, monuments, and architectural attractions. The Imperial War Museum, Merseyside Maritime Museum, Lancaster City Museum, Liverpool Cathedral, Lancaster Castle, and Hadrian's Wall are all sites dedicated to providing an insight into the regions' heritages and histories. The Lake District, Jodrell Bank Observatory, and the Maritime Mercantile City of Liverpool (up to 2021) are classed as UNESCO heritage sites
- Retail: there is a vast array of shopping centres and quarters available to visitors in the major urban centres throughout the region.

Visual amenity

18.4.4.93 Based on the study area and viewpoint locations presented in Volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR, there are no visual resources located within the North Wales socio-economics regional study area.

18.4.4.94 The visual resources of relevance to tourism within the Northwest England socio-economics regional study area are listed in Table 18.23. These are based on the study area, representative viewpoints and designated sites presented in volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR.

Table 18.23: Visual resources, Northwest England socio-economics regional study area.

Source: volume 2, chapter 15: Seascape, landscape and visual resource.

Visual resource	Justification
Representative viewpoints	
Representative viewpoint 14: Cistercian Way, Walney Island, Cumbria	Long distance path used by walkers using Cistercian Way.
Representative viewpoint 15: Blackpool North Pier, Lancashire	Settlement seafront used by visitors to a public pier.
Representative viewpoint 16: Cumbria Coastal Way, Gutterby Banks/Townend Bank, Cumbria Coastal Way, Gutterby Banks/Townend Bank, Cumbria	Long distance path used by walkers using Cumbria Coastal Way (England Coast Path).
Representative viewpoint 17: Kinmont Buck Barrow, Cumbria	Access land (or public access equivalent) used by walkers.

Visual resource	Justification
Designated sites	
Lake District National Park	Two special qualities: • The high fells • Mosaic of lakes, tarns, rivers and coast Opportunities for quiet enjoyment.
The English Lake District World Heritage Site	The case for Outstanding Universal Value for The English Lake District is based on a combination of attributes falling under three intertwining and interdependent themes: 1. A landscape of exceptional beauty, shaped by persistent and distinctive agro-pastoral traditions which give it special character 2. A landscape which has inspired artistic and literary movements and generated ideas about landscapes that have had global influence and left their physical mark 3. A landscape which has been the catalyst for key developments in the national and international protection of landscapes.

18.4.4.95 There are currently 11 offshore wind farms located within the Irish Sea – as set out in Table 18.24.

Table 18.24: Offshore wind farms in Irish Sea.

Offshore wind farm	Commissioned	Capacity	No. of turbines
Gwynt y Môr	2015	576 MW	160
Rhyl Flats	2009	90 MW	25
North Hoyle	2003	60 MW	30
Walney Extension	2018	659 MW	47
Burbo Bank Extension	2017	258 MW	32
West of Duddon Sands	2014	389 MW	108
Ormonde	2012	150 MW	30
Walney 1&2	2010	367 MW	102
Robin Rigg	2010	180 MW	60
Burbo Bank	2007	90 MW	25
Barrow	2006	90 MW	30

18.4.4.96 These existing windfarms are part of the visual baseline for coastal areas in the North Wales tourism regional study area and the Northwest England tourism regional study area.

18.4.5 Future baseline scenario

18.4.5.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires that “an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge” is included within the Environmental Statement. In the event that Morgan Generation Assets does not come forward, an assessment of the future baseline conditions has been carried out and is described within this section.

Economy – UK employment and GVA

18.4.5.2 Analysis by the Office for Budget Responsibility sets out forecasts for the UK economy to 2028. This indicates that Gross Domestic Product (GDP) recovered to near pre-pandemic levels during 2022. However, the current squeeze on real incomes, rise in interest rates, and fall in house prices all weigh on consumption and investment, tipping the economy into a recession predicted to last just over a year from the third quarter of 2022, with a peak-to-trough fall in GDP of 2% (OBR, 2022). GDP is expected to return to growth in 2024, and output is set to recover its pre-pandemic level in the fourth quarter of 2024 (OBR, 2022).

18.4.5.3 The National Foundation for Educational Research (NFER) and Nuffield Foundation have published long-run employment prospects for the UK (NFER and Nuffield Foundation, 2022). The report is an update of the labour market assessments produced by the Institute for Employment Research and Cambridge Econometrics in their Working Futures series of reports – such assessments have been conducted on a regular basis for many years. They include detailed quantitative assessments about the future size and composition of the labour market, focusing in particular on the patterns of employment by industry and occupation.

18.4.5.4 The ‘Baseline’ projections presented in the report are based on the macroeconomic, multi-sectoral model, developed by Cambridge Econometrics (one of the most well regarded forecasting agencies in the UK). They include detailed sectoral employment forecasts and underlying labour market projections. These baseline projections take account of existing technological trends (assuming that innovation, automation, as well as energy and environmental transitions, continue at a similar pace in the future). They also include the impact of other labour market factors, including demographic changes (such as population growth, migration and the current demographic structure of the workforce), as well as the impact of Brexit and the pandemic. In addition, they take account of any changes to the policy landscape which have been made or announced. The model focuses on how the sectoral structure of the economy will change.

18.4.5.5 A summary of the forecasts for employment across six broad economic sectors is presented in Table 18.25. These broad economic sectors do not provide as much detail as the impact industries defined at section 18.4.1 – however they provide a useful indication of the general direction of travel the economy is currently predicted to take.

18.4.5.6 The broad sectors that map most closely with the impact industries definition used in this assessment are:

- Construction impact industries: primary sector and utilities, manufacturing, and construction
- Operations and maintenance impact industries: primary sector and utilities and construction

- Decommissioning impact industries: primary sector and utilities and construction.

18.4.5.7 Employment in primary sector and utilities is expected to decrease by an average of 0.1% per annum between 2019–2035. Activity represented by this broad sector covers much more than just the offshore wind sector or the wider renewables sector. This demonstrates the importance of transitioning the employment and skills base currently concentrated on declining utilities sectors such as oil and gas into growing sectors such as offshore wind and other renewables. Employment in manufacturing is expected to decrease by an average of 0.9% per annum between 2019–2035. Both broad sector forecasts are in contrast to employment in the whole of the economy which is predicted to increase by an average of 0.4% per annum over the same period.

18.4.5.8 Employment in construction is expected to increase by an average of 0.6% per annum between 2019–2035 (period provided in source data), which is above the forecast for the whole of the economy.

Table 18.25: UK employment (000s) by broad sector.

Source: NFER and Nuffield Foundation, 2022

Broad sector	2019	2035	Change 2019–2035 (total)	Change per annum (%)
Primary sector & utilities	820	810	–-20	–-0.1%
Manufacturing	2,700	2,300	–-300	–-0.9%
Construction	2,300	2,600	+200	+0.6%
Trade, accommodation & transport	9,300	9,900	+500	+0.3%
Business & other services	11,500	12,300	+900	+0.5%
Non-market services	8,900	9,800	+900	+0.6%
Total	35,500	37,700	+2,200	+0.4%

18.4.5.9 Research by OWIC (2021) estimates the offshore wind sector could directly and indirectly support almost 70,000 jobs by 2026 (up from 26,093 in 2020).

18.4.5.10 This is likely to involve some transition from declining energy industries such as offshore oil and gas. The Institute for Public Policy Research (IPPR) suggests that 68% of jobs in oil and gas sectors have skills that are at least partially transferable to low-carbon industries (IPPR, 2020). However, the IPPR also found that many fewer jobs in oil and gas sectors (28%) have 'good' skills overlap with low carbon industries. There is, therefore, a need for 'upskilling' in order to facilitate the successful transition of workers from carbon intensive to low carbon sectors.

18.4.5.11 A summary of the forecasts for GVA across six broad economic sectors is presented in Table 18.26.

18.4.5.12 GVA in primary sector and utilities is expected to decrease by an average of 0.3% per annum between 2019–2035. This forecast is in contrast to GVA in the whole of the economy which is predicted to increase by an average of 1.2% per annum over the same period.

18.4.5.13 GVA in manufacturing is expected to increase by an average of 0.9% per annum between 2019–2035. This forecast is lower than the predicted increase for the whole of the economy.

18.4.5.14 GVA in construction is expected to increase by an average of 1.5% per annum between 2019–2035. This forecast is higher than the predicted increase for the whole of the economy.

Table 18.26: UK GVA (£billions) by broad sector.

Source: NFER and Nuffield Foundation, 2022

Broad sector	2019	2035	Change 2019–2035 (total)	Change per annum (%)
Primary sector & utilities	820	810	–-20	–-0.3%
Manufacturing	2,700	2,300	–-300	+0.9%
Construction	2,300	2,600	+200	+1.5%
Trade, accommodation & transport	9,300	9,900	+500	+1.0%
Business & other services	11,500	12,300	+900	+1.0%
Non-market services	8,900	9,800	+900	+1.5%
Total	35,500	37,700	+2,200	+1.2%

UK labour market

18.4.5.15 UK unemployment is expected to rise by 505,000 from 3.5% to peak at 4.9% in the third quarter of 2024 (OBR, 2022).

Housing, accommodation and local services

18.4.5.16 The ONS and other statistics authorities regularly produce population projections which estimate the future size and age structure of the population of the UK, its regions, and local authorities.

18.4.5.17 The latest available data for the UK is the 2020-based interim set of projections (ONS, 2023). Data for the Northwest England socio-economics regional study area is available via the previous 2018-based edition of the dataset (ONS, 2020). Data for the North Wales socio-economics regional study area and Wales is available via the 2018-based edition (Stats Wales, 2021). A summary of population projections for the relevant socio-economic study areas is presented in Table 18.27.

18.4.5.18 Populations in the North Wales socio-economics regional study area and Wales national study area are expected to increase by approximately 0.2% per annum over the period 2022–2040. Populations in the Northwest England socio-economics regional study area and the UK national study area are expected to increase by approximately 0.3% per annum over the same period.

Table 18.27: Population projections.

Source: various.

Socio-economics study area	Population 2022	Population 2040	Change 2022–2040 (total)	Change per annum (total)	Change per annum (%)
Regional					
North Wales	700,000	720,000	+14,000	+800	+0.2%
Northwest England	7,400,000	7,800,000	+420,000	+23,000	+0.3%
National					
Wales	3,200,000	3,300,000	+120,000	+7,000	+0.2%
GB	67,800,000	71,600,000	+3,800,000	+210,000	+0.3%

Tourism

18.4.5.19 Consideration has been given to relevant aspects of the future baseline which could impact tourism via similar pathways to Morgan Generation Assets i.e. visual amenity. Not including the Morgan Generation Assets project, there are currently three proposed offshore wind farms located within English and Welsh waters off the Northwest England and North Wales coasts (see Table 18.28).

Table 18.28: Proposed offshore wind farms in English and Welsh waters – Irish Sea.

Proposed offshore wind farm	Proposed commissioning date	Proposed installed capacity	Proposed no. of turbines
Mona Offshore Wind Farm	2028	1.5 GW	up to 107
Morecambe Offshore Windfarm	2028	480 MW	20–40
Awel y Môr Offshore Wind Farm	TBC	500 MW	Up to 50

18.4.5.20 These proposed windfarms have the potential to contribute to the baseline visual amenity.

18.4.6 Data limitations

18.4.6.1 Specific data on employment and GVA within offshore wind activities is not available across socio-economics regional study areas on a consistent basis.

18.4.6.2 Conventional modelling of potential economic impacts for most industrial sectors relies on government statistics, for example, those based on SIC07 codes. SIC07 data is most appropriate for traditional industries. The development of new codes for a newly emerging and rapidly growing sector such as offshore wind, however, takes time. At this stage, there are currently no SIC07 codes specific to the offshore wind sector. This means that conventional SIC analyses of offshore wind and related activities needs to map existing SIC07 data onto offshore wind and related activities, which is not straightforward. Analyses using SIC07 codes also rely on generalised data. This means that – either intentionally or unintentionally – some activities relevant to offshore wind and related activities might be excluded, and other activity unrelated to offshore wind and related activities might be included. There is no officially agreed definition to be used when assessing the offshore wind related industry based on SIC07 codes.

18.4.6.3 Use of BRES data covers the period 2015 to 2021 as there is a discontinuity with earlier data (pre-2015) following the inclusion of PAYE only businesses in the dataset.

18.4.6.4 Employment and GVA baseline conditions for decommissioning impact industries are presented within this chapter. However, the scale and approach to decommissioning is not yet known as it is not currently known what best practice will be at the time of decommissioning. It is therefore likely that baseline conditions in decommissioning impact industries will have changed by the time decommissioning of the Morgan Generation Assets commences.

18.4.6.5 Data on economic activity rates and resident-based employment are collected via the Annual Population Survey. As this is a survey, data from smaller areas (e.g. local authority level) can exhibit greater volatility than data from larger areas due to smaller sample sizes. These limitations are not deemed to be of sufficient scale to undermine the validity of the assessment and remain the best available data.

18.5 Impact assessment methodology

18.5.1 Overview

18.5.1.1 The socio-economics impact assessment has followed the methodology set out in volume 1, chapter 5: EIA methodology of the PEIR. There is no official guidance or legislation governing the process of socio-economics and tourism EIA assessment of effects. This chapter's approach is based on the most up-to-date and relevant methods available at the time of writing, informed by professional judgement.

18.5.1.2 However, specific to the socio-economic and tourism EIA, the following, non-statutory, guidance documents have been considered:

- Glasson, J. et al. (2020). Guidance on assessing the socio-economic impacts of offshore wind farms, Oxford Brookes University
- BVG Associates (2019). Guide to an offshore wind farm, The Crown Estate and Catapult Offshore Renewable Energy
- BVG Associates (2015). Methodology for measuring the UK content of UK offshore wind farms.

18.5.2 Impact assessment criteria

18.5.2.1 The criteria for determining the significance of effects is a two-stage process that involves defining the magnitude of the potential impacts and the sensitivity of the receptors. This section describes the criteria applied in this chapter to assign values to the magnitude of potential impacts and the sensitivity of the receptors. The terms used to define magnitude and sensitivity are based on those which are described in further detail in volume 1, chapter 5: EIA methodology of the PEIR.

18.5.2.2 As this assessment sets out magnitude, sensitivity and significance for regional and national socio-economics study areas; the assessment has been tabulated for ease of interpretation. In addition, for each potential impact pathway, the baseline conditions for which magnitude and sensitivity are assessed are presented within the specific impact pathway assessment.

Magnitude of potential impacts

18.5.2.3 The magnitude of impacts can be assessed on the basis of a number of factors – spatial extent, duration, frequency, and reversibility (as per volume 1, chapter 5: Environmental Impact Assessment methodology of the PEIR). Within the topic of socio-economics, these factors are considered as follows:

- Spatial extent: geographical area over which the impact may occur
- Duration: the time over which an impact occurs. An impact may be described as short, medium or long-term, and permanent or temporary. This chapter assesses potential impacts predicted to last for more than five years as 'long term', potential impacts predicted to last between one year and five years as 'medium term', and potential impacts predicted to last less than one year as 'short term'. As such, construction phase and decommissioning phase impacts are predicted to be medium term (up to 4 years) and therefore temporary. Operations and maintenance phase impacts are predicted to be long term (35 years). Given this is a 'generational' period of time, within the context of socio-economics these impacts can be considered permanent
- Frequency: the number of times an impact occurs across the relevant phase/lifetime of a project. Construction phase and decommissioning phase impacts are predicted to be intermittent. Operations and maintenance phase impacts are predicted to be continuous.

18.5.2.4 This chapter's assessment also includes scale as a factor when assessing the magnitude of potential impacts.

- Scale: the expected degree of change relative to baseline conditions. For each economic and social impact under consideration, the scale of potential impacts is assessed against multiple baseline conditions and aggregated to a single scale level as appropriate. In order to ensure consistency of interpretation, the scale assessed against each baseline condition is assigned a value as per Table 18.29. The average value across baseline conditions is then calculated and used to determine the overall scale. For ease of interpretation, these values have not been set out within section 18.8 and are include in Table 18.29 for transparency.

18.5.2.5 The criteria for defining magnitude in this chapter are outlined in Table 18.29 below.

Table 18.29: Definition of terms relating to the magnitude of an impact.

Magnitude of impact	Definition	Assigned value for calculating overall scale
High	The impact would result in a major worsening of socio-economic conditions compared to the baseline, and/or quality of socio-economic conditions; and/or the impact is anticipated to occur at a national level; and/or the impact is predicted to be long term and/or permanent (Adverse).	3
	The impact would result in major improvement of socio-economic conditions compared to the baseline, and/or quality of socio-economic conditions; and/or the impact is anticipated to occur at a national level; and/or the impact is predicted to be long term and/or permanent (Beneficial).	
Medium	The impact would result in moderate worsening of socio-economic conditions compared to the baseline; and/or the impact is anticipated to occur at a regional level; and/or the impact is predicted to be medium term (Adverse).	2
	The impact would result in moderate improvement of socio-economic conditions compared to the baseline; and/or the impact is anticipated to occur at a regional level; and/or the impact is predicted to be medium term (Beneficial).	
Low	The impact would result in minor worsening of socio-economic conditions compared to the baseline; and/or the impact is anticipated to occur at a local level; and/or the impact is predicted to be short term and/or temporary (Adverse).	1
	The impact would result in minor improvement of socio-economic conditions compared to the baseline; and/or the impact is anticipated to occur at a local level; and/or the impact is predicted to be short term and/or temporary (Beneficial).	
Negligible	The impact would result in very minor worsening of socio-economic conditions compared to the baseline; and/or the impact is anticipated to occur at a local level; and/or the impact is predicted to be short term and/or temporary (Adverse).	0
	The impact would result in very minor improvement of socio-economic conditions compared to the baseline; and/or the impact is anticipated to occur at a local level; and/or the impact is predicted to be short term and/or temporary (Beneficial).	
No change	The impact would result in no change of socio-economic conditions.	N/A – no socio-economic impact will result in no change.

Sensitivity of receptors

18.5.2.6 The sensitivity of receptors can be assessed on the basis of a number of factors – vulnerability/tolerance, recoverability, and value/importance (as per volume 1, chapter 5: Environmental Impact Assessment methodology):

- Vulnerability/tolerance: the degree to which a receptor can accommodate a temporary or permanent change.

- Recoverability: the ability of a receptor to be able to return to a state close to that which existed before an activity or event occurred.
- Value and importance: the importance of the receptor in terms of social/community and/or economic value. In this chapter the receptor's policy importance is used as the primary indicator of value.

18.5.2.7 The criteria for defining sensitivity in this chapter are outlined in Table 18.30 below.

Table 18.30: Definition of terms relating to the sensitivity of the receptor.

Sensitivity	Definition
Very High	Very high value i.e. receptor of very high policy importance, and evidence of very high vulnerability/tolerance and/or very low recoverability i.e. potentially major socio-economic challenges.
High	High value i.e. receptor of high policy importance, and/or evidence of high vulnerability/tolerance and/or low recoverability i.e. potentially major socio-economic challenges.
Medium	Medium value i.e. receptor of medium policy importance, and/or evidence of medium vulnerability/tolerance and recoverability i.e. potentially moderate socio-economic challenges.
Low	Low value i.e. receptor of low policy importance, and/or evidence of low vulnerability/tolerance and/or high recoverability i.e. potentially minor socio-economic challenges.
Negligible	No material value i.e. receptor of no importance at any policy level, and/or evidence of very little or no vulnerability/tolerance i.e. no evidenced socio-economic challenges.

Significance of effects

18.5.2.8 The significance of the effect upon socio-economics is determined by correlating the magnitude of the impact and the sensitivity of the receptor (Table 18.31). Where a range of significance of effect is presented in, the final assessment for each effect is based upon professional judgement. In such instances, for potentially beneficial effects the lower significance of effect is adopted so as not to over-estimate potential beneficial effects. For potentially adverse effects, the higher significance of effect is adopted so as not to under-estimate potential adverse effects.

18.5.2.9 For the purposes of this assessment, any effects with a significance level of minor or less have been concluded to be not significant in terms of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Table 18.31: Matrix used for the assessment of the significance of the effect.

Sensitivity of receptor	Magnitude of impact				
	No Change	Negligible	Low	Medium	High
Negligible	No change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No change	Minor	Minor or Moderate	Moderate or Major	Major
Very High	No change	Minor	Moderate or Major	Major	Major

18.5.3 Technical impact report

18.5.3.1 Volume 4, annex 18.1: Socio economics technical impact report of the PEIR sets out an analysis of the economic and social impacts associated with the Morgan Generation Assets. This has been prepared to inform the assessment of significant effects for the topic of socio-economics.

18.5.3.2 The analysis is based on the best and most up-to-date information available at the time of reporting, which includes:

- The PEIR Project Design Envelope (PDE) for the Morgan Generation Assets
- Oxford Economics (2021) The Impact on the UK Economy of bp/EnBW's Proposed Windfarm – provides an estimate of the employment and GVA created by a 3 GW capacity offshore wind farm in the UK economy. This is based on early project primary expenditure data provided to Oxford Economics by bp/EnBW in 2021
- BVG Associates (2019) Guide to an Offshore Windfarm prepared for the Crown Estate - which sets out indicative costs by component of a typical windfarm – see A.1 Appendix 1 for further details
- Glasson et al (2020) Guidance on assessing the socio-economic impacts of offshore wind farms (OWFs).

18.5.3.3 The technical impact report considers the potential socio-economics impacts of the Morgan Generation Assets within the following categories:

- Economic impacts: covering the employment and GVA impacts associated with the Morgan Generation Assets
- Social impacts: covering the impacts of the workforce associated with the Morgan Generation Assets on housing, accommodation, and population.

18.5.3.4 In addition to the information summarised below, further details on the approach to estimating economic and social impacts can be found in volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR.

Economic impacts

Scenarios

18.5.3.5 Economic impacts are assessed on the basis of a 'central' scenario, which is based on a set of assumptions derived from evidence of impacts associated with existing conditions in the offshore wind sector.

18.5.3.6 With regards to the construction phase, the central impact scenario assumes that no single port can support all activities associated with the installation of the Morgan Generation Assets. Port capacity and capabilities determine the facilities at which the installation of individual components could take place.

18.5.3.7 With regards to the operations and maintenance phases, the central impact scenario assumes that a single port within the North Wales socio-economics regional study area or the Northwest England socio-economics regional study area would be selected as the primary facility for this phase of the Morgan Generation Assets.

18.5.3.8 A 'low' impact scenario would cover a situation where a primary port outside England and Wales is selected (applies to both construction and operations and maintenance phases), which would result in much lower impacts in the North Wales socio-economics regional study area, Northwest England socio-economics regional study area, and Wales national study area. In a 'low' impact scenario, UK impacts would be expected to be retained at the levels assessed i.e. it is not anticipated the activities associated with the assessed impacts would be located outside the UK.

18.5.3.9 A 'high' impact scenario would cover a situation where an increased level of construction phase impacts would be located within the North Wales socio-economics regional study area, Northwest England socio-economics regional study area, and Wales and the UK national study areas. This would be the result of an increase in both port and supply chain capacity and capabilities, allowing for increased delivery of fabrication and installation at regional, and national levels. There is insufficient information available at this stage to define the parameters of a 'high' scenario.

18.5.3.10 Further, UK impacts are inclusive of any stated regional and Wales impacts i.e. regional and Wales impacts are a subset of UK impacts. Similarly, North Wales regional impacts are a subset of Wales impacts.

18.5.3.11 Section 18.14, Next steps, details the intention to explore economic impact scenarios as part of the DCO Application, to understand the potential alternative outcomes given the level of uncertainty at the pre consenting stage, particularly in terms of location of expenditure.

Additionality

18.5.3.12 The rules of thumb adopted here include direct, indirect, and induced employment as follows:

- Direct: these economic impacts are directly attributable to a development. For example, with respect to Morgan Generation Assets, the direct employment impacts are the jobs supported by activities associated with delivering each phase of the project.
- Indirect: these economic impacts are secondary impacts that occur as a result of the interactions between a development and other parts of the economy. For example, with respect to Morgan Generation Assets, the project will require fabrication of components and subcomponents, and supply of equipment and transportation, all of which increases sector demand leading to economic impacts throughout the supply chain.
- Induced: these economic impacts result from changes in household spending patterns as a consequence of direct and indirect economic impacts. For example, with respect to Morgan Generation Assets, the employment opportunities supported by the project (including those throughout the supply chain) result in workers having income to spend, leading to further economic impacts in other parts of the economy.

18.6 Key parameters for assessment

18.6.1 Maximum design scenario

18.6.1.1 The maximum design scenarios (hereafter abbreviated to MDS) identified in Table 18.32 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. These scenarios have been selected from the Project Design Envelope provided in volume 1, chapter 3: Project description of the PEIR. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different infrastructure layout), to that assessed here be taken forward in the final design scheme.

18.6.1.2 The MDS assumes concentration of activities in a single regional study area. If activities associated with either construction, operations and maintenance, or decommissioning are to be more dispersed across multiple ports and/or regions, the effect in any given region would be no greater than the levels assessed under the MDS.

Table 18.32: Maximum design scenario considered for the assessment of potential impacts on socio-economics.

[a] C=construction, O=operations and maintenance, D=decommissioning

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	**Construction phase** • The potential generating capacity is 1.5 GW installed capacity at the onshore connection point to the national grid. • MDS assumes a similar delivery model to previous offshore wind farms developed in the UK. • MDS assumes construction phase of up to 4 years, • MDS assumes some offshore construction phase activities to be delivered from a port (or more than one port) located in North Wales or Northwest England. • UK potential economic impacts are assessed on the basis of spend assumptions established by bp in 2021. See volume 4, annex 18.1: Socio-economics technical impact report of the PEIR. • Sub UK potential impacts are estimated by applying employment and GVA prediction ready reckoners as set out in Glasson et al (2020) to a 1.5 GW wind farm. See volume 4, annex 18.1: Socio-economics technical impact report of the PEIR **Operations and maintenance phase** • MDS assumes 1.5 GW installed capacity. • MDS assumes a similar delivery model to previous offshore wind farms developed in the UK. • MDS assumes operations and maintenance phase of 35 years. • MDS assumes operations and maintenance support facility to be located in North Wales or Northwest England. • UK potential economic impacts are assessed on the basis of spend assumptions established by bp in 2021. See volume 4, annex 18.1: Socio-economics technical impact report of the PEIR. • Sub UK potential impacts are estimated by applying employment and GVA prediction ready reckoners as set out in Glasson et al (2020) to a 1.5 GW wind farm. See volume 4, annex 18.1: Socio-economics technical impact report of the PEIR. **Decommissioning phase** • MDS assumes 1.5 GW installed capacity. • MDS assumes decommissioning support facility to be located in North Wales or Northwest England. • MDS assumes cables may be removed, with cable and foundation protection to be left *in situ*. • The scale and duration of decommissioning activity is uncertain. However the decommissioning of the offshore parts of the wind farm is likely to be supported in a similar way to installation. Therefore, MDS assumes decommissioning phase of up to 4 years. • The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known	**Construction phase** Potential expenditure on the following activities associated with the Morgan Generation Assets could support employment and GVA output in companies that are directly engaged in the fabrication and installation supply chain: • wind turbine fabrication: nacelle, blades, tower • balance of plant fabrication: inter-array cables, wind turbine foundations, and offshore substations • installation of wind turbine and balance of plant: wind turbines, inter-array cables, wind turbine foundations, offshore substations, and other installation. The central impact scenario has been assessed to provide a fair assessment of the realistic potential impacts associated with the Morgan Generation Assets to avoid over-stating beneficial effects. The fabrication and installation of the Morgan Generation Assets could also go on to support employment and GVA output indirectly in the wider supply chain through: • indirect potential impacts result from the activities of suppliers to the Applicant or its major contractors; and • induced potential impacts result from the personal expenditure of individuals working on the Morgan Generation Assets. **Operations and maintenance phase** Potential expenditure on the following activities associated with the operations and maintenance of the Morgan Generation Assets could support employment and GVA output in companies that are directly engaged in the operations and maintenance supply chain: • wind turbine and balance of plant maintenance and servicing • vessel and crew activity • SOVs • guard vessels. The central impact scenario has been assessed. Assessment of this scenario provides a fair assessment of the most realistic potential impacts associated with the Morgan Generation Assets. **Decommissioning phase** Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Morgan Generation Assets could support employment and GVA output in companies that are directly engaged in the decommissioning supply chain. The decommissioning of the Morgan Generation Assets could also go on to support employment and GVA output indirectly in the wider supply chain through: • indirect potential impacts result from the activities of suppliers to the Applicant or its major contractors • induced potential impacts result from the personal expenditure of individuals working on the Morgan Generation Assets. The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known. It is anticipated that all structures above seabed level will be removed, but subject to review in the future on the basis of likely environmental impacts. Generation cabling will also be removed where possible and appropriate to do so. Volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR notes the workforce for the decommissioning of the offshore parts of the wind farm is likely to be supported in a similar way to installation. Therefore, decommissioning phase effects have been assessed on the basis of the assessment of central impact scenario construction phase effects (which have been discounted in order to account for potential construction phase impacts including those resulting from fabrication).

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
The impact of increased employment opportunities.	✓	✓	✓	**Construction phase** • As per the impact on economic receptors including employment, GVA, and supply chain demand. **Operations and maintenance phase** • As per the impact on economic receptors including employment, GVA, and supply chain demand. **Decommissioning phase** • As per the impact on economic receptors including employment, GVA, and supply chain demand.	**Construction phase** The central impact scenario has been assessed to provide a fair assessment of the realistic impacts associated with the Morgan Generation Assets to avoid over-stating beneficial effects. Direct and indirect employment associated with the construction phase could increase the range and supply of employment opportunities that are accessible to residents of the area. **Operations and maintenance phase** The central impact scenario has been assessed. Assessment of this scenario provides a fair assessment of the most realistic potential impacts associated with the Morgan Generation Assets. Direct and indirect employment associated with the operations and maintenance phase could increase the range and supply of employment opportunities that are accessible to residents of the area. **Decommissioning phase** Direct and indirect employment associated with the decommissioning phase could increase the range and supply of employment opportunities that are accessible to residents of the area. Decommissioning phase effects have been assessed on the basis of the assessment of central scenario construction phase effects (which have been discounted in order to account for potential construction phase impacts including those resulting from fabrication).
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	**Construction phase** • MDS assumes 1.5 GW installed capacity. • MDS assumes a similar delivery model to previous offshore wind farms developed in the UK. • MDS assumes the maximum activity, and associated vessel numbers, located at any single potential port will be: – Wind turbine generators (installation) ○ Main installation and support vessels: x4 ○ Survey vessels: x1 ○ Crew transfer vessels: x4 – Inter array cables (installation) ○ Cable lay installation and support vessels: x4 ○ Survey vessels: x1 ○ Seabed preparation vessels for boulder removal, grapnel, pre-sweep/levelling: 4 ○ Crew transfer vessels: x1 ○ Cable protection installation vessels: x2 • MDS assumes construction phase of up to 4 years, • MDS assumes construction support facility to be located in North Wales or Northwest England. **Operations and maintenance phase** • MDS assumes 1.5 GW installed capacity. • MDS assumes a similar delivery model to previous offshore wind farms developed in the UK.	This impact could be either beneficial or adverse depending on the scale of effect. Therefore it is appropriate to test the MDS in order to test whether the scale of effects is likely to create adverse impact. The MDS is informed by analysis within volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR setting out the likely source of workforce and likely demand for temporary, medium term and long term accommodation. volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR draws on the Project Design Envelope setting out likely crew sizes, vessel movements and shift patterns. **Construction phase** Direct and indirect employment generated during the construction phase could increase demand for housing, accommodation and local services (during the construction phase). Particularly mobile installation and commissioning workforces. Many of these workers will be based offshore but may give rise to temporary accommodation demand before and after two week shifts. The central impact scenario has been assessed to provide a fair assessment of the realistic impacts associated with the Morgan Generation Assets to avoid over-stating beneficial effects. **Operations and maintenance phase** Direct and indirect employment generated during the operations and maintenance phase could increase demand for housing, accommodation and local services. It is anticipated that due to the long term nature of the operations and maintenance requirements the workforce will live locally. Some of those may relocate to the area requiring long term/permanent housing within the vicinity of the potential operations and maintenance port. The central impact scenario has been assessed. Assessment of this scenario provides a fair assessment of the most realistic potential impacts associated with the Morgan Generation Assets. **Decommissioning phase** As for construction phase.

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				• MDS assumes the maximum activity, and associated vessel numbers, located at any single potential port will be: – Operation and maintenance ○ Crew transfer vessel/workboats: x5 ○ Jack-up vessels: x3 ○ Cable repair vessels: x3 ○ Other vessels (SOVs): x4 ○ Excavators or backhoe dredger: x1 • MDS assumes operations and maintenance phase of 35 years. • MDS assumes construction support facility to be located in North Wales or Northwest England. **Decommissioning phase** • As for construction phase.	
The impact on tourism and recreation.	✓	✓	✓	**Construction phase** **Visual amenity** • As per volume 2, chapter 15: Seascape, landscape and visual resources Table 15.7. **Overnight trips and accommodation** • As per the impact on the demand for housing, accommodation and local services (above). **Recreation** • As per volume 2, chapter 12: Shipping and Navigation of the PEIR • As per volume 2, chapter 14: Other Sea User of the PEIR. **Operations and maintenance phase** **Visual amenity** • As per volume 2, chapter 15: Seascape, landscape and visual resources Table 15.7. **Overnight trips and accommodation** • As per the impact on the demand for housing, accommodation and local services (above). **Recreation** • As per volume 2, chapter 12: Shipping and Navigation of the PEIR • As per volume 2, chapter 14: Other Sea User of the PEIR. **Decommissioning phase** **Visual amenity** • As per volume 2, chapter 15: Seascape, landscape and visual resources Table 15.7. **Overnight trips and accommodation** • As per the impact on the demand for housing, accommodation and local services (above).	Potential impacts of the construction, operations and maintenance, and decommissioning of the Morgan Generation Assets Offshore Wind Project on tourism and recreation are indirect in nature. It is necessary to derive an assessment of significance of effects on tourism and recreation from the findings elsewhere in the PEIR as follows. **Visual amenity** It is necessary to derive an assessment of significance of effects on visual amenity from the findings of volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR. The potential visual impacts of the construction, operations and maintenance, and decommissioning of the Morgan Generation Assets will be one of the most important considerations when assessing significance of effects on tourism and recreation. On this basis, the MDS for the impact on visual amenity draws directly on the MDS for volume 2, chapter 15: Seascape, landscape and visual resource. **Overnight trips and accommodation** It is necessary to derive an assessment of significance of effects on overnight trips and accommodation from the findings of the assessment within this chapter of potential impacts on demand for housing, accommodation and local services. On this basis, the MDS for the impact on overnight trips and accommodation draws directly on the MDS for the impacts on demand for housing, accommodation and local services. **Recreation** It is necessary to derive an assessment of significance of effects on recreation from the findings in volume 2, chapter 12: Shipping and Navigation and volume 2, chapter 14: Other Sea User of the PEIR. On this basis, the MDS for the potential impact on recreation in this socio-economics chapter draws directly on the MDS from these two chapters.

Potential impact	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
				Recreation • As per volume 2, chapter 12: Shipping and Navigation of the PEIR • As per volume 2, chapter 14: Other Sea User of the PEIR.	

18.6.2 Impacts scoped out of the assessment

18.6.2.1 On the basis of the baseline environment and the description of development outlined in volume 1, chapter 3: Project description of the PEIR, a number of impacts are proposed to be scoped out of the assessment for socio-economics and community. These impacts are outlined, together with a justification for scoping them out, in Table 18.33.

Table 18.33: Impacts scoped out of the assessment for socio-economics.

Potential impact	Justification
The impact on economic receptors including employment, GVA, and supply chain demand at UK level – operations and maintenance phase.	Economic effects during the operations and maintenance phase will be concentrated at geographies below the UK level during the operations and maintenance phase. These are not anticipated to have any significant effects on economic receptors at the UK level.
Tourism and recreation effects with the socio-economics national study areas (Wales and UK) – construction, operations and maintenance, and decommissioning phases.	Tourism and recreation effects will be concentrated within particular localities related to the physical location of onshore and offshore infrastructure during the construction, operation and maintenance, and decommissioning phases. These are not anticipated to have any significant effects on tourism and recreation receptors at the Wales and UK levels.

18.7 Measures adopted as part of the Morgan Generation Assets

18.7.1.1 For the purposes of the EIA process, the term 'measures adopted as part of the project' is used to include the following measures (adapted from IEMA, 2016):

- Measures included as part of the project design. These include modifications to the location or design of the Morgan Generation Assets which are integrated into the application for consent. These measures are secured through the consent itself through the description of the development and the parameters secured in the DCO and/or marine licences (referred to as primary mitigation in IEMA, 2016)
- Measures required to meet legislative requirements, or actions that are generally standard practice used to manage commonly occurring environmental effects and are secured through the DCO requirements and/or the conditions of the marine licences (referred to as tertiary mitigation in IEMA, 2016).

18.7.1.2 Measures have been adopted as part of the Morgan Generation Assets to enhance the potential for beneficial impacts on socio-economics. These are outlined in Table 18.34 below.

Table 18.34: Measures adopted as part of the Morgan Generation Assets.

Measures adopted as part of the Morgan Generation Assets	Justification	How the measure will be secured
Tertiary measures: Measures required to meet legislative requirements, or adopted standard industry practice		
Outline Skills and Employment Strategy	Setting out opportunities for engagement to enable local workers and training providers to prepare for anticipated employment opportunities associated with the Morgan Generation Assets.	Proposed to be included as a requirement of the DCO.

18.8 Assessment of significant effects

18.8.1.1 The potential impacts of the construction, operations and maintenance, and decommissioning phases of the Morgan Generation Assets have been assessed on socio-economics receptors. The potential impacts arising from the construction, operations and maintenance and decommissioning phases of the Morgan Generation Assets are listed in Table 18.32, along with the MDS against which each impact has been assessed.

18.8.1.2 A description of the potential effect on socio-economics receptors caused by each identified impact is given below.

18.8.2 The potential impact on economic receptors including employment, GVA, and supply chain demand

18.8.2.1 The construction, operations and maintenance, and decommissioning of the Morgan Generation Assets may lead to potential impacts on economic receptors including employment, GVA, and supply chain demand. The assessment draws on the employment and GVA potential impacts as set out in volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR.

Magnitude (scale) – assessment approach

18.8.2.2 The scale of potential economic impacts is assessed against the following baseline conditions:

- share of total employment and GVA across all industries (2021): this gives an indication of the scale of the impact in the context of the receiving environment's employment and GVA base
- share of total employment and GVA in impact industries (2021): this gives an indication of the scale of the impact in the context of the receiving environment's impact industries employment and GVA base
- share of total employment (2020) in offshore wind sector: this gives an indication of the scale of the impact in the context of the receiving environment's offshore wind sector employment base.

18.8.2.3 The criteria against which magnitude of potential employment impacts are assessed can be found in Table 18.35.

Table 18.35: Magnitude (scale) of economic impacts assessment criteria.

Magnitude (scale) of impact	Share of relevant baseline conditions
High	>1.0%
Medium	0.5%–1.0%
Low	0.1%–0.5%
Negligible	<0.1%

Construction phase

18.8.2.4 Potential expenditure on the following activities associated with the Morgan Generation Assets could support employment and GVA output in companies that are directly engaged in the development, fabrication, and installation supply chain:

- wind turbine fabrication: nacelle, blades, tower
- balance of plant fabrication: inter-array cables, wind turbine foundations, and offshore substations
- installation of wind turbine and balance of plant: wind turbines, inter-array cables, wind turbine foundations, offshore substations, and other installation.

18.8.2.5 The central scenario has been assessed on the basis of currently available information to provide a fair assessment of the realistic potential impacts associated with the Morgan Generation Assets to avoid over-stating beneficial effects.

18.8.2.6 The fabrication and installation of the Morgan Generation Assets could also go on to support employment and GVA output indirectly in the wider supply chain through:

- indirect potential impacts result from the activities of suppliers to the Applicant or its major contractors; and
- induced potential impacts result from the personal expenditure of individuals working on the Morgan Generation Assets.

18.8.2.7 A 4 year (48 month) construction phase has been assumed throughout.

18.8.2.8 The potential impacts of the Morgan Generation Assets on employment in fabrication and installation activities under the central impact scenario are set out in Table 18.36. As per Table 18.32, these potential impacts may create opportunities to both safeguard existing economic activities and facilitate new economic growth.

Table 18.36: Potential impacts of the Morgan Generation Assets on employment and GVA in fabrication and installation activities, central impact scenario.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)	GVA – per annum	GVA – total
Regional				
North Wales	110	420	£9 million	£35 million
Northwest England	320	1,270	£26 million	£110 million
National				
Wales	320	1,270	£26 million	£110 million
UK	640	2,560	£53 million	£210 million

Magnitude of impact

18.8.2.9 Employment impacts have been assessed on the basis of potential direct, indirect, and induced impacts:

- Direct potential impacts result from the activities of the Applicant and its major contractors
- Indirect potential impacts result from the activities of suppliers to the Applicant or its major contractors
- Induced potential impacts result from the personal expenditure of individuals working on the Morgan Generation Assets (direct and indirect).

18.8.2.10 The assessment is based on a 4 year (48 month) construction phase (see volume 1, chapter 3: Project description of the PEIR). On the basis of this, the magnitude of impact is assessed as medium term. Due to the contract based nature of fabrication and installation activities, the magnitude of impact is assessed as intermittent.

18.8.2.11 Potential impacts are considered across multiple socio-economics study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.

18.8.2.12 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics study area is set out in Table 18.37.

Table 18.37: Comparison of construction phase employment and GVA potential impacts vs. relevant baseline conditions (scale).

Study area	Share of all industries emp. (2021)	Share of CII[13] emp. (2021)	Share of offshore wind sector Emp. (2020)	Share of all industries GVA (2020)	Share of CII GVA (2020)
Regional					
North Wales	<0.1%	1.3%	>247%[14]	1.0%	5.9%
Northwest England	<0.1%	0.5%	14.7%	0.2%	1.1%
National					
Wales	<0.1%	0.9%	247%	0.5%	2.6%
UK	<0.1%	0.1%	2.1%	<0.1%	0.2%

18.8.2.13 The magnitude of impact for each socio-economics regional study area and socio-economics national study area is set out in Table 18.38. The share of offshore wind sector employment within the socio-economics regional study areas is inferred based on the nationally available data. Magnitudes have been assigned on the basis of criteria set out in Table 18.29. The assigned value associated with each magnitude is shown in brackets.

Table 18.38: Magnitude of construction phase employment and GVA potential impacts.

Study area	Magnitude
Regional	
North Wales	**Medium (beneficial)**
Northwest England	**Medium (beneficial)**
National	
Wales	**Medium (beneficial)**
UK	**Low (beneficial)**

Sensitivity of the receptor

18.8.2.14 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 18.5.2.6.

Value and importance

18.8.2.15 Whether a policy position within a particular socio-economic study area has the aim of making the offshore wind sector part of its approach to economic development is a key consideration. This can also be through providing jobs, skills, education, and training for residents to work in the offshore wind sector. Policy aims to provide the same opportunity in the renewable energy sector will also be considered as important. General policy aims to provide jobs, skills, education, and training for residents in any sector will also be considered.

18.8.2.16 Increasing employment in the renewable energy sector, including offshore wind activities specifically, is a policy objective at the UK national, Wales national, and Northwest England regional socio-economics study area levels. The offshore wind sector is identified as a growth opportunity within a more broadly defined energy sector which is forecast to experience employment decline.

18.8.2.17 As such, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

18.8.2.18 According to section 18.4.4, between 2015–2021 employed persons in construction impact industries decreased by approximately 1,000 in the North Wales socio-economics regional study area (–1.9% per annum), 5,000 in the Northwest England socio-economics regional study area (–1.2% per annum), 3,000 in Wales (–1.4% per annum), and 42,000 in the UK (–1.2% per annum) (ONS, 2022a). This suggests there is slack in the labour market across all socio-economics study areas to accommodate an increase in fabrication and installation activities in the offshore wind sector. It is noted, however, that this would very likely require a degree of 'upskilling' and transitioning for firms and workers, as discussed at paragraph 18.4.5.10 as part of the future baseline scenario.

18.8.2.19 The future baseline scenario set out in section 18.4.5 indicates there is likely to be slack in the labour market in the utilities and manufacturing sectors due to a decreasing employment base up to 2035. This again indicates there is potential to accommodate an increase in fabrication and installation activities in the offshore wind sector. It is forecast that employment in the construction sector will increase over the period to 2035 – this suggests the sector is in a strong position of growth.

18.8.2.20 The vulnerability/tolerance of the receptor is assessed as high. The potential impact is considered to be beneficial.

Recoverability

18.8.2.21 It is not possible to confidently determine whether or not the receptor would return to a state close to that which existed before any activity occurs. However, there are anticipated to be ongoing beneficial legacy effects, which would be part of positioning infrastructure, supply chain capabilities, and labour market conditions to compete to deliver further activity in the offshore wind sector. As the impact is expected to be beneficial, it would be desirable to retain any potential impacts.

18.8.2.22 Retention of potential impacts will be heavily dependent on any initiatives to enhance opportunities for procurement of regional contractors, and the level of investment in support facilities (particularly ports) associated with the fabrication and installation supply chain. This would need to be considered in the context of a sustainable pipeline of related activity in the offshore wind sector – such a pipeline of activity would have

[13] Construction impact industries.

[14] Data unavailable for North Wales – assumed share will be greater than the equivalent share for Wales.

the potential to create market certainty to support sustainable investment in regional infrastructure and supply chain capabilities.

Overall

18.8.2.23 The sensitivity of the receptor for each socio-economics study area is set out in Table 18.39.

Table 18.39: Sensitivity of construction phase employment and GVA receptor.

Study area	Sensitivity
Regional	
North Wales	**High**
Northwest England	**High**
National	
Wales	**High**
UK	**High**

Significance of the effect

18.8.2.24 The significance of the effect for each socio-economics study area are set out in Table 18.40.

Table 18.40: Significance of construction phase employment and GVA potential impacts, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Medium (beneficial)	High	**Moderate (beneficial)**	Yes
Northwest England	Medium (beneficial)	High	**Moderate (beneficial)**	Yes
National				
Wales	Medium (beneficial)	High	**Moderate (beneficial)**	Yes
UK	Low (beneficial)	High	**Minor (beneficial)**	No

Operations and maintenance phase

18.8.2.25 Potential expenditure on the following activities associated with the Morgan Generation Assets could support employment and GVA output in companies that are directly engaged in the operations and maintenance supply chain:

- wind turbine, balance of plant, and transmission maintenance and servicing; and
- vessel and crew activity.

18.8.2.26 The central impact scenario has been assessed to provide a fair assessment of the realistic potential impacts associated with the Morgan Generation Assets to avoid over-stating beneficial effects.

18.8.2.27 The operations and maintenance of the Morgan Generation Assets could also go on to support employment indirectly in the wider supply chain.

18.8.2.28 A 35 year operations and maintenance phase has been assumed throughout.

18.8.2.29 The potential impacts of the Morgan Generation Assets on employment opportunities under the central impact scenario during the operations and maintenance phase are set out in Table 18.41. As per Table 18.32, these potential impacts will create opportunities to both safeguard existing economic activities and facilitate new economic growth.

Table 18.41: Potential impacts of the Morgan Generation Assets on employment and GVA in operations and maintenance activities, central scenario.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)	GVA – per annum	GVA – total
Regional				
North Wales	80	2,900	£10 million	£340 million
Northwest England	250	8,800	£29 million	£1,000 million
National				
Wales	250	8,800	£29 million	£1,000 million

Magnitude of impact

18.8.2.30 Employment impacts have been assessed on the basis of potential direct, indirect, and induced impacts.

18.8.2.31 On the basis of a 35 year operations and maintenance phase, the magnitude of impact is assessed as long term. The majority of operations and maintenance activities will be on a continuous rolling programme. The impact is therefore assessed as continuous.

18.8.2.32 Potential impacts are considered across multiple socio-economics study areas linked to the selection of operations and maintenance ports, and the associated supply of a range of inputs and services. A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics regional study area and the socio-economics national study area is set out in Table 18.42.

Table 18.42: Comparison of operations and maintenance phase employment and GVA potential impacts vs. relevant baseline conditions (scale).

Study area	Share of all industries emp. (2021)	Share of OMII[15] emp. (2021)	Share of offshore wind sector emp. (2020)	Share of all industries GVA (2020)	Share of OMII GVA (2020)
Regional					
North Wales	<0.1%	1.1%	>196%[16]	0.8%	4.7%
Northwest England	<0.1%	0.4%	11.7%	0.1%	0.9%
National					
Wales	<0.1%	0.7%	196%	0.4%	2.1%

18.8.2.33 The magnitude of impact for each socio-economics regional study area and the socio-economics national study area is set out in Table 18.43. The share of offshore wind sector employment within the socio-economics regional study areas is inferred based on the nationally available data. Magnitudes have been assigned on the basis of criteria set out in Table 18.29. The assigned value associated with each magnitude is shown in brackets.

Table 18.43: Magnitude of operations and maintenance phase employment and GVA potential impacts.

Study area	Magnitude
Regional	
North Wales	**Medium (beneficial)**
Northwest England	**Low (beneficial)**
National	
Wales	**Medium (beneficial)**

Sensitivity of the receptor

18.8.2.34 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 18.5.2.6.

Value and importance

18.8.2.35 For reasons discussed in paragraphs 18.8.2.15 to 18.8.2.16, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

18.8.2.36 As set out in section 18.4.4, between 2015–2021 employed persons in operations and maintenance impact industries decreased by approximately 1,500 in the North Wales socio-economics regional study area (–7.5% per annum), 4,000 in Wales (–5.9% per annum), and 5,000 in the UK (–0.3% per annum) (ONS, 2022a). This suggests there is slack in the labour market in these socio-economics study areas to accommodate an increase in operations and maintenance activities in the offshore wind sector. It is noted, however that this would very likely require a degree of 'upskilling' and transitioning for firms and workers. Employed persons in operations and maintenance impact industries increased by approximately 1,000 in the Northwest England socio-economics regional study area (+2.6% per annum). This suggests that related industries with the potential to transition into the offshore wind sector operations and maintenance activities are currently in a strong position of growth.

18.8.2.37 The potential future baseline conditions associated with the offshore wind sector and their relevance to the assessment of sensitivity are discussed at paragraphs 18.8.2.18 to 18.8.2.19.

18.8.2.38 The vulnerability/tolerance of the receptor is assessed as high. The potential impact is considered to be beneficial.

Recoverability

18.8.2.39 It is not possible to confidently determine whether or not the receptor would return to a state close to that which existed before any activity occurs. However, there are anticipated to be ongoing beneficial legacy effects, which would be part of positioning a regional workforce to compete to deliver further activity in the offshore wind sector. As the impact is expected to be beneficial, it would be desirable to retain any potential impacts.

18.8.2.40 Retention of potential impacts will be heavily dependent on any initiatives to enhance opportunities for procurement of regional contractors, and the level of investment in support facilities (particularly ports) associated with the operation and maintenance supply chain. This would need to be considered in the context of a sustainable pipeline of related activity in the offshore wind sector, such a pipeline of activity would have the potential to create market certainty. Given the long term nature of operations and maintenance activities, it is reasonable to assume any potential impacts are likely to be permanent. This makes sustainable investment in related infrastructure and supply chain capabilities more likely.

Overall

18.8.2.41 The sensitivity of the receptor for each socio-economics study area is set out in Table 18.44**.**

[15] Construction impact industries.

[16] Data unavailable for North Wales – assumed share will be greater than the equivalent share for Wales.

Table 18.44: Sensitivity of operations and maintenance phase employment and GVA receptor.

Study area	Sensitivity
Regional	
North Wales	**High`**
Northwest England	**High**
National	
Wales	**High**

Significance of the effect

18.8.2.42 The significance of the effect for each socio-economics study area are set out in Table 18.45.

Table 18.45: Significance of operation and maintenance phase employment and GVA potential impacts, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Medium (beneficial)	High	**Moderate (beneficial)**	Yes
Northwest England	Low (beneficial)	High	**Minor (beneficial)**	No
National				
Wales	Medium (beneficial)	High	**Moderate (beneficial)**	Yes

Decommissioning phase

18.8.2.43 Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Morgan Generation Assets could support employment in activities associated with decommissioning and recycling of components.

18.8.2.44 The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known. It is anticipated that recycling of decommissioned components will contribute to beneficial supply chain impacts.

18.8.2.45 No plans are in place to consider potential locations for decommissioning support ports. Given the need for large lay down areas, within the relevant consenting authorities of England and Wales the ports identified as being under consideration for the construction phase would have the greatest potential to accommodate decommissioning activities based on current circumstances.

18.8.2.46 The workforce for the decommissioning of the offshore parts of the Morgan Generation Assets is likely to be supported in a similar way to installation, with the process taking place in reverse (i.e. construction phase activities minus fabrication).

The significance of effects assessed at construction phase for employment in fabrication and installation activities are set out in Table 18.40. On the basis of currently available evidence the significance of effects for the decommissioning phase will be below that assessed during the construction phase – as set out in Table 18.46 below.

Table 18.46: Significance of decommissioning phase employment and GVA potential impacts, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Negligible	High	**Minor (beneficial)**	No
Northwest England	Negligible	High	**Minor (beneficial)**	No
National				
Wales	Negligible	High	**Minor (beneficial)**	No
UK	Negligible	High	**Minor (beneficial)**	No

18.8.3 The potential impact of increased employment opportunities

18.8.3.1 The expenditure in both social-economics regional study areas and socio-economics national study areas will create a range of employment opportunity for residents within the respective locations. This will include supporting existing workforces within the supply chain as well as the creation of new roles where expansion of the sector is facilitated.

18.8.3.2 This impact is applicable to the construction, operations and maintenance, and decommissioning phases.

Magnitude (scale) – assessment approach

18.8.3.3 The scale of potential employment impacts are assessed against the following baseline conditions:

- economic activity: using the economically active population as a benchmark to assess the scale of impact on the current available workforce; and
- economically inactive individuals that want a job and unemployed population: comparison with this figure gives an indication of the scale of potential employment impacts in the context of potentially available workforce within an area.

18.8.3.4 The criteria against which magnitude of potential employment impacts amongst residents are assessed and can be found in Table 18.47.

Table 18.47: Magnitude (scale) of employment opportunity potential impacts amongst residents' assessment criteria

Magnitude (scale) of impact	Share of relevant baseline conditions	
	Employment impact as share of economically active individuals	Employment impact as share of available labour market
High	>1.0%	>10%
Medium	0.5%–1.0%	5%–10%
Low	0.1%–0.5%	1%–5%
Negligible	<0.1%	<1%

Construction phase

18.8.3.5 Potential expenditure on the following activities associated with the Morgan Generation Assets could improve employment opportunities for residents in activities (including supply chain) associated with development, fabrication, and installation:

- wind turbine fabrication: nacelle, blades, tower
- balance of plant fabrication: inter-array cables, wind turbine foundations, and offshore substations
- installation of wind turbine and balance of plant: wind turbines, inter-array cables, wind turbine foundations, offshore substations, and other installation.

18.8.3.6 The development, fabrication, and installation of the Morgan Generation Assets could also go on to support employment opportunities for residents indirectly in the wider supply chain.

18.8.3.7 The assessment is based on a 4 year (48 month) construction phase.

18.8.3.8 The potential impacts of the Morgan Generation Assets on access to employment amongst residents in development, fabrication, and installation activities are set out in Table 18.48.

Table 18.48: Potential impacts of the Morgan Generation Assets on employment opportunities in fabrication and installation activities, central scenario.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)
Regional		
North Wales	110	420
Northwest England	320	1,300
National		
Wales	320	1,300
UK	640	2,600

Magnitude of impact

18.8.3.9 Employment impacts have been assessed on the basis of potential direct, indirect, and induced impacts.

18.8.3.10 On the basis of a maximum 48 month construction phase, the magnitude of impact is assessed as medium term. Due to the contract-based nature of fabrication and installation activities, the magnitude of impact is assessed as intermittent.

18.8.3.11 Potential impacts are considered across multiple socio-economics study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.

18.8.3.12 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics study area is set out in Table 18.49.

Table 18.49: Comparison of construction phase employment opportunity potential impacts vs. relevant baseline conditions (scale).

Study area	Employment opportunities impact as share of economically active individuals (2021)	Employment opportunities impact as share of available labour market. (2021)
Regional		
North Wales	<0.1%	0.7%
Northwest England	<0.1%	0.2%
National		
Wales	<0.1%	0.4%
UK	<0.1%	<0.1%

18.8.3.13 The magnitude of impact, and associated justification, for each socio-economics study area is set out in Table 18.50

Table 18.50: Magnitude of construction phase employment opportunity potential impacts.

Study area	Magnitude
Regional	
North Wales	**Negligible**
Northwest England	**Negligible**
National	
Wales	**Negligible**
UK	**Negligible**

Sensitivity of the receptor

18.8.3.14 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 18.5.2.6.

Value and importance

18.8.3.15 Whether a policy position for a particular a socio-economics study area has the aim of making the offshore wind sector part of its approach to economic development is a key consideration. This can also be through providing jobs, skills, education, and training for residents to work in the offshore wind sector. Policy aims to provide the same opportunity in the renewable energy sector will also be considered as important. General policy aims to provide jobs, skills, education, and training for residents in any sector will also be considered.

18.8.3.16 Increasing employment in the renewable energy sector, including offshore wind activities specifically, is a policy objective at the national level. The offshore wind sector is identified as a growth opportunity within a more broadly defined energy sector which is forecast to experience employment decline.

18.8.3.17 As such, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

18.8.3.18 As set out within section 18.4.4, in 2021 the number of economically inactive individuals that wanted a job was 15,000 in the North Wales socio-economics regional study area, 192,000 in the Northwest England socio-economics regional study area, 79,000 in Wales, and 1.7 million in the UK (ONS, 2022d). In 2022 the number of unemployed individuals was 11,000 in the North Wales socio-economics regional study area, 151,000 in the Northwest England socio-economics regional study area, 54,000 in Wales, and 1.3 million in the UK (ONS, 2022e). This suggests there is a significant number of residents across all socio-economics study areas looking to enter the workforce.

18.8.3.19 For technical roles to be accessible to economically inactive and unemployed individuals that want a job, this would very likely require a high degree of 'upskilling' and transitioning for workers, as discussed at paragraph 18.4.5.10 as part of the future baseline scenario. However there are numerous indirect roles which support and facilitate technical roles, such as human resources, IT support, finance, and administration which are potentially more accessible to economically inactive and unemployed individuals that want a job.

18.8.3.20 The vulnerability/tolerance of the receptor is assessed as high. The impact is considered to be beneficial.

Recoverability

18.8.3.21 It is not possible to confidently determine whether or not the receptor would return to a state close to that which existed before any activity occurs. However, there are anticipated to be ongoing beneficial legacy effects, which would be part of positioning the workforce to compete to deliver further activity in the offshore wind sector. As the impact is expected to be beneficial, it would be desirable to retain any impacts.

18.8.3.22 Retention of potential impacts (particularly at the regional level) will be heavily dependent on any initiatives to enhance employment opportunities for residents, and the level of investment in skills and training in roles associated with the supply chain. This would need to be considered in the context of a sustainable pipeline of related activity in the offshore wind sector – such a pipeline of activity would have the potential to create certainty to support sustainable investment in skills and training.

Overall

18.8.3.23 The sensitivity of the receptor for each socio-economics study area is set out in Table 18.51**.**

Table 18.51: Sensitivity of construction phase employment opportunity receptor.

Study area	Sensitivity
Regional	
North Wales`	**High**
Northwest England	**High**
National	
Wales	**High**
UK	**High**

Significance of the effect

18.8.3.24 The significance of the effect for each socio-economics study area are set out in Table 18.52

Table 18.52: Significance of construction phase employment opportunity potential impacts, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Negligible	High	**Minor (beneficial)**	No
Northwest England	Negligible	High	**Minor (beneficial)**	No
National				
Wales	Negligible	High	**Minor (beneficial)**	No
UK	Negligible	High	**Minor (beneficial)**	No

Operations and maintenance phase

18.8.3.25 Potential expenditure on the following activities associated with the Morgan Generation Assets could improve employment opportunities for residents in activities associated with the operations and maintenance supply chain:

- wind turbine, balance of plant, and transmission maintenance and servicing; and
- vessel and crew activity.

18.8.3.26 The operations and maintenance of the Morgan Generation Assets could also go on to support access to employment amongst residents indirectly in the wider supply chain.

18.8.3.27 A 35 year operations and maintenance phase has been assumed throughout.

18.8.3.28 The potential impacts of the Morgan Generation Assets on employment opportunities for residents in operations and maintenance activities are set out in Table 18.53.

Table 18.53: Potential impacts of the Morgan Generation Assets on employment opportunities in operations and maintenance activities, central scenario.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)
Regional		
North Wales	80	2,900
Northwest England	250	8,800
National		
Wales	250	8,800

Magnitude of impact

18.8.3.29 Employment impacts have been assessed on the basis of potential direct, indirect, and induced impacts.

18.8.3.30 On the basis of a 35 year operations and maintenance phase, the magnitude of impact is assessed as long term. The majority of operations and maintenance activities will be on a continuous rolling programme. The impact is therefore assessed as continuous.

18.8.3.31 Potential impacts are considered across multiple socio-economics study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.

18.8.3.32 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics study area is set out in Table 18.54.

Table 18.54: Comparison of operations and maintenance phase employment opportunity potential impacts vs. relevant baseline conditions (scale).

Study area	Employment opportunities impact as share of economically active individuals (2021)	Employment opportunities impact as share of available labour market (2021)
Regional		
North Wales	<0.1%	0.6%
Northwest England`	<0.1%	0.1%
National		
Wales	<0.1%	0.3%

18.8.3.33 The magnitude of impact, and associated justification, for each socio-economics study area is set out in Table 18.55.

Table 18.55: Magnitude of operations and maintenance phase employment opportunity potential impacts on employment opportunities.

Study area	Magnitude
Regional	
North Wales	**Negligible**
Northwest England	**Negligible**
National	
Wales	**Negligible**

Sensitivity of the receptor

18.8.3.34 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 18.5.2.6.

Value and importance

18.8.3.35 For reasons discussed in paragraphs 18.8.3.15 to 18.8.3.16, the value and importance of the receptor is assessed as very high.

Vulnerability/tolerance

18.8.3.36 For reasons discussed in paragraphs 18.8.3.18 to 18.8.3.19, the vulnerability/tolerance of the receptor is assessed as high. The impact is considered to be beneficial.

Recoverability

18.8.3.37 Discussed in paragraphs 18.8.3.21 to 18.8.3.22.

Overall

18.8.3.38 The sensitivity of the receptor for each socio-economics study area is set out in Table 18.56.

Table 18.56: Sensitivity of operation and maintenance phase employment opportunity receptor.

Study area	Sensitivity
Regional	
North Wales	**High**
Northwest England`	**High**
National	
Wales	**High**

Significance of the effect

18.8.3.39 The significance of the effect for each socio-economics study area are set out in Table 18.57.

Table 18.57: Significance of operations and maintenance phase employment opportunity potential impacts, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Negligible	High	**Minor (beneficial)**	No
Northwest England	Negligible	High	**Minor (beneficial)**	No
National				
Wales	Negligible	High	**Minor (beneficial)**	No

Decommissioning phase

18.8.3.40 Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Morgan Generation Assets could support employment opportunities for residents in activities associated with decommissioning.

18.8.3.41 The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known.

18.8.3.42 No plans are in place to consider potential locations for decommissioning support ports. Given the need for large lay down areas, within the relevant consenting authorities of England and Wales the ports identified as being under consideration for the construction phase would have the greatest potential to accommodate decommissioning activities based on current circumstances.

18.8.3.43 The workforce for the decommissioning of the offshore parts of the Morgan Generation Assets is likely to be supported in a similar way to installation, with the process taking place in reverse (i.e. construction phase activities minus fabrication).

18.8.3.44 On this basis the magnitude of effects would be lower than those set out for the construction phase under the central impact scenario.

18.8.3.45 The significance of effects assessed at construction phase for employment opportunities for residents in fabrication and installation activities are set out in Table 18.58. On the basis of currently available evidence the significance of effects for the decommissioning phase will be below that assessed during the construction phase.

Table 18.58: Significance of decommissioning phase employment opportunity potential impacts, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Negligible	High	**Minor (beneficial)**	No
Northwest England	Negligible	High	**Minor (beneficial)**	No
National				
Wales	Negligible	High	**Minor (beneficial)**	No
UK	Negligible	High	**Minor (beneficial)**	No

18.8.4 The potential impact on the demand for housing, accommodation and local services

18.8.4.1 The potential for demand will arise through the temporary, medium term or permanent relocation of workers into socio-economics regional study areas.

18.8.4.2 Temporary is defined for this assessment as a period generally measured in nights that would typically be accommodated within a hotel, hostel, guesthouse or bed and breakfast type environment. The worker would be expected to travel alone without family.

18.8.4.3 Medium term is defined as a period generally measured in months that would typically be accommodated within rented accommodation. The worker would typically be expected to travel alone without family.

18.8.4.4 Long term or permanent relocation is defined as a period generally measured in years that would result in the worker relocating to the relevant area with a long term housing solution alongside their family.

18.8.4.5 This impact is applicable to the construction, operations and maintenance, and decommissioning phases. The assessment draws on the assessment of potential employment impacts and discussion of workforce issues as set out in the supporting volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR.

Magnitude (scale) – assessment approach

18.8.4.6 The magnitude of potential magnitude of impact is assessed against the following baseline conditions:

- Potential permanent relocations:

  - total population (2019): comparison with total population to give an indication of the scale of the impact of labour migration on the resident population
  - total dwellings stock (2019): comparison with overall dwellings stock to give an indication of the scale of the impact of labour migration on the housing market
  - total unoccupied dwellings stock (2019): comparison with unoccupied dwellings stock to give an indication of the scale of the impact of labour migration on the housing market.
- Potential medium term relocations:
  - total population (2019): comparison with total population to give an indication of the scale of the impact of labour migration on the resident population
  - total private rented sector (2018): comparison with the scale of the private rented to sector to assess potential effects on the housing market.
- Potential temporary overnight stays:
  - total number of overnight stays (2019): comparison with total number of overnight stays (in nights per annum) to provide indication of scale relative to existing market; and
  - temporary accommodation capacity (2019): comparison with overnight accommodation capacity to give an indication of the scale of impact of demand from temporary workers.

18.8.4.7 The magnitude of impacts on the demand for housing, accommodation and local services is set out in Table 18.59 below.

Table 18.59: Magnitude of impacts on the demand for housing, accommodation and local services.

Magnitude (scale) of impact	Share of relevant baseline conditions	
	Impact as a share of receptor total	**Impact as share of existing receptor capacity**
High	>1.0%	>10%
Medium	0.5%–1.0%	5%–10%
Low	0.1%–0.5%	1%–5%
Negligible	<0.1%	<1%

Construction phase

18.8.4.8 Potential expenditure on activities associated with the construction phase of the Morgan Generation Assets could support temporary or medium term labour migration into socio-economics regional study areas.

18.8.4.9 The assessment is based on a 4 year (48 month) construction phase (see volume 1, chapter 3: Project description of the PEIR). Although not all impacts will occur for the entire duration of the construction phase. Any variation is described and aligns to the anticipated construction programme.

18.8.4.10 Under the central scenario it is assumed that procurement decisions are taken in line with current competitiveness of the UK offshore wind sector. Employment related to fabrication is assumed to draw on the standing workforces of existing enterprises. This will not have any impact on the demand for housing, accommodation, and local services above current baseline activity.

18.8.4.11 As set out in volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR, there will be a range of installation and commissioning roles filled by mobile workers, as is typical of all offshore wind farm projects. Within the central scenario these roles will be largely offshore with workers accommodated within SOVs. However, these workers have the potential to give rise to demand for temporary accommodation at the start and end of typical two week shift periods at sea.

18.8.4.12 The potential demand for temporary accommodation, as measured in nights per annum, arising from the Morgan Generation Assets are set out in Table 18.60. The maximum estimated number of overnight stays per annum is calculated based on the following assumptions:

- maximum activities within a single socio-economics regional study area
- maximum vessel numbers
- vessel crew size
- shift arrangements (assumed two week on/off shift pattern)
- shifts per annum (based on construction programme)
- nights of accommodation required per shift (assumed maximum two nights per shift, including one night before and one night after shift period before travelling to home location)
- it is assumed that a minimum of one third of workers would not require overnight accommodation.

18.8.4.13 Under the central scenario the primary wind turbine staging port and the primary inter-array cable installation port are both located within the same socio-economics regional study area. However, other installation and commissioning activities could be located at other ports within the same socio-economics regional study area. Further impact will be created across the rest of the socio-economics regional study areas associated with other installation and commissioning activities.

18.8.4.14 There is no anticipated medium term relocation of workers into any of the socio-economics regional study areas.

18.8.4.15 No permanent relocation of workers into any of the socio-economics regional study areas is anticipated during the construction phase.

Table 18.60: Potential maximum demand for temporary accommodation, central scenario.

Study area	Maximum temporary overnight stays (nights per annum)	Maximum medium term relocations (persons)	Maximum permanent relocations (workers)	Maximum permanent population increase (persons)
Regional				
North Wales	30,000	N/A	N/A	N/A
Northwest England	30,000	N/A	N/A	N/A

Magnitude of impact

18.8.4.16 Following a review of the anticipated construction programme the period of maximum temporary accommodation requirement will extend across four years. This is assessed as medium term.

18.8.4.17 Potential impacts are considered across multiple socio-economics regional study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.

18.8.4.18 The assessment is based on the maximum potential effects as set out at Table 18.37. Impacts compared to accommodation capacity are estimated based on average unutilised hotel room occupancy. This is a proxy indicator. There is substantial unutilised capacity across a variety of accommodation types.

18.8.4.19 Impacts are assessed as beneficial, creating demand for temporary accommodation within identified levels of available capacity in each socio-economics regional study area.

18.8.4.20 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics regional study area is set out in Table 18.61.

Table 18.61: Comparison of construction phase temporary accommodation demand vs. relevant baseline conditions (scale).

Study area	Impact compared to total number of overnight stays (nights)	Impact compared to remaining accommodation capacity
Regional		
North Wales	0.1%	0.3%
Northwest England	<0.1%	0.3%

18.8.4.21 The magnitude of impact, relative to the baseline for each socio-economics regional study area is set out in Table 18.62.

Table 18.62: Magnitude of temporary accommodation demand.

Study area	Magnitude
Regional	
North Wales	**Low (beneficial)**
Northwest England	**Negligible**

Sensitivity of the receptor

18.8.4.22 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 18.5.2.6.

Value and importance

18.8.4.23 The temporary accommodation sector forms part of the wider tourism sector which is a policy priority across each socio-economics regional study area. Provision of local services is the purpose of all local authorities, making this a policy priority by definition.

18.8.4.24 As such, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

18.8.4.25 There will be a range of installation and commissioning roles filled by mobile workers, as is typical of all offshore wind farm projects. Within the central scenario these roles will be largely offshore with workers accommodated within SOVs. However, these workers have the potential to give rise to demand for temporary accommodation at the start and end of typical two week shift periods at sea.

18.8.4.26 The population of the North Wales socio-economics regional study area increased by approximately 10,000 over the period 2015–2020 (+0.3% per annum). The population of the Northwest England socio-economics regional study area increased by approximately 192,000 over the period 2015–2020 (+0.5% per annum).

18.8.4.27 The future baseline scenario set out in section 18.4.5 indicates that populations in the North Wales socio-economics regional study area are expected to increase by approximately 0.2% per annum over the period 2022–2040. Populations in the Northwest England socio-economics regional study area are expected to increase by approximately 0.3% per annum over the same period. These ONS projections are widely used in planning, for example, housing, local health and education provision.

18.8.4.28 Given the historic trend of increasing populations across all socio-economics study areas, and the projected population increases across all socio-economics study areas, it is reasonable to assume the relevant planning authorities factor population growth into strategic planning decisions. However, in the event of construction activities being carried out by mobile workers from outside a given socio-economics study area, such a temporary change in population would not ordinarily be factored in to strategic planning decisions.

18.8.4.29 As set out in Table 18.21 and Table 18.22, occupancy rates of temporary accommodation are subject to variations from month-to-month and -year-to-year. This is particularly so following the pandemic, where occupancy rates were significantly

reduced compared to pre-pandemic levels. Normal fluctuation is substantially greater than the assessed scale of impact, with fluctuations between annual recording periods exacerbated during the pandemic affected years of 2020–2021.

18.8.4.30 There is excess capacity within the temporary accommodation sector based on annual average and peak month occupancy data.

18.8.4.31 Consideration of the above factors leads to the vulnerability/tolerance of the receptor being assessed as low.

Recoverability

18.8.4.32 Given the medium term nature of construction activities, it is reasonable to assume any impacts are likely to be temporary.

18.8.4.33 The recoverability of the receptor is assessed as high.

Overall

18.8.4.34 The sensitivity of the receptor for each socio-economics study area is set out in Table 18.63**.**

Table 18.63: Sensitivity of operations and maintenance phase housing, accommodation, and local services receptor.

Study area	Sensitivity
Regional	
North Wales	**Medium**
Northwest England	**Medium**

Significance of the effect

18.8.4.35 The significance of the effect for each socio-economics regional study area is set out in Table 18.64.

Table 18.64: Significance of construction phase employment impacts on the demand for housing, accommodation, and local services, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Low (beneficial)	Medium	**Minor (beneficial)**	No
Northwest England	Negligible	Medium	**Minor (beneficial)**	No

Operations and maintenance phase

18.8.4.36 Potential expenditure on activities associated with the operations and maintenance phase of the Morgan Generation Assets could support labour migration into socio-economics regional study areas.

18.8.4.37 A 35 year operations and maintenance phase has been assumed throughout.

18.8.4.38 Under the central scenario it is assumed that a port within a socio-economics regional study area is utilised as the primary operations and maintenance base. Some activity will be supported in other locations in the UK, which could potentially be another of the ports under consideration. However, the scale of any such impact will be lower than if selected as the primary port and assessment has been made on the maximum potential impact.

18.8.4.39 As set out in volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR, theoretically this workforce could live anywhere and travel to the Site for two weekly shifts. However, given the long term continuity of the maintenance work there is a high likelihood the workforce will live within the socio-economics regional study area identified relevant to each potential port under consideration.

18.8.4.40 The Morgan Generation Assets will create new roles within operations and maintenance activities. These roles could be filled through a number of routes including:

- workers transitioning from the Oil and Gas or other relevant energy sectors
- new entrants to the sector resulting from existing and planned training activities
- relocations of skilled workers to the selected locality.

18.8.4.41 With a lead time of at approximately four years before commencement of operations there is time to train a workforce.

18.8.4.42 For the purposes of assessment it is assumed a maximum of 50% of the workforce is recruited from outside the relevant socio-economics regional study area. As such relocations will be long term or permanent – it is assumed that any migrating workers would also relocate their families. The assessment of population impact assumes average household size of 2.4 persons (Census 2021, ONS).

18.8.4.43 Table 18.65 sets out the scale of employment associated with the operations and maintenance phase under the central scenario. It is assumed jobs are net additional as the Morgan Generation Assets adds to the requirement for operations and maintenance workforce above existing baseline conditions.

18.8.4.44 Other periodic operations and maintenance tasks may require temporary overnight accommodation for crew immediately before and after commencing works offshore. This is considered negligible relative to the scale of existing overnight stays in any of the socio-economics regional study areas as to not warrant further consideration.

Table 18.65: Potential itinerant employment impacts on the demand for housing, accommodation and local services, central scenario.

Study area	Per Annum (FTE years)	Estimated permanent population increase	Estimated permanent dwelling requirement
Regional			
North Wales	705	850	350
Northwest England	705	850	350

Magnitude of impact

18.8.4.45 On the basis of a 35 year operations and maintenance phase, the magnitude of impact is assessed as long term. Due to the ongoing rolling programme of the majority of operations and maintenance activity, the magnitude of impact is assessed as continuous.

18.8.4.46 Potential impacts are considered across multiple socio-economics regional study areas linked to the selection of operations and maintenance port facilities, and the associated supply of a range of inputs and services.

18.8.4.47 Increasing a locality's working age populations is advantageous in a number of ways, including increasing the number of individuals likely to pay taxes, work, and provide care for those in society who need it. Aside from increasing the birth rate, inward migration is one of the few ways to increase a locality's working age population. As such, this impact is assessed as beneficial.

18.8.4.48 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics regional study area is set out in Table 18.66

Table 18.66: Comparison of operations and maintenance phase employment impacts on the demand for housing, accommodation and local services vs. relevant baseline conditions (scale).

Study area	Total population	Dwelling stock	Unoccupied dwelling stock
Regional`			
North Wales	0.1%	0.1%	8.2%
Northwest England	<0.1%	<0.1%	0.9%

18.8.4.49 The magnitude of impact for each socio-economics regional study area is set out in Table 18.67.

Table 18.67: Magnitude of operations and maintenance phase employment impacts on demand for housing, accommodation and local services.

Study area	Magnitude
Regional	
North Wales	**Low (beneficial)**
Northwest England	**Negligible**

Sensitivity of the receptor

18.8.4.50 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 18.5.2.6.

Value and importance

18.8.4.51 Growing the working age population (partly achieved by attracting migrant labour), as well as delivering additional housing, is a policy ambition across socio-economics regional study areas. Provision of local services is the purpose of all local authorities, making this a policy priority by definition.

18.8.4.52 As such, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

18.8.4.53 Theoretically the operations and maintenance workforce could live anywhere and travel to the wind farm for fortnightly shifts. However, given the long term continuity of the operations and maintenance work there is a high likelihood the workforce will live within the socio-economics regional study area identified relevant to each potential port under consideration.

18.8.4.54 As per the baseline population conditions set out in paragraphs 18.8.4.26 to 18.8.4.27, given the historic trend of increasing populations across all socio-economics study areas, and the projected population increases across all socio-economics study areas, it is reasonable to assume the relevant planning authorities factor population growth into strategic planning decisions. The housing market in each socio-economics regional study area has delivered additional dwellings in recent years, with plans for additional housing to meet planned population and economic growth.

18.8.4.55 Consideration of the above factors leads to the vulnerability/tolerance of the receptor being assessed as low.

Recoverability

18.8.4.56 Given the long term nature of operation and maintenance activities, it is reasonable to assume any impacts are likely to be permanent. This makes a permanent workforce associated with operation and maintenance activities more likely.

18.8.4.57 The recoverability of the receptor is assessed as low.

Overall

18.8.4.58 The sensitivity of the receptor for each socio-economics study area is set out in Table 18.68.

Table 18.68: Sensitivity of operations and maintenance phase housing, accommodation and local services receptor.

Study area	Sensitivity
Regional	
North Wales	**Medium**
Northwest England	**Medium**

Significance of the effect

18.8.4.59 The significance of the effect for each socio-economics regional study area is set out in Table 18.69.

Table 18.69: Significance of operations and maintenance phase employment impacts on the demand for housing, accommodation, and local services, central scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Low (beneficial)	Medium	**Minor (beneficial)**	No
Northwest England	Negligible	Medium	**Minor (beneficial)**	No

Decommissioning phase

18.8.4.60 Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Morgan Generation Assets could support temporary or medium term labour migration into socio-economics regional study areas.

18.8.4.61 The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known.

18.8.4.62 No plans are in place to consider potential locations for decommissioning support ports. It is not known whether or not this will be located in either of the socio-economics regional study areas.

18.8.4.63 Volume 4, annex 18.1: Technical impact report – socio-economics of the PEIR notes that the workforce for the decommissioning of the offshore parts of the Morgan Generation Assets is likely to be sourced in a similar way to installation and commissioning. However, the scale of activity will be reduced.

18.8.4.64 On this basis the magnitude of effects would be lower than those set out for the construction phase under the central scenario.

18.8.4.65 The significance of effects assessed at construction phase for accommodation, housing and local services are set out at Table 18.64. On the basis of currently available evidence the significance of effects for the decommissioning phase will be of negligible significance across socio-economics regional study areas. This is not significant in EIA terms.

18.8.5 The potential impact on tourism and recreation.

Evidence of potential links between offshore wind farms and the visitor economy

18.8.5.1 Several studies have been conducted to examine the effect of offshore wind farms on tourism and visitor economy, in particular in relation to visual amenity.

18.8.5.2 An assessment by Biggar Economics (2020) looked at indicators of the visitor economy in 11 areas, including one adjacent to an AONB and another adjacent to a National Park in an attempt to identify a possible relationship between offshore wind farms and changes in visitor behaviour and spend during the construction period. Their work found that the local visitor economy did not underperform compared to long term averages, and local tourism-related employment followed the trends of the wider region during the construction period.

18.8.5.3 According to a Scottish government survey (Scottish Government, 2022) of those with experience of offshore wind farms, the majority (85%) approved of offshore wind farms before construction and still approve of them now. Positive views were given due to job creation and renewable energy, while adverse effects were attributed due to visual impacts and marine wildlife disruption. Two-thirds of respondents (66%) agreed that offshore wind farms provide a boost for the local economy, while two in five (41%) agree that they are a positive feature of the coastal landscape. Around a third (34%) indicated that offshore wind farms create new recreational opportunities. The majority of all respondents, whether national or coastal, have not avoided visiting an area due to the presence of offshore wind turbines visible from the shore, while just 4% of respondents have done so.

18.8.5.4 A study (Scottish Government, 2008) found that the majority (75%) of respondents felt wind farms had a positive or neutral visual impact, and 93-99% who saw the wind farms were not affected by that experience. Overall, the studies suggest that wind farms do not significantly impact upon tourism either positively or negatively and they don't affect the vast majority of tourist's intentions to return. Economically, while certain directly affected areas may experience some small loss through displacement of tourists, those tourists are unlikely to be lost to the wider region as they substitute affected places for those less affected within the region.

18.8.5.5 A study by Cronin et al (2021) conducted on online survey to research the opinion and attitudes of the public towards marine renewable energy projects. Most respondents indicated they would not avoid a beach with visible turbines. Many respondents indicated there has been no perceptible impact on their location since the initial installation of an offshore wind farm, and it has resulted in no interference with their everyday lives. Wind farms in general are considered to have been a positive addition to a location, with many respondents praising the aesthetics and how it enhances the experience for sailors.

18.8.5.6 Overall, whilst there are some negative perceptions of the potential visual impacts of offshore wind farms on an area's visitor economy, there are a number of mitigating factors which can result in positive impacts on an area's visitor economy. It is also anticipated that any potential tourism impacts would be predominantly short term in

nature, with opportunity for visitor economy adaptation in the longer term once an offshore wind farm becomes part of the baseline conditions of a location.

Relevant receptors

18.8.5.7 Morgan Generation Assets has the potential to cause both beneficial and adverse impacts on tourism and recreation. These potential impacts are applicable to the construction, operations and maintenance, and decommissioning phases.

18.8.5.8 In assessing any potential impacts upon tourism and recreation activity, the following receptors have been considered:

- Visual amenity: the indirect effect of potential visual impacts on tourism and recreation – based on volume 2, chapter 15: Seascape, landscape and visual resources
- Overnight trips and accommodation: during the construction phase, workers are anticipated to be based largely offshore, with workers accommodated within SOVs. However, these workers have the potential to give rise to demand for temporary accommodation at the start and end of typical two week shift periods at sea within the catchments of the relevant transfer port(s) before or after spending time at their home location.
- Recreation: the direct or indirect effect of potential impacts on recreation – based on volume 2, chapter 12: Shipping and navigation, and volume 2, chapter 14: Other sea users of the PEIR.

18.8.5.9 Each receptor is considered here in turn, followed by an overall assessment of the impact on tourism and recreation.

Visual amenity

18.8.5.10 Volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR assesses the potential impacts of the construction, operations and maintenance, and decommissioning phases of the Morgan Generation Assets on visual resources.

18.8.5.11 Receptors have been selected on the basis of:

- Conceptual effect-receptor pathway: the receptor can be reasonably considered to – if effected – indirectly impact on tourism and recreation activities.
- Physical effect-receptor pathway: the receptor includes at least one visual resource that falls within one of the socio-economics regional study areas.

18.8.5.12 Having applied these criteria, the following receptors have been considered within this assessment of impact on tourism and recreation:

- Special qualities of national and international landscape designations
- National trails/long distance paths
- Access land/open country (or equivalent public access)
- Key coastal settlement seafronts/shorelines

18.8.5.13 The visual resources which relate to these receptors and fall within the North Wales tourism regional study area and Northwest England tourism regional study area, are listed in Table 18.23. A summary of the significance of effects assessed at each of these visual resources during the construction phase is summarised in Table 18.70, and the operation and maintenance phase is summarised in Table 18.71 (based on volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR).

Table 18.70: Magnitude, sensitivity, and significance of effects on visual resources in tourism regional study areas – construction phase.

Source: based on assessment of significance presents in volume 2, chapter 15: Seascape, landscape and visual resource.

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Representative viewpoints				
Representative viewpoint 14: Cistercian Way, Walney Island	Negligible	High	Negligible (adverse)	No
Representative viewpoint 15: Blackpool North Pier	Negligible	High	Negligible to minor (adverse)	No
Representative viewpoint 16: Cumbria Coastal Way, Gutterby Banks/Townend Bank	Negligible	High	Negligible (adverse)	No
Representative viewpoint 17: Kinmont Buck Barrow	Negligible	High	Negligible (adverse)	No
Designated sites				
Lake District National Park	Negligible	High	Negligible (adverse)	No
The English Lake District World Heritage Site	Negligible	High	Negligible (adverse)	No

Table 18.71: Magnitude, sensitivity, and significance of effects on visual resources in socio-economics regional study areas – operation and maintenance phase.

Source: based on assessment of significance presents in volume 2, chapter 15: Seascape, landscape and visual resource.

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Representative viewpoints				
Representative viewpoint 14: Cistercian Way, Walney Island, Cumbria	Negligible	High	Negligible (adverse)	No
Representative viewpoint 15: Blackpool North Pier, Lancashire	Low to negligible	High	Minor (adverse)	No
Representative viewpoint 16: Cumbria Coastal Way, Gutterby Banks/Townend Bank, Cumbria	Negligible	High	Negligible to minor (adverse)	No
Representative viewpoint 17: Kinmont Buck Barrow, Cumbria	Negligible	High	Negligible to minor (adverse)	No
Designated sites				
Lake District National Park	Negligible	High	Negligible to minor (adverse)	No

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
The English Lake District World Heritage Site	Negligible	High	Negligible to minor (adverse)	No

18.8.5.14 No visual resource assessed within volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR are located within the North Wales tourism regional study area. Therefore, potential impacts on visual amenity within the North Wales tourism regional study area can be scoped out of further assessment.

18.8.5.15 Of the visual resources assessed within volume 2, chapter 15: Seascape, landscape and visual resources of the PEIR that are located within the Northwest England tourism regional study area, none are anticipated to have significant effects in EIA terms. Therefore, no significant effects on seascape, landscape, and visual resource are anticipated within the Northwest England tourism regional study area at either the construction, operation and maintenance, or decommissioning phases.

Overnight trips and accommodation

18.8.5.16 The assessment of effects on housing, accommodation and local services set out in section 18.8.4 identified minor beneficial effects during the construction phase, minor beneficial effects during the operation and maintenance phase, and negligible effects during the decommissioning phase.

18.8.5.17 On the basis of this assessment, there are no likely significant effects on tourism and recreation.

Recreation

18.8.5.18 Volume 2, chapter 12: Shipping and navigation of the PEIR assesses the significance of potential impacts on the passage and safety of recreational craft within the shipping and navigation study area.

18.8.5.19 The assessment concludes that during the construction, operations and maintenance and decommissioning phases potential effects will be of minor adverse significance which are not significant in EIA terms.

18.8.5.20 Volume 2, chapter 14: Other sea users of the PEIR assesses the significance of potential impacts resulting from displacement of recreational activities.

18.8.5.21 The assessment concludes that during the construction phase, operations and maintenance and decommissioning phases potential effects will be of negligible adverse significance which are not significant in EIA terms.

18.8.5.22 This consideration of potential indirect effects on recreation indicates that there are unlikely to be any potential tourism impacts on recreation and it is therefore scoped out of further assessment.

Overall

Construction phase

18.8.5.23 Based on a consideration of the pathways by which tourism and recreation activities might be impacted by Morgan Generation Assets during the construction phase, the following sets out the magnitude, sensitivity, and significance for each tourism regional study area:

- North Wales: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

Operation and maintenance phase

18.8.5.24 Based on a consideration of the pathways by which tourism and recreation activities might be impacted by Morgan Generation Assets during the operation and maintenance phase, the following sets out the magnitude, sensitivity, and significance for each tourism regional study area:

- North Wales: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

Decommissioning phase

18.8.5.25 Based on a consideration of the pathways by which tourism and recreation activities might be impacted by Morgan Generation Assets during the decommissioning phase, the following sets out the magnitude, sensitivity, and significance for each tourism regional study area:

- North Wales: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

18.8.6 Future monitoring

18.8.6.1 No socio-economics monitoring to test the predictions made within the impact assessment is considered necessary.

18.9 Cumulative effect assessment methodology

18.9.1 Methodology

18.9.1.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Morgan Generation Assets together with other projects and plans. The projects and plans selected as relevant to the CEA presented within this chapter are based upon the results of a screening exercise (see volume 4, annex 5.3: CEA screening matrix of the PEIR). Each project has been considered on a case by case basis for screening in or out of this chapter's assessment based upon data confidence, effect-receptor pathways and the spatial/temporal scales involved.

18.9.1.2 The socio-economics CEA methodology has followed the methodology set out in volume 1, chapter 5: EIA methodology of the PEIR. As part of the assessment, all projects and plans considered alongside the Morgan Generation Assets have been allocated into 'tiers' reflecting their current stage within the planning and development process, these are listed below.

18.9.1.3 A tiered approach to the assessment has been adopted, as follows:

- Tier 1
  - Under construction
  - Permitted application
  - Submitted application
  - Those currently operational that were not operational when baseline data were collected, and/or those that are operational but have an ongoing impact
- Tier 2
  - Scoping Report has been submitted
- Tier 3
  - Scoping Report has not been submitted
  - Identified in the relevant Development Plan
  - Identified in other plans and programmes.

18.9.1.4 This tiered approach is adopted to provide a clear assessment of the Morgan Generation Assets alongside other projects, plans and activities.

18.9.1.5 The specific projects, plans and activities scoped into the CEA, are outline in Table 18.72.

Table 18.72: List of other projects, plans and activities considered within the CEA.

Project/Plan	Status	Distance from the Morgan Array Area (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Morgan Generation Assets
Tier 1						
Awel y Môr Offshore Wind Farm	Submitted but not yet determined	47.24	500 MW capacity offshore wind farm. Applicant expects consent Q3 2023.	2026–2030	2030–onwards	**Construction phase** • effect-receptor pathway • spatial overlap • temporal overlap. Construction phase scheduled to overlap with the construction phase of the Morgan Generation Assets in its entirety. Construction port(s) not yet identified; therefore possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Operations and maintenance phase** • effect-receptor pathway • spatial overlap • temporal overlap. Operation of project scheduled to commence at the same point as the Morgan Generation Assets. Operations and maintenance port not yet identified; therefore possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Decommissioning phase** Decommissioning phase (commencing 2055) is not scheduled to overlap with the decommissioning phase of the Morgan Generation Assets.
Tier 2						
Mona Offshore Wind Project	Pre-application	5.52	Application for the Mona Offshore wind project in the east Irish Sea	2026–2030	2030–onwards	**Construction phase** • effect-receptor pathway • spatial overlap • temporal overlap. Construction phase scheduled to overlap with the construction phase of the Morgan Generation Assets in its entirety. Construction port(s) not yet identified. Possibility that installation activities will be co-located with the Morgan Generation Assets in order to deliver project efficiencies. Possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Operations and maintenance phase** • effect-receptor pathway • spatial overlap • temporal overlap.

Project/Plan	Status	Distance from the Morgan Array Area (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Morgan Generation Assets
						Operation of project scheduled to commence at the same point as the Morgan Generation Assets. Operations and maintenance port not yet identified. Possibility that operation activities will be co-located with the Morgan Generation Assets in order to deliver project efficiencies. Possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Decommissioning phase** Decommissioning phase (commencing 2065) is scheduled to overlap with the decommissioning phase of the Morgan Generation Assets. Possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects.
Morgan and Morecambe Offshore Wind Farms Transmission Assets	Pre-application	11.24	Application for the coordinated transmission assets for the Morgan Offshore Wind Project and Morecambe Offshore Windfarm.	2026–2030	2030–onwards	**Construction phase** • effect-receptor pathway • spatial overlap • temporal overlap. Construction phase scheduled to overlap with the construction phase of the Morgan Generation Assets in its entirety. Possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Operations and maintenance phase** • effect-receptor pathway • spatial overlap • temporal overlap. Operation of project scheduled to commence at the same point as the Morgan Generation Assets. Possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Decommissioning phase** Decommissioning phase (commencing 2065) is scheduled to overlap with the decommissioning phase of the Morgan Generation Assets. Possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects.
Round 4 Preferred Project 5 (Morecambe)	Pre-application	11.24	480 MW capacity floating offshore wind farm.	Unknown – overlap likely	Unknown – overlap likely	**Construction phase** • effect-receptor pathway • spatial overlap • temporal overlap (likely).

Project/Plan	Status	Distance from the Morgan Array Area (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Morgan Generation Assets
						Construction phase scheduled to overlap with the construction phase of the Morgan Generation Assets in its entirety. Construction port(s) not yet identified; therefore possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Operations and maintenance phase** • effect-receptor pathway • spatial overlap • temporal overlap. Operation of project scheduled to commence at the same point as the Morgan Generation Assets. Operations and maintenance port not yet identified; therefore possibility remains that both North Wales socio-economics regional study areas and Northwest England socio-economics regional study area may be subject to cumulative effects. **Decommissioning phase** Decommissioning phase is not yet scheduled – therefore determination of cumulative effects not yet possible.

18.9.2 Maximum design scenario

18.9.2.1 The MDS identified in Table 18.73 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group. The cumulative effects presented and assessed in this section have been selected from the Project Design Envelope provided in volume 1, chapter 3: Project description of the PEIR as well as the information available on other projects and plans, in order to inform a 'maximum design scenario'. Effects of greater adverse significance are not predicted to arise should any other development scenario, based on details within the Project Design Envelope (e.g. different wind turbine layout), to that assessed here, be taken forward in the final design scheme.

Table 18.73: Maximum design scenario considered for the assessment of potential cumulative effects on socio-economics.

[a] C=construction, O=operations and maintenance, D=decommissioning

Potential cumulative effect	Phase[a]			Maximum Design Scenario	Justification
	C	O	D		
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	MDS as described for the Morgan Generation Assets (Table 18.32) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr Offshore Wind Farm. **Tier 2** • Mona Offshore Wind Project • Morgan and Morecambe Offshore Wind Farms Transmission Assets • Round 4 Preferred Project 5 (Morecambe)	Outcome of the CEA will be greatest when the greatest number of other projects, which could impact on economic receptors including employment, GVA, and supply chain demand, are considered within a socio-economics study area.
The impact of increased employment opportunities.	✓	✓	✓	MDS as described for the Morgan Generation Assets (Table 18.32) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr Offshore Wind Farm. **Tier 2** • Mona Offshore Wind Project • Morgan and Morecambe Offshore Wind Farms Transmission Assets • Round 4 Preferred Project 5 (Morecambe)	Outcome of the CEA will be greatest when the greatest number of other projects, which could result in an impact of increased employment opportunities are considered within a socio-economics study area.
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	MDS as described for the Morgan Generation Assets (Table 18.32) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr Offshore Wind Farm. **Tier 2** • Mona Offshore Wind Project • Morgan and Morecambe Offshore Wind Farms Transmission Assets • Round 4 Preferred Project 5 (Morecambe)	Outcome of the CEA will be greatest when the greatest number of other projects, which could result in an impact on the demand for housing, accommodation and local services are considered within a socio-economics study area.
The Impact on tourism and recreation.	✓	✓	✓	MDS as described for the Morgan Generation Assets (Table 18.32) assessed cumulatively with the following other projects/plans: **Tier 1** • Awel y Môr Offshore Wind Farm. **Tier 2** • Mona Offshore Wind Project • Morgan and Morecambe Offshore Wind Farms Transmission Assets • Round 4 Preferred Project 5 (Morecambe).	Outcome of the CEA will be greatest when the greatest number of other projects, which could result in an impact of disruption on tourism and recreation are considered within a socio-economics study area.

18.10 Cumulative effects assessment

18.10.1.1 A description of the significance of cumulative effects upon socio-economics receptors arising from each identified impact is given below. Tier 1 and Tier 2 projects have been assessed together.

18.10.2 The potential cumulative impact on economic receptors including employment, GVA, and supply chain demand

Construction phase

Magnitude of impact

18.10.2.1 Whilst detailed information on cumulative projects is not available, it is reasonable to assume there is potential for cumulative impact on economic receptors within the socio-economics study areas. This would be dependent on the selection of primary construction ports for other projects within the same socio-economics regional study area as the Morgan Generation Assets. The likelihood of this situation occurring is strongest with the Mona Offshore Wind Project – there is a possibility construction activity for this project will be co-located with the Morgan Generation Assets in order to deliver project efficiencies. The same is largely true with regards to Wales. The likelihood of cumulative effects occurring within the UK is greater, as this would be dependent on the selection of primary construction ports for other projects within the UK – a situation with a much higher probability of occurring.

18.10.2.2 As per Table 18.40, the magnitude of impact assessed for the Morgan Generation Assets is **medium (beneficial)** in North Wales and Northwest England, **medium (beneficial)** in Wales, and **low (beneficial)** in the UK.

18.10.2.3 Based on the lack of publicly available data on the magnitude of potential cumulative effects of other projects, the magnitude of impact for socio-economics study areas is assessed relative to the Morgan Generation Assets impact assessment and is shown in Table 18.74.

Table 18.74: Magnitude of cumulative construction phase employment and GVA potential impacts.

Study area	Magnitude
Regional	
North Wales	**Medium to high (beneficial)**
Northwest England	**Medium to high (beneficial)**
National	
Wales	**Medium to high (beneficial)**
UK	**Low to medium (beneficial)**

18.10.2.4 The upper end of any range is based on primary construction ports for more than two projects being located within the same socio-economics regional study area.

18.10.2.5 The magnitude of impact for the UK is assessed as **high (beneficial)**. This is because of the likelihood that primary construction ports for the majority of cumulative projects will be located within the UK.

Sensitivity of the receptor

18.10.2.6 As per section 18.8.2, the potential impact on economic receptors including employment, GVA, and supply chain demand is deemed to be of high value and importance, and high vulnerability. The receptor's recoverability is dependent on a number of factors, including supply chain and infrastructure capabilities and capacity. The sensitivity of the receptor is therefore, considered to be **high**.

Significance of the effect

18.10.2.7 The significance of the cumulative effects for each socio-economics study area are set out in Table 18.75.

Table 18.75: Significance of cumulative construction phase employment and GVA potential impacts.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Medium to high (beneficial)	High	**Moderate (beneficial)**	Yes
Northwest England	Medium to high (beneficial)	High	**Moderate (beneficial)**	Yes
National				
Wales	Medium to high (beneficial)	High	**Moderate (beneficial)**	Yes
UK	Low to medium (beneficial)	High	**Minor (beneficial)**	No

Operations and maintenance phase

Magnitude of impact

18.10.2.8 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on economic receptors within the socio-economics study areas. This would be dependent on the selection of primary operations and maintenance ports for other projects within the same socio-economics regional study area as the Morgan Generation Assets. The likelihood of this situation occurring is strongest with the Mona Offshore Wind Project – there is a possibility that operations and maintenance activities for this project will be co-located with the Morgan Generation Assets in order to deliver project efficiencies. The same is largely true with regards to Wales. The likelihood of cumulative effects occurring within the UK is greater, as this would be dependent on the selection of primary operations and maintenance ports for other projects within the UK – a situation with a much higher probability of occurring.

18.10.2.9 As per Table 18.43, the magnitude of impact assessed for the Morgan Generation Assets is **medium (beneficial)** in North Wales, **low** (beneficial) in Northwest England, and **medium (beneficial)** in Wales.

18.10.2.10 Based on the lack of publicly available data on the magnitude of potential cumulative effects of other projects, the magnitude of impact for socio-economics regional study areas is assessed relative to the Morgan Generation Assets impact assessment and is shown in Table 18.76.

Table 18.76: Magnitude of cumulative operation and maintenance phase employment and GVA potential impacts.

Study area	Magnitude
Regional	
North Wales	**Medium to high (beneficial)**
Northwest England	**Low to medium (beneficial)**
National	
Wales	**Medium to high (beneficial)**

18.10.2.11 The upper end of any range is based on primary operations and maintenance ports for more than two projects being located within the same socio-economics regional study area.

Sensitivity of the receptor

18.10.2.12 As per section 18.8.2, the potential impact on economic receptors including employment, GVA, and supply chain demand is deemed to be of high value and importance, and high vulnerability. The receptor's recoverability is dependent on a number of factors, including supply chain and infrastructure capabilities and capacity. The sensitivity of the receptor is therefore, considered to be **high**.

Significance of the effect

18.10.2.13 The significance of the cumulative effects for each socio-economics study area are set out in Table 18.77.

Table 18.77: Significance of cumulative operation and maintenance phase employment and GVA potential impacts.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Medium to high (beneficial)	High	**Moderate (beneficial)**	Yes
Northwest England	Low to medium (beneficial)	High	**Minor (beneficial)**	No
National				
Wales	Medium to high (beneficial)	High	**Moderate (beneficial)**	Yes

Decommissioning phase

18.10.2.14 The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known.

18.10.2.15 No plans are in place to consider potential locations for decommissioning support ports.

18.10.2.16 If decommissioning ports were selected within the same socio-economics regional study areas, there may be cumulative effects with other projects where decommissioning phases coincide. However timing is uncertain and no data is available on which to make an assessment.

18.10.2.17 Within the socio-economics regional study areas the significance of cumulative effects assessed at construction phase on economic receptors is moderate (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.2.18 Within Wales the significance of cumulative effects assessed at construction phase on economic receptors is moderate (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.2.19 Within the UK the significance of cumulative effects assessed at construction phase on economic receptors is moderate (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.3 The potential cumulative impact of increased employment opportunities

Construction phase

Magnitude of impact

18.10.3.1 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on employment opportunities within socio-economics study areas. This would be dependent on the selection of primary construction ports for other projects within the same socio-economics regional study area as the Morgan Generation Assets. The likelihood of this situation occurring is strongest with the Mona Offshore Wind Project – there is a possibility construction activity for this project will be co-located with the Morgan Generation Assets in order to deliver project efficiencies. The same is largely true with regards to Wales. The likelihood of cumulative effects occurring within the UK is greater, as this would be dependent on the selection of primary construction ports for other projects within the UK – a situation with a much higher probability of occurring.

18.10.3.2 As per Table 18.50, the magnitude of impact assessed for the Morgan Generation Assets is **negligible** in North Wales, **negligible** in Northwest England, **negligible in** Wales, and **negligible** in the UK.

18.10.3.3 Based on the lack of publicly available data on the magnitude of potential cumulative effects of other projects, the magnitude of impact for socio-economics study areas is

assessed relative to the Morgan Generation Assets impact assessment and is shown in Table 18.78.

Table 18.78: Magnitude of cumulative construction phase employment opportunity impacts.

Study area	Magnitude
Regional	
North Wales	**Low (beneficial)**
Northwest England	**Low (beneficial)**
National	
Wales	**Low (beneficial)**
UK	**Low (beneficial)**

18.10.3.4 These magnitudes are based on primary construction ports for more than two projects being located within the same regional socio-economics study area.

Sensitivity of the receptor

18.10.3.5 As per section 18.8.3, the potential impact of increased employment opportunities is deemed to be of high value and importance, and high vulnerability. The receptor's recoverability is dependent on a number of factors, including labour market and skills conditions. The sensitivity of the receptor is therefore, considered to be **high**.

Significance of the effect

18.10.3.6 The significance of the cumulative effects for each socio-economics study area are set out in Table 18.79.

Table 18.79: Significance of cumulative construction phase employment opportunity impacts.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Low (beneficial)	High	**Minor (beneficial)**	No
Northwest England	Low (beneficial)	High	**Minor (beneficial)**	No
National				
Wales	Low (beneficial)	High	**Minor (beneficial)**	No
UK	Low (beneficial)	High	**Minor (beneficial)**	No

Operations and maintenance phase

Magnitude of impact

18.10.3.7 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on employment opportunities within the socio-economics study areas. This would be dependent on the selection of primary operations and maintenance ports for other projects within the same socio-economics regional study area as the Morgan Generation Assets. The likelihood of this situation occurring is strongest with the Mona Offshore Wind Project – there is a possibility operations and maintenance activities for this project will be co-located with the Morgan Generation Assets in order to deliver project efficiencies. The same is largely true with regards to Wales. The likelihood of cumulative effects occurring within the UK is greater, as this would be dependent on the selection of primary operations and maintenance ports for other projects within the UK – a situation with a much higher probability of occurring.

18.10.3.8 As per Table 18.55, the magnitude of impact assessed for the Morgan Generation Assets is negligible in North Wales, Northwest England, and Wales.

18.10.3.9 Based on the lack of publicly available data on the magnitude of potential cumulative effects of other projects, the magnitude of impact is assessed relative to the Morgan Generation Assets impact assessment and is shown in Table 18.80.

Table 18.80: Magnitude of cumulative operation and maintenance phase employment opportunity impacts.

Study area	Magnitude
Regional	
North Wales	**Low (beneficial)**
Northwest England	**Low (beneficial)**
National	
Wales	**Low (beneficial)**

18.10.3.10 This is based on primary operations and maintenance ports for more than two projects being located within the same socio-economics regional study area.

Sensitivity of the receptor

18.10.3.11 As per section 18.8.3, the potential impact of increased employment opportunities is deemed to be of high value and importance, and high vulnerability. The receptor's recoverability is dependent on a number of factors, including labour market and skills conditions. The sensitivity of the receptor is therefore, considered to be **high**.

Significance of the effect

18.10.3.12 The significance of the cumulative effects for each socio-economics study area are set out in Table 18.81.

Table 18.81: Significance of cumulative operation and maintenance phase employment opportunity impacts.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Low (beneficial)	High	**Minor (beneficial)**	No
Northwest England	Low (beneficial)	High	**Minor (beneficial)**	No
National				
Wales	Low (beneficial)	High	**Minor (beneficial)**	No

Decommissioning phase

18.10.3.13 The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known.

18.10.3.14 No plans are in place to consider potential locations for decommissioning support ports.

18.10.3.15 If decommissioning ports were selected within the same socio-economics regional study areas, there may be cumulative effects with other projects where decommissioning phases coincide. However timing is uncertain and no data is available on which to make an assessment.

18.10.3.16 Within the socio-economics regional study areas the significance of cumulative effects assessed at construction phase on employment opportunities is moderate (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.3.17 Within Wales the significance of cumulative effects assessed at construction phase on economic receptors is moderate (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.3.18 Within the UK the significance of cumulative effects assessed at construction phase on economic receptors is minor (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be no greater than **minor (beneficial)** and therefore not significant in EIA terms.

18.10.4 The potential cumulative impact on the demand for housing, accommodation and local services

Construction phase

Magnitude of impact

18.10.4.1 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on the demand for temporary (overnight) accommodation within the socio-economics regional study areas. This would be dependent on the selection of primary construction ports for other projects within the same socio-economics regional study area as the Morgan Generation Assets. The likelihood of this situation occurring is strongest with the Mona Offshore Wind Project – there is a possibility construction activity for this project will be co-located with the Morgan Generation Assets in order to deliver project efficiencies.

18.10.4.2 As per Table 18.64, the magnitude of impact assessed for the Morgan Generation Assets is low (beneficial) in North Wales, and negligible in Northwest England.

18.10.4.3 Based on the lack of publicly available data on the magnitude of potential cumulative effects of other projects, the magnitude of impact is assessed relative to the Morgan Generation Assets impact assessment and is shown in Table 18.82.

Table 18.82: Magnitude of cumulative construction phase impacts on the demand for housing, accommodation and local services.

Study area	Magnitude
Regional	
North Wales	**Low to medium (beneficial)**
Northwest England	**Low (beneficial)**

18.10.4.4 The upper end of any range is based on primary construction ports for more than two projects being located within the same socio-economics regional study area. This would open up the possibility for an increase in permanent workforce relocation given the greater pipeline of potential contracting or employment opportunities.

Sensitivity of the receptor

18.10.4.5 As per section 18.8, the potential impact on the demand for housing, accommodation and local services is deemed to be of high value and importance, low vulnerability, and high recoverability. The sensitivity of the receptor is therefore considered to be **medium**.

Significance of the effect

18.10.4.6 The significance of the cumulative effects for each socio-economics study area are set out in Table 18.83.

Table 18.83: Significance of cumulative construction phase impacts on housing, accommodation and local services.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Low to medium (beneficial)	Medium	**Minor (beneficial)**	No
Northwest England	Low (beneficial)	Medium	**Minor (beneficial)**	No

Operations and maintenance phase

Magnitude of impact

18.10.4.7 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on the demand for temporary (overnight), private rented, and permanent accommodation within the socio-economics regional study areas. This would be dependent on the selection of primary operation and maintenance ports for other projects within the same socio-economics regional study area as the Morgan Generation Assets. The likelihood of this situation occurring is strongest with the Mona Offshore Wind Project – there is a possibility that operations and maintenance activities for this project will be co-located with the Morgan Generation Assets in order to deliver project efficiencies.

18.10.4.8 The magnitude of impact arising from the Morgan Generation Assets has been assessed as low (beneficial) in North Wales, and negligible in Northwest England.

18.10.4.9 Based on the lack of publicly available data on the magnitude of potential cumulative effects of other projects, the magnitude of impact is assessed relative to the Morgan Generation Assets impact assessment and is shown in Table 18.84.

Table 18.84: Magnitude of cumulative operation and maintenance phase impacts on the demand for housing, accommodation and local services.

Study area	Magnitude
Regional	
North Wales	**Low to medium (beneficial)**
Northwest England	**Low (beneficial)**

Sensitivity of the receptor

18.10.4.10 As per section 0, the potential impact on the demand for housing, accommodation and local services is deemed to be of high value and importance, low vulnerability, and low recoverability. The sensitivity of the receptor is therefore considered to be **medium**.

Significance of the effect

18.10.4.11 The significance of the cumulative effects for each socio-economics study area are set out in Table 18.85.

Table 18.85: Significance of cumulative operation and maintenance phase impacts on housing, accommodation and local services.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Regional				
North Wales	Low to medium (beneficial)	Medium	**Minor (beneficial)**	No
Northwest England	Low (beneficial)	Medium	**Minor (beneficial)**	No

Decommissioning phase

18.10.4.12 The scale and duration of decommissioning activity is uncertain. The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known.

18.10.4.13 No plans are in place to consider potential locations for decommissioning support ports.

18.10.4.14 If decommissioning ports were selected within the same socio-economics regional study areas, there may be cumulative effects with other projects where decommissioning phases coincide. However timing is uncertain and no data is available on which to make an assessment.

18.10.4.15 Within the North Wales socio-economics regional study area the significance of cumulative effects assessed at construction phase for accommodation, housing and local services is minor (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.4.16 Within the Northwest England socio-economics regional study area the significance of cumulative effects assessed at construction phase for accommodation, housing and local services is minor (beneficial). On the basis of currently available evidence the significance of effects for decommissioning phase will be **minor (beneficial)** and therefore not significant in EIA terms.

18.10.5 The potential cumulative impact on tourism and recreation.

18.10.5.1 Whilst detailed information is not yet available there is potential for a cumulative impact on tourism and recreation within the tourism regional study areas from the Morgan Generation Assets.

18.10.5.2 In order to assess potential cumulative impacts on tourism and recreation, it is necessary to draw on the equivalent assessments of Tier 1 and Tier 2 projects. An equivalent assessment is available for the following Tier 1 and Tier 2 projects:

- Mona Offshore Wind Project: no significant effects on tourism and recreation in the North Wales socio-economics regional study area and the Northwest England socio-economics regional study area are anticipated.
- Awel y Môr Offshore Wind Farm (based on RWE, 2022): no significant effects on tourism and recreation are anticipated – effects are assessed as no greater than minor (adverse) across all project-only and cumulative impacts.

18.10.5.3 Based on the equivalent tourism and recreation assessments of Tier 1 and Tier 2 projects, no significant effects on tourism and recreation are anticipated to result from these cumulative projects within the North Wales and Northwest England tourism regional study areas at the construction, operation and maintenance, or decommissioning phases.

Overall

Construction phase

18.10.5.4 Based on a consideration of the pathways by which tourism and recreation activities might be cumulatively impacted during the construction phase by Morgan Generation Assets along with Tier 1 and Tier 2 projects, the following sets out the magnitude, sensitivity, and significance for each tourism regional study area:

- North Wales: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The cumulative effect will, therefore, be of negligible significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

Operation and maintenance phase

18.10.5.5 Based on a consideration of the pathways by which tourism and recreation activities might be cumulatively impacted during the construction phase by Morgan Generation Assets along with Tier 1 and Tier 2 projects, the following sets out the magnitude, sensitivity, and significance for each tourism regional study area:

- North Wales: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of negligible significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

Decommissioning phase

18.10.5.6 Based on a consideration of the pathways by which tourism and recreation activities might be cumulatively impacted during the construction phase by Morgan Generation Assets along with Tier 1 and Tier 2 projects, the following sets out the magnitude, sensitivity, and significance for each tourism regional study area:

- North Wales: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of negligible significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

18.11 Transboundary effects

18.11.1.1 A screening of transboundary impacts has been carried out and any potential for significant transboundary effects with regard to socio-economics from the Morgan Generation Assets upon the interests of other states has been assessed as part of this PEIR. The potential transboundary impacts are assessed within volume 4, annex 5.4: Transboundary screening of the PEIR and are summarised below:

18.11.1.2 Potential transboundary socio-economics impacts upon other states may arise through the purchase of project components, equipment and the sourcing of labour from companies based outside the UK. The sourcing of materials and labour from other states is assumed to provide beneficial effects to the economies of said states, and so the consideration of measures envisaged to reduce or eliminate such effects is not relevant in the context of transboundary impacts.

18.11.1.3 The consideration of potentially significant indirect transboundary effects that has been made with respect to linkages between socio-economics and transboundary effects assessed in other topic chapters are set out in Table 18.86.

Table 18.86: Linkages between socio-economics and transboundary effects in other topic chapters.

Topic	Assessment of transboundary effects	Linkages to socio-economics
Volume 2, chapter 11: Commercial fisheries of the PEIR	No significant transboundary effects	No significant indirect transboundary effects
Volume 2, chapter 12: Shipping and Navigation of the PEIR	Each individual vessel may be internationally owned or operating between ports in different states. These impacts have been captured and assessed within the Navigational Risk Assessment and Cumulative Regional Navigational Risk Assessment in volume 2, chapter 15; Shipping and navigation of the PEIR. Therefore, **no additional** transboundary impacts are anticipated	The magnitude of any indirect transboundary impacts on tourism and recreation relating to individual vessels is considered to be negligible. Therefore, potential indirect transboundary effects on socio-economics receptors (tourism and recreation) are considered to be not significant.
Volume 2, chapter 14: Other Sea Users of the PEIR	No significant transboundary effects	No significant indirect transboundary effects

18.11.1.4 Having considered the assessment of transboundary effects in other topic chapters, it is likely that no indirect transboundary effects on socio-economics receptors will be significant in EIA terms.

18.11.1.5 The screening of transboundary impacts therefore identifies no potential for significant effects with regards to socio-economics.

18.12 Inter-related effects

18.12.1.1 Inter-relationships are considered to be the impacts and associated effects of different aspects of the proposal on the same receptor. These are considered to be:

- Project lifetime effects: Assessment of the scope for effects that occur throughout more than one phase of the Morgan Generation Assets (construction, operations and maintenance, and decommissioning), to interact to potentially create a more significant effect on a receptor than if just assessed

in isolation in these three phases (e.g. subsea noise effects from piling, operational wind turbines, vessels and decommissioning)

- Receptor led effects: Assessment of the scope for all effects to interact, spatially and temporally, to create inter-related effects on a receptor. As an example, all effects on socio-economics, such as [direct habitat loss or disturbance, sediment plumes, scour, jack-up vessel use etc.], may interact to produce a different, or greater effect on this receptor than when the effects are considered in isolation. Receptor-led effects may be short term, temporary or transient effects, or incorporate longer term effects.

18.12.1.2 A description of the likely interactive effects arising from the Morgan Offshore Wind Project on socio-economics is provided in volume 2, chapter 15: Inter-related effects of the PEIR

18.13 Summary of impacts, mitigation measures and monitoring

18.13.1.1 Table 18.87–Table 18.90 present a summary of the potential impacts, measures adopted as part of the project and residual effects in respect to socio-economics across every socio-economics study area. The impacts assessed include:

- the impact on economic receptors including employment, GVA, and supply chain demand.
- the impact of increased employment opportunities.
- the impact on the demand for housing, accommodation and local services.
- The impact on tourism and recreation.

18.13.1.2 Table 18.91–Table 18.94 present a summary of the potential cumulative socio-economic impacts, mitigation measures and residual effects.

18.13.1.3 No potential transboundary impacts have been identified in regard to socio-economic effects of the Morgan Generation Assets.

Table 18.87: Summary of potential environmental effects, mitigation and monitoring – North Wales socio-economics regional study area and North Wales tourism regional study area.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Medium (beneficial) O: Medium (beneficial) D: Negligible	C: High O: High D: High	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	N/A	C: Low (beneficial) O: Low (beneficial) D: Negligible	C: Medium O: Medium D: Medium	C: Minor (beneficial) O: Minor (beneficial) D: Negligible	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Negligible	N/A
The impact on tourism and recreation.	✓	✓	✓	N/A	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A

Table 18.88: Summary of potential environmental effects, mitigation and monitoring – Northwest England socio-economics regional study area and Northwest England tourism regional study area.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Medium (beneficial) O: Low (beneficial) D: Negligible	C: High O: High D: High	C: Moderate (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Moderate (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	N/A	C: Negligible O: Negligible D: Negligible	C: Medium O: Medium D: Medium	C: Minor (beneficial) O: Minor (beneficial) D: Negligible	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Negligible	N/A
The impact on tourism and recreation.	✓	✓	✓	N/A	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A

Table 18.89: Summary of potential environmental effects, mitigation and monitoring – Wales.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Medium (beneficial) O: Medium (beneficial) D: Negligible	C: High O: High D: High	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A

Table 18.90: Summary of potential environmental effects, mitigation and monitoring – UK.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓		✓	A skills and employment strategy will be a requirement of the draft DCO	C: Low (beneficial) D: Negligible	C: High D: High	C: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓		✓	A skills and employment strategy will be a requirement of the draft DCO	C: Negligible D: Negligible	C: High D: High	C: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) D: Minor (beneficial)	N/A

Table 18.91: Summary of potential cumulative environmental effects, mitigation and monitoring – North Wales socio-economics regional study area and North Wales tourism regional study area.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Medium to high (beneficial) O: Medium to high (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Low (beneficial) O: Low (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	N/A	C: Low to medium (beneficial) O: Low to medium (beneficial) D: Low (beneficial)	C: Medium O: Medium D: Medium	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact on tourism and recreation.	✓	✓	✓	N/A	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A

Table 18.92: Summary of potential cumulative environmental effects, mitigation and monitoring – Northwest England socio-economics regional study area and Northwest England tourism regional study area.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Medium to high (beneficial) O: Low to medium (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Moderate (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Moderate (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Low (beneficial) O: Low (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	N/A	C: Low (beneficial) O: Low (beneficial) D: Low (beneficial)	C: Medium O: Medium D: Medium	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact on tourism and recreation.	✓	✓	✓	N/A	C: Negligible O: Negligible D: Negligible	C: High O: High D: High	C: Minor (adverse) O: Minor (adverse) D: Minor (adverse)	N/A	C: Minor (adverse) O: Minor (adverse)	N/A

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
									D: Minor (adverse)	

Table 18.93: Summary of potential cumulative environmental effects, mitigation and monitoring – Wales.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Medium to high (beneficial) O: Medium to high (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓	✓	✓	A skills and employment strategy will be a requirement of the draft DCO	C: Low (beneficial) O: Low (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A

Table 18.94: Summary of potential cumulative environmental effects, mitigation and monitoring – UK.

[a] C=construction, O=operations and maintenance, D=decommissioning

Description of impact	Phase[a]			Measures adopted as part of the project	Magnitude of impact	Sensitivity of the receptor	Significance of effect	Further mitigation	Residual effect	Proposed monitoring
	C	O	D							
The impact on economic receptors including employment, GVA, and supply chain demand.	✓		✓	A skills and employment strategy will be a requirement of the draft DCO	C: Low to medium (beneficial) D: Low (beneficial)	C: High D: High	C: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) D: Minor (beneficial)	N/A
The impact of increased employment opportunities.	✓		✓	A skills and employment strategy will be a requirement of the draft DCO	C: Low (beneficial) D: Low (beneficial)	C: High D: High	C: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) D: Minor (beneficial)	N/A

18.14 Next Steps

18.14.1 Consideration of economic impact scenarios

18.14.1.1 The PEIR identifies the levels of uncertainty at the pre consenting stage, particularly in terms of location of expenditure. In addition to the 'Central' economic impact scenario assessed as part of the PEIR, 'Low' and 'High' impact scenarios will be explored as part of the DCO Application.

18.14.2 Consideration of potential indirect impacts

18.14.2.1 The PEIR has identified the following potential impacts which may result in indirect effects on socio-economic receptors. These are described below, with an indication of how these potential indirect impacts will be considered within the socio-economics assessment of the Environmental Statement.

Potential socio-economic effects relevant to the Isle of Man

18.14.2.2 The PEIR identifies potential significant effects on shipping and navigation receptors for the individual and cumulative assessments, see volume 2, chapter 12: Shipping and navigation of the PEIR.

18.14.2.3 The Applicant has made firm commitments to reducing the potential impacts on shipping and navigation receptors and the potential significant effects that have been identified as part of the individual and cumulative shipping and navigation assessment. These will be tested and applied as part of the assessment post PEIR and included in the Environmental Statement which will be submitted for the DCO application. The commitments focus on changes to the boundary and layout design of the Morgan Array Area and are set out in Table 18.95: Commitments made to address potential significant effects on shipping and navigationbelow.

Table 18.95: Commitments made to address potential significant effects on shipping and navigation.

Commitment		
Morgan Array Area boundary changes	Changes to the Morgan Array Area boundary will be made to address the impacts associated with the creation of navigation corridors.	Designed to increase manoeuvring space and reduce impact to operators. Specifically, the navigable width of the corridor between the Morgan Array Area and Walney offshore wind farm will be increased.
Array area boundary changes to the Mona Offshore Wind Farm, a bpEnBW project which is currently being progressed.	Changes to the Mona Offshore Wind Farm Array Area boundary will be made as part of the Mona Offshore Wind Farm DCO application to address the cumulative impacts associated with the creation of navigation corridors.	Designed to increase manoeuvring space and reduce impact to operators. Specifically, the navigable width of the corridor between the Morgan Array Area and the Mona Offshore Wind Farm Array Area
Site layout design	Commitment to two lines of orientation of project infrastructure	To facilitate internal navigation in the Morgan Array Area
Continued stakeholder engagement	Commitments and additional risk controls will be tested with stakeholders	Part of significant additional work to define additional control measures and address the risks identified within the shipping and navigation assessment.

18.14.2.4 The Applicant is continuing to work with stakeholders to assess these commitments, together with other potential risk control options, to ensure they are appropriate and adequate in reducing the risks and, therefore, potential effects that have been identified. The results of this work will inform the Socio-economics assessment for the DCO application.

18.14.2.5 Given the potential for indirect impacts on the Isle of Man as a result of potential cumulative shipping and navigation impacts to commercial operators (including strategic routes and lifeline ferries), an assessment of any potential indirect impacts will be brought into the socio-economics assessment for the Environmental Assessment once further work has been undertaken to assess the commitments made by the Applicant on shipping and navigation (presented in volume 2, chapter 12: Shipping and Navigation of the PEIR and summarised in Table 18.95 above).

18.14.2.6 The following process will be followed during preparation of the Environmental Statement for the DCO application:

- Review of the shipping and navigation assessment for the Environmental Statement and identification of any significant adverse effects as a result of potential impacts to commercial operators including strategic routes and lifeline ferries.
- Where effects are deemed significant, the Socio-economics chapter in the Environmental Statement will include an assessment of the potential indirect socio-economics effects on the Isle of Man.

18.14.2.7 The socio-economics assessment for the Environmental Assessment will be updated with the findings of the Seascape, landscape and visual resources assessment for the Environmental Statement and feedback from the PEIR consultation to consider potential indirect impacts on tourism on the Isle of Man associated with visual impacts from the Morgan Generation Assets.

18.14.2.8 The following process will be followed during preparation of the Environmental Statement for the DCO application:

- Review of the seascape, landscape and visual resources assessment for the Environmental Statement and identification of any adverse significant effects on representative viewpoints and key visual receptors on the Isle of Man which have the potential to indirectly impact on tourism and recreation.
- Where effects are deemed significant, the Socio-economics chapter in the Environmental Statement will include an assessment of the potential indirect tourism effects of potential visual impacts on the Isle of Man.

Potential economic and social effects relevant to commercial fisheries

18.14.2.9 Volume 2, chapter 11: Commercial fisheries of the PEIR identifies a number of potential significant effects on commercial fisheries receptors for the individual and cumulative assessments where additional mitigation is required to reduce impacts.

18.14.2.10 The Applicant has committed to exploring these additional mitigation measures through further studies and engagement with stakeholders to ensure they are appropriate and adequate for reducing potential impacts on commercial fisheries prior to submission of the DCO application.

18.14.2.11 Engagement with commercial fisheries stakeholders will continue, with further engagement to discuss the proposed layout design. The baseline description and impact assessments in volume 2, chapter 11: Commercial fisheries of the PEIR will therefore be updated for the final Environmental Statement. The results of this work will inform the Socio-economics assessment for the DCO application.

18.14.2.12 The Socio-economics assessment presented within the Environmental Statement for the DCO application will apply the following approach for assessing these potential impacts:

- Review of the Commercial fisheries assessment for the Environmental Statement and identification of any residual adverse effects that have the potential to indirectly impact on socio-economics receptors.
- Where effects are deemed significant, the Socio-economics chapter in the Environmental Statement will include an assessment of the potential indirect socio-economics effects of potential loss or restricted access to fishing grounds.

18.14.2.13 Volume 2, chapter 11: Commercial Fisheries of the PEIR also assesses effects resulting from the potential loss or restricted access to fishing grounds – specifically to Scottish west coast scallop vessels. Further mitigation measures have been identified to remove or reduce the significance of these potential effects. Potential residual effects on Scottish west coast scallop vessels have been assessed as not significant. As a result, this chapter has not assessed the potential for indirect adverse socio-economic effects emanating from potential loss or restricted access to fishing grounds in respect of Scottish west coast scallop vessels.

18.14.2.14 Subsequent non-statutory engagement will be undertaken with stakeholders, prior to DCO application, to communicate and seek their input on the assessment findings. Comments received on the PEIR will be addressed within the Environmental Statement, including within the topic of Socio-economics.

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