

MONA OFFSHORE WIND PROJECT

Preliminary Environmental Information Report

Volume 4, chapter 29: Socio-economics and Community



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FINAL

Image of an offshore wind farm

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Contents

29 SOCIO-ECONOMICS AND COMMUNITY 1

29.1 Introduction..... 1

 29.1.1 Overview 1

 29.1.2 Purpose of chapter 1

 29.1.3 Potential socio-economics impacts 1

 29.1.4 Socio-economics and community study area(s)..... 1

 29.1.5 Tourism regional study area(s)..... 7

 29.1.6 Isle of Man 7

29.2 Policy context 7

 29.2.1 National Policy Statements 7

 29.2.2 Wales legislation and strategic planning policy 8

 29.2.3 UK strategic planning policy 10

 29.2.4 North West Inshore and North West Offshore Coast Marine Plans 11

29.3 Consultation 12

29.4 Baseline environment..... 17

 29.4.1 Methodology to inform baseline 17

 29.4.2 Desktop study 18

 29.4.3 Site-specific surveys 18

 29.4.4 Baseline environment 18

 29.4.5 Future baseline scenario 29

 29.4.6 Data limitations 31

29.5 Impact assessment methodology..... 31

 29.5.1 Overview 31

 29.5.2 Impact assessment criteria 32

 29.5.3 Technical impact report – socio-economics 33

29.6 Key parameters for assessment 34

 29.6.1 Maximum design scenario 34

 29.6.2 Impacts scoped out of the assessment 39

29.7 Measures adopted as part of the Mona Offshore Wind Project..... 39

29.8 Assessment of significant effects 39

 29.8.2 The potential impact on economic receptors including employment, GVA, and supply chain demand 39

 29.8.3 The potential impact of increased employment opportunities 44

 29.8.4 The potential impact on the demand for housing, accommodation and local services 48

 29.8.5 The potential impact on tourism and recreation. 53

 Overall 57

29.9 Cumulative effect assessment methodology 57

 29.9.1 Methodology 57

 29.9.2 Maximum design scenario 62

29.10 Cumulative effects assessment 64

 29.10.2 The potential impact on economic receptors including employment, GVA, and supply chain demand 64

 29.10.3 The potential impact of increased employment opportunities 65

 29.10.4 The potential impact on the demand for housing, accommodation and local services 67

 29.10.5 The potential impact on tourism and recreation. 68

 Overall 69

29.11 Transboundary effects 69

29.12 Inter-related effects 70

29.13 Summary of impacts, mitigation measures and monitoring 70

29.14 Next steps 75

 29.14.1 Consideration of economic impact scenarios 75

29.14.2 Consideration of potential indirect impacts 75

29.15 References 77

Tables

Table 29.1: Long list of potential construction, operations and maintenance, and decommissioning port facilities in England and Wales..... 3

Table 29.2: Summary of the NPS EN-1 provisions relevant to socio-economics and community..... 7

Table 29.3: Summary of NPS EN-1 policy on decision making relevant to socio-economics and community. 8

Table 29.4: Welsh National Marine Plan summary. 8

Table 29.5: Wales strategic planning policies or relevance to socio-economics and community..... 9

Table 29.6: UK strategic planning policies or relevance to socio-economics and community..... 10

Table 29.7: North West Inshore and North West Offshore Marine Plan policies of relevance to socio-economics and community. 12

Table 29.8: Socio-economics stakeholder consultation participation..... 13

Table 29.9: Summary of key consultation issues raised during consultation activities undertaken for the Mona Offshore Wind Project relevant to socio-economics and community..... 14

Table 29.10: Summary of key desktop reports..... 18

Table 29.11: All industries economy indicators (employment and GVA) – count and change. 19

Table 29.12: Construction impact industries economy indicators (employment and GVA) – count and change. 21

Table 29.13: Operations and maintenance impact industries economy indicators (employment and GVA) – count and change. 21

Table 29.14: Decommissioning impact industries economy indicators (employment and GVA) – count and change. 22

Table 29.15: Offshore wind sector employment estimates. 23

Table 29.16: Economic activity rate and economically inactive individuals that want a job..... 24

Table 29.17: Unemployed individuals and unemployed rate..... 24

Table 29.18: Total population and population change. 25

Table 29.19: Total dwellings. 25

Table 29.20: Private rented sector dwellings..... 26

Table 29.21: Unoccupied dwellings..... 26

Table 29.22: Visual resources, North Wales tourism regional study area. 26

Table 29.23: Monthly occupancy figures for serviced accommodation, Wales (2017 to 2021). 27

Table 29.24: Visual resources, Northwest England tourism regional study area..... 28

Table 29.25: Monthly occupancy figures for serviced accommodation, England (2017 to 2021). 28

Table 29.26: Employment (000s) by broad sector..... 30

Table 29.27: GVA (£billions) by broad sector..... 30

Table 29.28: Population projections. 31

Table 29.29: Proposed offshore wind farms in English and Welsh waters – Irish Sea..... 31

Table 29.30: Definition of terms relating to the magnitude of an impact. 32

Table 29.31: Definition of terms relating to the sensitivity of the receptor..... 33

Table 29.32: Matrix used for the assessment of the significance of the effect..... 33

Table 29.33: Maximum design scenario considered for the assessment of potential impacts on socio-economics and community. 35

Table 29.34: Impacts scoped out of the assessment for socio-economics and community. 39

Table 29.35: Measures adopted as part of the Mona Offshore Wind Project..... 39

Table 29.36: Magnitude of employment impacts assessment criteria. 40

Table 29.37: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment and GVA in fabrication and installation activities..... 40

Table 29.38: Comparison of construction phase employment and GVA impacts vs. relevant baseline conditions.	41	Table 29.70: Significance of operations and maintenance phase employment impacts on the demand for housing, accommodation, and local services, central impact scenario.	53
Table 29.39: Magnitude of construction phase employment and GVA impacts vs. relevant baseline conditions.	41	Table 29.71: Magnitude, sensitivity, and significance of effects on visual resources in North Wales tourism regional study area – construction phase.	54
Table 29.40: Sensitivity of construction phase employment and GVA receptor.	42	Table 29.72: Magnitude, sensitivity, and significance of effects on visual resources in North Wales tourism regional study area – operation and maintenance phase.	55
Table 29.41: Significance of construction phase economic and GVA impacts (central impact scenario).	42	Table 29.73: Magnitude, sensitivity, and significance of effects on visual resources in Northwest England tourism regional study area – construction phase.	55
Table 29.42: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment and GVA in operation and maintenance activities.	42	Table 29.74: Magnitude, sensitivity, and significance of effects on visual resources in Northwest England tourism regional study area – operations and maintenance phase.	56
Table 29.43: Comparison of operation and maintenance phase employment impacts vs. relevant baseline conditions.	43	Table 29.75: Significance of construction phase employment impacts on the demand for housing, accommodation, and local services, central impact scenario.	56
Table 29.44: Magnitude of operation and maintenance phase employment impacts vs. relevant baseline conditions.	43	Table 29.76: List of other projects, plans and activities considered within the CEA.	59
Table 29.45: Sensitivity of operations and maintenance phase employment and GVA receptor.	43	Table 29.77: Maximum design scenario considered for the assessment of potential cumulative effects on socio-economics and community.	63
Table 29.46: Significance of construction phase employment and GVA impacts (central impact scenario).	44	Table 29.78: Magnitude of cumulative construction phase employment and GVA impacts.	64
Table 29.47: Significance of decommissioning phase economic impacts (central impact scenario).	44	Table 29.79: Significance of cumulative construction phase employment and GVA impacts.	64
Table 29.48: Magnitude (scale) of employment opportunity impacts amongst local residents assessment criteria.	44	Table 29.80: Magnitude of cumulative operations and maintenance phase employment and GVA impacts.	65
Table 29.49: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment opportunities in fabrication and installation activities.	45	Table 29.81: Significance of cumulative operation and maintenance phase employment and GVA impacts.	65
Table 29.50: Comparison of construction phase employment opportunity impacts vs. relevant baseline conditions.	45	Table 29.82: Magnitude of cumulative construction phase employment opportunity impacts.	66
Table 29.51: Magnitude of construction phase employment opportunity impacts.	45	Table 29.83: Significance of cumulative construction phase employment opportunity impacts.	66
Table 29.52: Sensitivity of construction phase employment opportunity receptor.	46	Table 29.84: Magnitude of cumulative operation and maintenance phase employment opportunity impacts.	66
Table 29.53: Significance of construction phase employment opportunity impacts (central impact scenario).	46	Table 29.85: Significance of cumulative operation and maintenance phase employment opportunity impacts.	67
Table 29.54: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment opportunities in operations and maintenance activities.	47	Table 29.86: Magnitude of cumulative construction phase impacts on the demand for housing, accommodation and local services.	67
Table 29.55: Comparison of operations and maintenance phase employment opportunity impacts vs. relevant baseline conditions.	47	Table 29.87: Significance of cumulative construction phase impacts on housing, accommodation and local services.	68
Table 29.56: Magnitude of operations and maintenance phase employment opportunity impacts on employment opportunities, central impact scenario.	47	Table 29.88: Magnitude of cumulative operation and maintenance phase impacts on the demand for housing, accommodation and local services.	68
Table 29.57: Sensitivity of operation and maintenance phase employment opportunity receptor.	48	Table 29.89: Significance of cumulative operation and maintenance phase impacts on housing, accommodation and local services.	68
Table 29.58: Significance of operations and maintenance phase employment opportunity impacts (central impact scenario).	48	Table 29.90: Linkages between socio-economics and transboundary effects in other topic chapters.	69
Table 29.59: Significance of decommissioning phase employment opportunity impacts (central impact scenario).	48	Table 29.91: Summary of potential environmental effects, mitigation and monitoring – North Wales socio-economics and community regional study area.	71
Table 29.60: Magnitude of impacts on the demand for housing, accommodation and local services.	49	Table 29.92: Summary of potential environmental effects, mitigation and monitoring – Northwest England socio-economics and community regional study area.	71
Table 29.61: Potential maximum demand for temporary accommodation, central impact scenario.	50	Table 29.93: Summary of potential environmental effects, mitigation and monitoring – Wales socio-economics and community national study area.	72
Table 29.62: Magnitude of temporary accommodation demand, central impact scenario.	50	Table 29.94: Summary of potential environmental effects, mitigation and monitoring – UK socio-economics and community national study area.	72
Table 29.63: Magnitude of temporary accommodation demand, central impact scenario.	50	Table 29.95: Summary of potential cumulative environmental effects, mitigation and monitoring – North Wales socio-economics and community regional study area.	72
Table 29.64: Sensitivity of operations and maintenance phase housing, accommodation, and local services receptor.	51	Table 29.96: Summary of potential cumulative environmental effects, mitigation and monitoring – Northwest England socio-economics and community regional study area.	73
Table 29.65: Significance of construction phase employment impacts on the demand for housing, accommodation, and local services, central impact scenario.	51	Table 29.97: Summary of potential cumulative environmental effects, mitigation and monitoring – Wales socio-economics and community national study area.	73
Table 29.66: Potential itinerant employment impacts on the demand for housing, accommodation and local services, central impact scenario.	51	Table 29.98: Summary of potential cumulative environmental effects, mitigation and monitoring – UK socio-economics and community national study area.	74
Table 29.67: Comparison of operations and maintenance phase employment impacts on the demand for housing, accommodation and local services vs. relevant baseline conditions.	52	Table 29.99: Commitments made to address shipping and navigation significant effects.	75
Table 29.68: Magnitude of operations and maintenance phase employment impacts on demand for housing, accommodation and local services, central impact scenario.	52		
Table 29.69: Sensitivity of operations and maintenance phase housing, accommodation and local services receptor.	52		

Figures

Figure 29.1: Socio-economics and community regional study area5
Figure 29.2: Tourism regional study area.....6

Annexes

Annex 29.1 : Technical Impact Report : Socio-economics

Glossary

Term	Meaning
Applicant	A joint venture of bp Alternative Energy Investments Ltd (hereafter referred to as bp) and Energie Baden-Württemberg AG (hereafter referred to as EnBW)
Full-time equivalent (FTE)	Indicates the work time of an employed person in a way that makes jobs comparable e.g. an 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 Mona Offshore Wind Farm scoping report to describe potential sub-national study areas. Term now superseded by 'socio-economics and community 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 Mona Offshore Wind Project 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.
Tier 1 supplier	Direct suppliers of a product or service

Acronyms

Acronym	Description
BRES	Business Register and Employment Survey
CAPEX	Capital expenditure
CEA	Cumulative Effects Assessment
CII	Construction impact industries
DECEX	Decommissioning Expenditure
DEVEX	Development Expenditure

Acronym	Description
DII	Decommissioning impact industries
EEA	European Economic Area
EIA	Environmental Impact Assessment
EU	European Union
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GVA	Gross Value Added
ILO	International Labour Organization
ITL1	International Territorial Level 1
LIA	Local Impact Area
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
N/A	Not Applicable
OMII	Operations and maintenance impact industries
ONS	Office for National Statistics
OPEX	Operational expenditure
PAYE	Pay As You Earn
SIC	Standard Industrial Classification
SIC07	Standard Industrial Classification 2007
SLVIA	Seascape, Landscape, and Visual Impact Assessment
STEM	Science, Technology, Engineering and Mathematics
TTWA	Travel to Work Area
UK	United Kingdom
WTA	Wales Tourism Alliance

Units

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

29 Socio-economics and Community

29.1 Introduction

29.1.1 Overview

29.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the assessment of the potential impact of the Mona Offshore Wind Project on socio-economics and community (including tourism and recreation). Specifically, this chapter considers the potential impact of the Mona Offshore Wind Project seaward of Mean High Water Springs (MHWS) and onshore receptors (landward of Mean Low Water Springs (MLWS)) during the construction, operations and maintenance, and decommissioning phases.

29.1.1.2 With respect to Mona Offshore Wind Project (as with other similar projects), there is a complexity with the socio-economic and community impacts associated with offshore activities primarily manifesting onshore. 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 separating onshore and offshore effects:

- Offshore: if physical infrastructure and civil works are located offshore, any resulting impacts are categorised as offshore
- Onshore: if physical infrastructure and civil works are located onshore, any resulting impacts are categorised as onshore.

29.1.1.3 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 3, chapter 20: Land use and recreation
- volume 4, chapter 26: Seascape, landscape and visual resources.

29.1.1.4 This chapter also draws upon information contained within volume 8, annex 29.1: Technical Impact Report – Socio-economics.

29.1.2 Purpose of chapter

29.1.2.1 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 Development Consent Order (DCO) application for Mona Offshore Wind Project under the Planning Act 2008 (the 2008 Act). The PEIR constitutes the Preliminary Environmental Information for Mona Offshore Wind Project and sets out the findings of the 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.

29.1.2.2 The PEIR forms the basis for statutory consultation which will last for 47 days and conclude on 4 June 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 one of 2024.

29.1.2.3 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 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 Mona Offshore Wind Project on socio-economics and community.

29.1.3 Potential socio-economics impacts

29.1.3.1 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 Mona Offshore Wind Project. A detailed discussion of these impacts can be found in section 29.6. 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.

29.1.4 Socio-economics and community study area(s)

29.1.4.1 The identification of the socio-economics and community study area 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 regionalised study area and a larger national study area, separated between socio-economic and community receptors respectively.

29.1.4.2 Potential expenditure on the following activities associated with the construction phase of the Mona Offshore Wind Project 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 (offshore) – foundations, inter-array cables, Offshore Substation Platforms (OSPs), offshore export cables, and interconnector cables

- Balance of plant manufacturing and supply (onshore) – Onshore Substation, onshore export cable, onshore grid connection
- Construction and installation of wind turbines and balance of plant (offshore) – wind turbine, foundation and inter-array cable
- Construction and installation of balance of plant (onshore) – Onshore Substation, onshore export cable, onshore grid connection.

29.1.4.3 Potential expenditure on the following activities associated with the operations and maintenance of the Mona Offshore Wind Project 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 (offshore) maintenance and servicing
- Balance of plant and transmission (onshore) maintenance and servicing
- Vessel and crew activity
- Service Operation Vessels (SOV)
- Guard vessels.

29.1.4.4 Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Mona Offshore Wind Project could support employment in companies that are directly engaged in the decommissioning supply chain.

29.1.4.5 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 and community national study area(s)

29.1.4.6 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 at the UK level will assist stakeholders, consultees, and planning authorities in understanding the Mona Offshore Wind Project’s potential economic benefits at the national level.
- Wales: assessing the potential impacts at the Wales level will assist stakeholders, consultees, and planning authorities in understanding the Mona Offshore Wind Project’s potential economic benefits on a devolved nation with potential ports listed in Table 29.1. 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.

29.1.4.7 **Socio-economics regional study area(s)**
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.
- Identification of potential Onshore Substation site(s)

Step 2:

- Assess socio-economics study area(s) associated with potential port facilities
- Assess socio-economics study areas associated with potential Onshore Substation site(s).

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

29.1.4.8 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 Mona Offshore Wind 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 Mona Offshore Wind Project 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.

29.1.4.9 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.

29.1.4.10 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 and cables, will therefore typically require fabrication at a port 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)

- 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.

29.1.4.11 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.

29.1.4.12 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, inter array or export cables etc).

29.1.4.13 The Applicant has conducted an initial exploratory facilities appraisal to identify a potential list ports in England and Wales that could support elements of each phase of the Mona Offshore Wind Project. This list is currently high level and does not contain granular detail regarding port suitability by component. This longlist is set out in Table 29.1.

29.1.4.14 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 29.1: Long 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-in-Furness	Barrow-in-Furness

29.1.4.15 The permanent onshore infrastructure for the Mona Offshore Wind Project includes the onshore export cables, the Mona Onshore Substation and the 400kV Grid Connection Cables that will connect the Mona Onshore Substation to the National Grid substation at Bodelwyddan.

29.1.4.16 The permanent onshore infrastructure will be located within the Mona Proposed Onshore Development Area together with mitigation areas and temporary construction facilities (such as access roads and construction compounds).

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

29.1.4.17 Labour catchment areas² associated with each longlisted port facility have been defined using a 60 minute drive time catchment as a proxy³.

29.1.4.18 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, for example. It is also necessary to take account of wider policy and administrative designations in determining appropriate areas for consideration.

29.1.4.19 Therefore, 60-minute drive time catchments for each facility have been converted to the following best fit socio-economics 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'

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

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-statutory guidance in Glasson, J. et al. (2020).

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-in-Furness, 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.

29.1.4.20 Each port facility's labour catchment is shown in Figure 29.1⁴.

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

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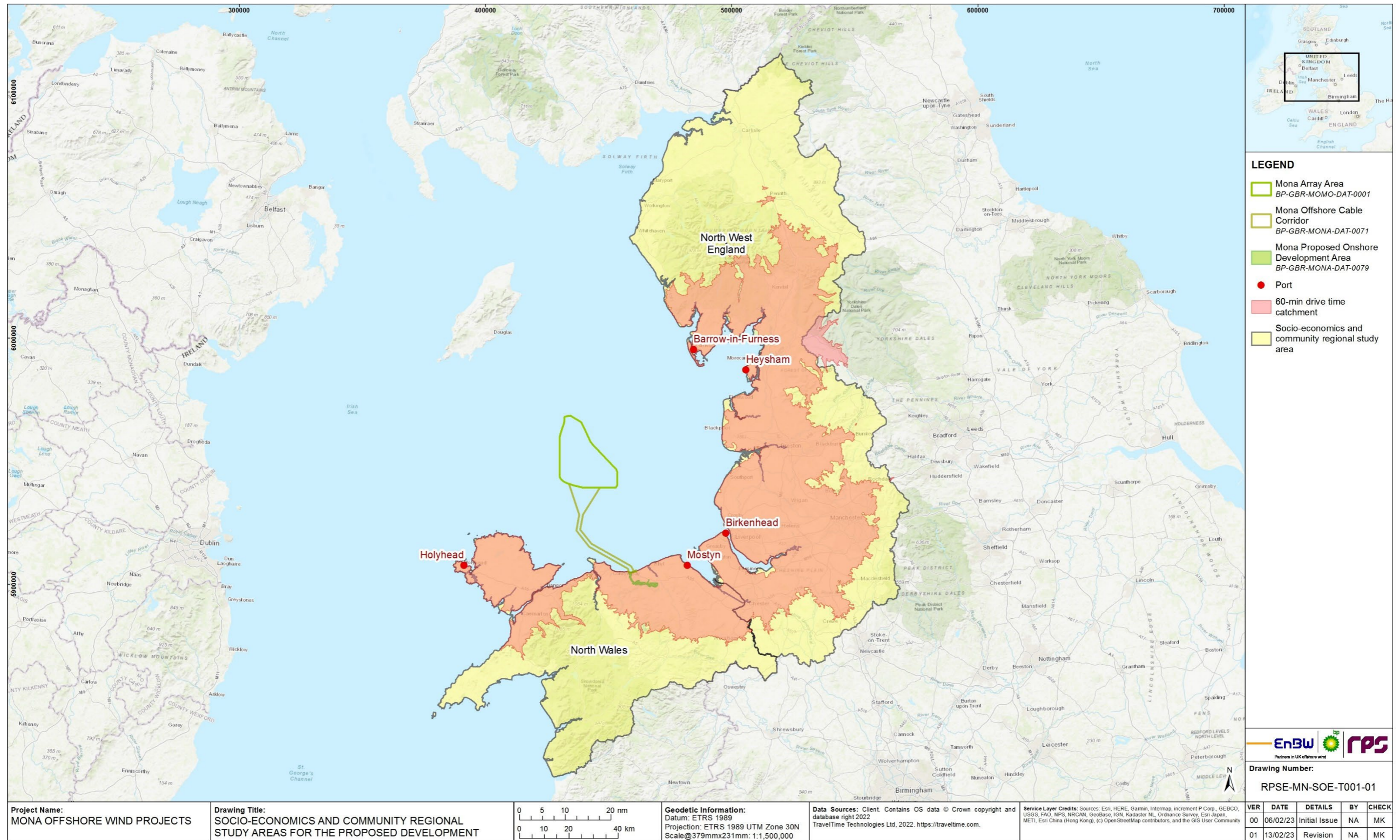


Figure 29.1: Socio-economics and community regional study area.

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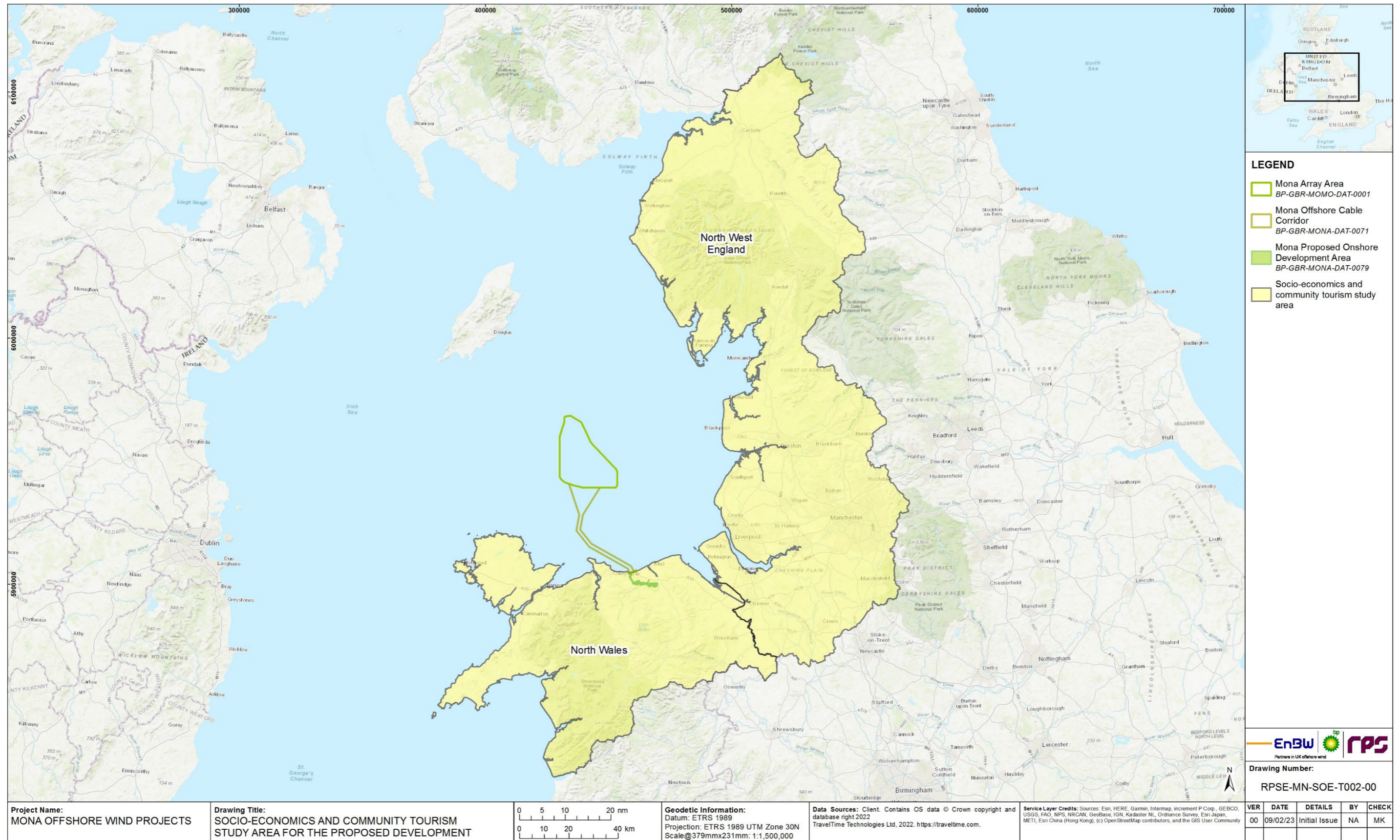


Figure 29.2: Tourism regional study area.

29.1.5 Tourism regional study area(s)

29.1.5.1 Potential impacts of the construction, operations and maintenance, and decommissioning of the Mona 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 on the basis of visual amenity, overnight trips and accommodation.

29.1.5.2 Two tourism regional study areas have been identified:

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

29.1.5.3 Tourism regional study areas are shown in Figure 29.2.

Visual amenity

29.1.5.4 It is necessary to derive an assessment of significance of effects on visual amenity from the findings of volume 4, chapter 26: Seascape, landscape and visual resources. The potential visual impacts of the construction, operations and maintenance, and decommissioning of the Mona Offshore Wind Project 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.

29.1.5.5 On this basis, the tourism regional study area(s) draws on the Zone of Theoretical Visibility set out in volume 4, chapter 26: Seascape, landscape and visual resource of the PEIR.

Overnight trips and accommodation

29.1.5.6 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.

29.1.5.7 On this basis, the tourism regional study area(s) draws directly on the socio-economics and community 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.

29.1.6 Isle of Man

29.1.6.1 Consideration of potential socio-economics and community impacts on the Isle of Man is discussed further as part of section 29.14 Next Steps.

29.2 Policy context

29.2.1 National Policy Statements

29.2.1.1 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 (NSIPs), specifically in relation to socio-

economics and community, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011a),.

29.2.1.2 NPS EN-1 includes guidance on what matters are to be considered in the assessment. These are summarised in Table 29.2. This chapter refers to the current NPSs only and draft NPSs are not included.

NPS EN-1 also highlights a number of factors relating to the determination of an application and in relation to mitigation. These are summarised in

29.2.1.3 Table 29.3 below.

29.2.1.4 Table 29.2 refers to the current NPSs, specifically NPS EN-1 (DECC, 2011a). 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 29.2: Summary of the NPS EN-1 provisions relevant to socio-economics and community.

Summary of NPS 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, part 5.12)	The impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance in section 29.8. The impact of increased employment opportunities is assessed for its significance in section 29.8. A skills and employment strategy will be a requirement of the draft DCO.
The assessment by The Applicant should include effects on tourism from the energy project. (EN-1, part 5.12)	The impact on the demand accommodation and local services is assessed for its significance in section 29.8. The impact on tourism and recreation is assessed for its significance in section 29.8.
Applicants' assessments should consider the impact of a changing influx of workers during the different construction, operations 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, part 5.12)	The impact on the demand for housing, accommodation and local services is assessed for its significance in section 29.8.
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, part 5.12)	Section 29.10 Cumulative effects assessments considers the potential cumulative impacts of relevant major projects.

Summary of NPS EN-1 provision	How and where considered in the PEIR
Applicants should describe the existing socio-economic conditions in the areas surrounding the Mona Offshore Wind Project and should also refer to how the development's socio-economic impacts correlate with local planning policies. (EN-1, part 5.12)	Section 29.4 Baseline environment describes the existing socio-economic conditions in the areas surrounding the Mona Offshore Wind Project, 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, part 5.12)	The potential impact on tourism and recreation is assessed for its significance in section 29.8. 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, part 5.9).	The potential impact on tourism and recreation is assessed for its significance in section 29.8. The perception and interaction of individuals with the seascape is considered as part of this assessment.

Table 29.3: Summary of NPS EN-1 policy on decision making relevant to socio-economics and community.

Summary of NPS EN-1 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, part 5.12)	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, part 5.12)	Volume 8, annex 29.1: Socio economics technical impacts report of the PEIR provides an evidence base which underpins the assessments made in volume 2, chapter 29.
Decision making should consider any relevant positive provisions the developer is proposing to make to mitigate potential impacts, including options for phasing development, and any legacy benefits that may arise in relation to the socio economic impacts. (EN-1, part 5.12)	The impact of increased employment opportunities is assessed for its significance – see section 29.8.3. A skills and employment strategy will be a requirement of the draft DCO.
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, part 5.12)	The impact of potential disruption on tourism and recreation is assessed for its significance – see section 29.8.5. This assessment is informed by volume 4, chapter 26: Seascape, landscape and visual resources of the PEIR. A skills and employment strategy will be a requirement of the draft DCO.

Summary of NPS EN-1 provision	How and where considered in the PEIR
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. Part 5.9).	The impact on tourism and recreation is assessed for its significance in section 29.8. This assessment is informed by volume 4, chapter 26 Seascape, Landscape and Visual Resources of the PEIR.

29.2.2 Wales legislation and strategic planning policy

The assessment of potential changes to socio-economics and community has also been made with consideration to the Welsh legislation, strategic planning policy, evidence, and research on the matter of economic growth and renewable energy. Key considerations are set out in Table 29.4 and Table 29.4: Welsh National Marine Plan summary.

Policy	Summary of key considerations	How and where considered in the PEIR
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 priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.

29.2.2.1 Table 29.5 along with details as to how these have been addressed within the assessment.

Table 29.4: Welsh National Marine Plan summary.

Policy	Summary of key considerations	How and where considered in the PEIR
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	Policy priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.

Policy	Summary of key considerations	How and where considered in the PEIR
	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)	

Table 29.5: Wales strategic planning policies or relevance to socio-economics and community.

Policy	Summary of key considerations	How and where considered in the PEIR
Planning Policy Wales (PPW) – Edition 11 (Welsh Government, 2021)	<p>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.</p> <p>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)</p>	Policy priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.
Prosperity for All: economic action plan (Welsh Government, 2019)	<p>The Prosperity for All: economic action plan aims to generate inclusive growth and promote even distribution of opportunities across Wales.</p> <p>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)</p>	Policy priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.
Technical Advice Note (TAN) 23 – Economic Development (Welsh Government, 2014)	<p>The Technical advice Note 23 for Economic Development advises on planning policy, creating guidelines in understanding the contribution of economic development projects.</p> <p>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.</p>	Policy priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.
All Wales Plan 2021 – 2025, Working together to reach Net Zero.	<p>This document outlines a set of pledges towards achieving Net Zero made by businesses, public sector bodies, communities, schools and individuals across Wales.</p> <p>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).</p>	The potential impact of increased employment opportunities is assessed for its significance in section 29.8.

Policy	Summary of key considerations	How and where considered in the PEIR
(Welsh Government, 2022).	<p>Transport for Wales commits to procure at least 50% of its electricity from Welsh renewable sources by 2026. (pg 15).</p> <p>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).</p>	
Future Potential for Offshore Wind in Wales.	<p>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.</p>	The potential impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance in section 29.8.
(Welsh Government, 2018).	<p>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). Several local companies have also established offices at the Port of Mostyn as a result of these developments. (pg 98).</p> <p>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 local workforce if volume orders can trigger additional expansion.(pg 122). Welsh companies have capacity to provide support services, vessels and equipment, but not installation works which are likely to go to established European contractors, (pg 123). A future opportunity may lie in the decommissioning phase, as Welsh companies develop capabilities and knowledge in this area (pg 124).</p> <p>The report recognises that the Welsh coastline supports a range of recreational activities, such as sailing, kayaking, and surfing, which play an important role in the Welsh tourism industry and therefore impacts on these activities should be considered in offshore wind developments (pg 51).</p>	<p>The potential impact of increased employment opportunities is assessed for its significance in section 29.8.</p> <p>The potential impact on the demand for housing, accommodation and local services is assessed for its significance in section 29.8.</p> <p>The potential impact on tourism and recreation is assessed for its significance in section 29.8.</p>
Future Wales, The National Plan 2040.	<p>This plan is the national framework for all future development in Wales up to 2040.</p> <p>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</p>	The potential impacts on economic receptors including employment, GVA, and supply chain demand is assessed for its significance in section 29.8.

Policy	Summary of key considerations	How and where considered in the PEIR
(Welsh Government, 2021).	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 benefits these 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 impacts of increased employment opportunities is assessed for its significance in section 29.8. The potential impacts on tourism and recreation is assessed for its significance in section 29.8.

29.2.3 UK strategic planning policy

29.2.3.1 The assessment of potential changes to socio-economics and community 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 29.6 along with details as to how these have been addressed within the assessment.

Table 29.6: UK strategic planning policies or relevance to socio-economics and community.

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 priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.
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. Ports in North Wales are seen as a hub of activity for construction and operations and maintenance that can support 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 priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.
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 priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.
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 priority for potential beneficial socio-economic and community impacts relevant to the Mona Offshore Wind Project are considered in assessment of sensitivity of receptors.

29.2.4 North West Inshore and North West Offshore Coast Marine Plans

29.2.4.1 The assessment of potential changes to socio-economics and community 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 29.7 along with details as to how these have been addressed within the assessment.

Table 29.7: North West Inshore and North West Offshore Marine Plan policies of relevance to socio-economics and community.

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.	Volume 8, annex 29.1: Socio-economics technical impacts report of the PEIR provides an assessment of the direct, indirect, and induced potential economic impacts (employment and GVA), which apply throughout the offshore wind supply chain.
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 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR provides an assessment of the direct, indirect, and induced potential economic impacts (employment and GVA), at regional and national levels. The potential impact on economic receptors including employment, GVA, and supply chain demand is assessed for its significance in section 29.8. The potential impact of increased employment opportunities is assessed for its significance in section 29.8.
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 potential impacts on tourism and recreation is assessed for its significance in section 29.8. This assessment is informed by: volume 2, chapter 14: Other Sea Users of the PEIR; and volume 4, chapter 26 Seascape, Landscape and Visual Resources.
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	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 29.10 Cumulative effects assessments considers the potential cumulative impacts of relevant major projects.

Policy	Key provisions	How and where considered in the PEIR
effects so they are no longer significant. (Pg 52).		
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)	NW-INF-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 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR provides an assessment of the direct, indirect, and induced potential economic impacts (employment and GVA), which apply throughout the offshore wind supply chain.

29.3 Consultation

- 29.3.1.1 A summary of the key issues raised during consultation activities undertaken to date specific to Socio-economics and community is presented in Table 29.9 below, together with how these issues have been considered in the production of this PEIR chapter. Further detail is presented within volume 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR.
- 29.3.1.2 Three stakeholder consultation workshops were held during January 2023. The focus of each workshop was tailored to the areas of knowledge and expertise of the participants and focussed on the following:
- 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.
- 29.3.1.3 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 and community regional study areas.
- 29.3.1.4 Table 29.8 summarises the participation for each workshop.

Table 29.8: Socio-economics stakeholder consultation participation.

Workshop	Attendees
Economy – 25 January 2023	Associated British Ports
	Cumbria County Council
	Cumbria LEP
	Liverpool City Region Combined Authority
	ORE Catapult
	Renewable UK Cymru
	Welsh Government
Socio-economics – 25 January 2023	Denbighshire County Council (six representatives attended workshop)
Tourism and recreation – 25 January 2023	Visit Wales

29.3.1.5 Table 29.9 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 29.9: Summary of key consultation issues raised during consultation activities undertaken for the Mona Offshore Wind Project relevant to socio-economics and community.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
Socio-economics			
June 2022	The Planning Inspectorate – Scoping opinion	The Environmental Statement should detail the number of anticipated full and part time jobs generated by all phases of the Proposed Development.	Considered as part of assessment of significant effects (section 29.8)
June 2022	The Planning Inspectorate– Scoping opinion	The Applicant should seek to agree study areas and receptors with relevant consultation bodies. The Environmental Statement should confirm whether the study area proposed aligns with relevant policy and guidance and provide justification for any divergences. The Environmental Statement should include figures to identify the final study area for each aspect and the location of any static receptors considered in the assessment.	Considered as part of selection of potential port locations to identify socio-economics and community regional study areas (section 29.1). Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10). 29.6.1
June 2022	The Planning Inspectorate– Scoping opinion	Where possible, the Applicant should seek to agree the magnitude of impact or sensitivity of receptors with relevant consultees through PEIR and pre-application process. Where differences remain, these should be identified within the Environmental Statement and justification given for the Applicant's choice.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
June 2022	The Planning Inspectorate– Scoping opinion	The Environmental Statement should define what a 'reasonable timescale' or 'short time period' would be within which recovery could occur so that an impact would be reversible/not permanent.	Considered as part of Maximum Design Scenario (section 29.6.1). Considered as part of impact assessment methodology (section 29.5). Considered as part of assessment of significant effects (section 29.8)29.6.1.
June 2022	The Planning Inspectorate – Scoping Opinion	A number of mitigation plans have been referred to in aspect chapters. Where plans are relied upon to avoid significant environmental effects, outline or in-principle plans should be submitted as part of the DCO application.	Considered as part of Measures adopted as part of the Mona Offshore Wind Project (section 29.7).
June 2022	The Planning Inspectorate – Scoping Opinion	The Scoping Report notes that all cabling equipment will be underground. As such, the Inspectorate is content to scope out this matter. The Scoping Report does not specifically refer to potential cumulative effects from the operation of the generation assets. However, the Inspectorate does not consider that significant effects are likely and therefore this matter can also be scoped out.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
June 2022	The Planning Inspectorate – Scoping Opinion	Whilst the Inspectorate acknowledges the potential for positive economic impacts on employment and supply chain, the Environmental Statement should also identify and assess any negative economic impacts, for example to commercial fisheries, where significant effects are likely to occur.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10). Considered as part of transboundary effects (section 29.11). Considered as part of next steps (section 29.14).
June 2022	The Planning Inspectorate – Scoping Opinion	The Inspectorate agrees that significant transboundary effects on socio-economics and community are unlikely and can be scoped out of the Environmental Statement.	Considered as part of transboundary effects (section 29.11)
January 2023	Liverpool City Region Combined Authority Online consultation	Consider including Birkenhead Port and Mostyn Port within the same impact area.	Considered as part of defining study areas (section 29.1.4). There is a need to balance functional relationships alongside administrative and policy areas. It was determined that whilst there are interrelationships between the North Wales and Northwest England areas the alignment to policy and administrative boundaries was more appropriate in defining study areas.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
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 and community regional study areas (section 29.1). Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Barrow Port Liverpool City Region Combined Authority Online consultation	Consider sharing work amongst ports across the Offshore Energy Alliance cluster to sustain capability.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
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.
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
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 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council Online consultation meeting	Future opportunity to use local labour. Planned new large engineering department at Rhyl College will provide further skilled labour in the local workforce.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council Online consultation meeting	There is a need to recognise the value of utilising local labour and maximising local benefits and social value.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council Online consultation meeting	Opportunity to transition skilled workers from sea defence projects to offshore wind due to transferable skills. Construction sector in Denbighshire has a good baseline of good practice so can provide some capacity.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council Online consultation meeting	Denbighshire has strong Tier 1 suppliers	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council Online consultation meeting	Has had other projects, such as construction of Gwynt Y Mor Onshore Substation. Not known to have had a material impact on the local community.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
January 2023	Denbighshire Council Online consultation meeting	Current supply of housing is not sufficient and would struggle to support an extra onshore workforce.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council Online consultation meeting	Recognise the importance of heritage, nature, and high value agricultural land to the local area	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
Tourism and Recreation			
June 2022	The Planning Inspectorate – Scoping opinion	Tourism and community effect within the National Impact Area (NIA). The inspectorate agrees that the Proposed Development is unlikely to result in significant effects on tourism and community at a national level. Therefore, this matter can be scoped out.	Considered as part of selection of potential port locations to identify tourism study areas (section 29.1). Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).x
June 2022	Conwy County Borough Council— Scoping Opinion	It is proposed to scope into the project assessment “the impact of disruption on tourism and recreation receptors during the construction, operation and maintenance, and decommissioning phase”. It is unclear whether Conwy County Borough would still be included as a LIA if the landfall and onshore transmission assets were located outside the County Borough. The development would potentially impact on tourism and recreation over a wide area, and the Environmental Statement should address impacts of the development on the vitality, viability and attractiveness of tourism destinations over a wider area, including (but not limited to) Llandudno, Conwy, Colwyn Bay and Abergele, giving particular regard to the special character and ambience of Llandudno as a Victorian resort.	Considered as part of selection of potential port locations to identify tourism study areas (section 29.1). Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10). 29.6.1
May 2022	Denbighshire County Council— Scoping Opinion	In terms of impacts of the potential landfall, it is noted that the area of search includes Rhyl and Prestatyn which are coastal towns with large areas of beach and the Wales Coastal path runs along the promenade. Tourism is a significant part of the local economy and a number of local businesses are located along the coast.	Considered as part of selection of potential port locations to identify tourism study areas (section 29.1). Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).29.6.1
May 2022	Denbighshire County Council – Scoping Opinion	The cumulative impact of the construction phase on public amenity, tourism and local economy has the potential to give rise to significant effects and should be scoped in.	Considered as part of cumulative effects assessment (section 29.10)
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.
January 2023	Online consultation	Consider impact of using bed stock from the tourism sector to provide accommodation for a non-local 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 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Online consultation	Consider a bigger demand for accommodation within the UK visitor sector.	Considered as part of baseline conditions (section 29.4). Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).
January 2023	Denbighshire Council— Online consultation meeting	Consider any restrictions and disturbances in place during the onshore construction phase on the tourism sector. Ensure work aligns with the Council’s prime goals, which includes the regeneration and rejuvenation of Tourism.	Considered as part of assessment of significant effects (section 29.8). Considered as part of cumulative effects assessment (section 29.10).

29.4 Baseline environment

29.4.1 Methodology to inform baseline

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

Industry definitions

29.4.1.2 The definitions of terms utilised throughout the socio-economics and community 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, each defined in appendix 2 of volume 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR. 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

29.4.1.3 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.

29.4.1.4 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).

29.4.1.5 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 associated with the construction, operations and maintenance, and decommissioning of offshore energy infrastructure (i.e. not limited to offshore wind). These definitions can be found in volume 8, annex 29.1: Socio economic technical report of the PEIR.

29.4.1.6 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 data⁵. 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.

29.4.1.7 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 in volume 8, annex 28.1.

Receptors and indicators

29.4.1.8 The summary of baseline conditions aligns with the socio-economic and community impacts set out in Table 29.33, and will therefore cover the receptors set out below, along with associated indicators:

- Economy (employment and GVA):
 - total employment in all industries
 - employment change in all industries
 - total employment in impact industries
 - employment change in impact industries
 - estimated employment in offshore wind sector
 - total GVA in all industries
 - GVA change in all industries
 - GVA in impact industries
 - GVA change in impact industries.
- Labour market:
 - economic activity
 - unemployment
 - economically inactive individuals that want a job.
- Housing and local services:
 - population
 - dwellings

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

- unoccupied dwellings
- dwellings within the private rented sector.
- Tourism and Recreation:
 - employment in tourism sector
 - GVA in tourism sector
 - overnight stays and day visits
 - key tourist and visitor attractions.

29.4.1.9 These indicators will be analysed on the basis of publicly available desktop sources as set out in Table 29.10.

29.4.2 Desktop study

29.4.2.1 Information on socio-economics and community within the socio-economics and community study area was collected through a detailed desktop review of existing studies and datasets. These are summarised at Table 29.10 below.

Table 29.10: 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
North West England and Domestic Tourism	Visit England	2015
Providing recognition to tourism skills in North Wales	Ambition North Wales	2022

⁶ Department for Levelling Up, Housing and Communities.

Title	Source	Year
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

29.4.3 Site-specific surveys

29.4.3.1 No site-specific surveys have been undertaken to inform the socio-economics and community 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 and community regional study areas, socio-economics national study areas, and tourism regional study areas. The results of this consultation are set out in section 29.3.

29.4.4 Baseline environment

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

- employment
- GVA
- labour market
- housing and local services
- tourism.

29.4.4.2 Some parts of the economy will be more impacted than others by the Mona Offshore Wind Project. The Mona Offshore Wind Project has the potential to be a catalyst for economic activity focused around the offshore wind sector.

Economy – employment and GVA

29.4.4.3 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

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

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

Northwest England

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

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

Wales

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

29.4.4.9 All industries GVA in Wales in 2021 was approximately £67 bn (ONS, 2022c). Between 2015 to 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

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

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

29.4.4.12 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.11.

Table 29.11: 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 and community study area	Total employment (2021)	Employment change (2015 to 2021)	Total GVA (£m, 2020)	GVA change (£m, 2015 to 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

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

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

Northwest England

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

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

Wales

- 29.4.4.17 Construction impact industries employment in Wales in 2021 was approximately 35,000 (ONS, 2022a). Between 2015 to 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%.
- 29.4.4.18 Construction impact industries GVA in Wales in 2021 was approximately £12 bn (ONS, 2022c). Between 2015 to 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

- 29.4.4.19 Construction impact industries employment in Great Britain (GB) in 2021 was approximately 577,000 (ONS, 2022a). Between 2015 to 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%.
- 29.4.4.20 Construction impact industries GVA in the United Kingdom (UK) in 2021 was approximately £290 bn (ONS, 2022c). Between 2015 to 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%.
- 29.4.4.21 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.12.

Table 29.12: 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 and community study area	Employment (2021)	Employment change (2015 to 2021)	GVA (£m, 2020)	GVA change (£m, 2015 to 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

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

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

Northwest England

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

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

Wales

29.4.4.26 Operations and maintenance impact industries employment in Wales in 2021 was approximately 9,000 (ONS, 2022a). Between 2015 to 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%.

29.4.4.27 Operations and maintenance impact industries GVA in Wales in 2021 was approximately £7.2 bn (ONS, 2022c). Between 2015 to 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

29.4.4.28 Operations and maintenance impact industries employment in Great Britain (GB) in 2021 was approximately 273,000 (ONS, 2022a). Between 2015 to 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%.

29.4.4.29 Operations and maintenance impact industries GVA in the United Kingdom (UK) in 2021 was approximately £190 bn (ONS, 2022c). Between 2015 to 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%.

29.4.4.30 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.13.

Table 29.13: 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 and community study area	Employment (2021)	Employment change (2015 to 2021)	GVA (£m, 2020)	GVA change (£m, 2015 to 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

29.4.4.31 Decommissioning impact industries employment in the North Wales socio-economics and community regional study area in 2021 was approximately 3,000 (ONS, 2022a). Between 2015 to 2021, employed persons in decommissioning impact industries in the North Wales socio-economics and community regional study area decreased by

approximately 2,000 (ONS, 2022a). This equates to an average annual decrease of 8.2%.

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

Northwest England

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

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

Wales

29.4.4.35 Decommissioning impact industries employment in Wales in 2021 was approximately 11,000 (ONS, 2022a). Between 2015 to 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%.

29.4.4.36 Decommissioning impact industries GVA in Wales in 2021 was approximately £8.1 bn (ONS, 2022c). Between 2015 to 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

29.4.4.37 Decommissioning impact industries employment in Great Britain (GB) in 2021 was approximately 309,000 (ONS, 2022a). Between 2015 to 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%.

29.4.4.38 Decommissioning impact industries GVA in the United Kingdom (UK) in 2021 was approximately £210 bn (ONS, 2022c). Between 2015 to 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%.

29.4.4.39 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.14.

Table 29.14: 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 and community study area	Employment (2021)	Employment change (2015 to 2021)	GVA (£m, 2020)	GVA change (£m, 2015 to 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

29.4.4.40 Whilst there is no agreed Standard Industrial Classification 2007 (SIC07) based sector definition for offshore wind, the Offshore Wind Industry Council (OWIC) provides an estimate of direct and indirect employment in the sector (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 a 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 in the UK as of 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 26,090 jobs directly and indirectly supported by the offshore wind sector as at December 2020.

MONA OFFSHORE WIND PROJECT

29.4.4.41 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.

29.4.4.42 A summary of OWIC's offshore wind employment estimates is provided in Table 29.15.

Table 29.15: Offshore wind sector employment estimates.

Source: OWIC (2021).

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

Socio-economics and community study area	Survey-based employment	Share of UK total	Estimated offshore wind sector employment ⁷
Regional			
North Wales	–	–	–
Northwest England	772	7%	1,770
National			
Wales	145	1%	330
UK	11,365	100%	26,090

29.4.4.43 Robust data on the GVA contribution of the offshore wind sector to the UK economy is not readily available.

Labour market

Economic activity

29.4.4.44 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

29.4.4.45 The economic activity rate in the North Wales socio-economic and community 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 to 2021 (ONS, 2022d).

29.4.4.46 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 to 2021 (ONS, 2022d).

Northwest England

29.4.4.47 The economic activity rate in the Northwest England socio-economic and community 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 to 2021 (ONS, 2022d).

29.4.4.48 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 to 2021 (ONS, 2022d).

Wales

29.4.4.49 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 to 2021 (ONS, 2022d).

29.4.4.50 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 to 2021 (ONS, 2022d).

UK

29.4.4.51 The economic activity rate in the UK in 2021 was 78% (ONS 2022d). The number of economically active individuals increased by an annual average of 0.3% between 2015 to 2021 (ONS, 2022d).

29.4.4.52 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 to 2021 (ONS, 2022d).

29.4.4.53 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.16.

⁷ Regional figures derived on the basis of regional shares of UK total.

Table 29.16: Economic activity rate and economically inactive individuals that want a job.

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

Socio-economics and community 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%
UK	32,380,000	78%	1,670,000	19%

Unemployment

29.4.4.54 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

29.4.4.55 The number of unemployed individuals in the North Wales socio-economic and community 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 to 2022 (ONS, 2022e).

Northwest England

29.4.4.56 The number of unemployed individuals in the Northwest England socio-economic and community 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 to 2022 (ONS, 2022e).

Wales

29.4.4.57 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 to 2022 (ONS, 2022e).

UK

29.4.4.58 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 to 2022 (ONS, 2022e).

29.4.4.59 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.17.

Table 29.17: Unemployed individuals and unemployed rate.

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

Socio-economics and community study area	Unemployed Individuals (2021)	Unemployment Rate (2021)	Change in Unemployed Individuals – Per Annum (2015 to 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%
UK	1,300,000	3.8%	–4.8%

Housing, accommodation and local services

Population

North Wales

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

Northwest England

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

Wales

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

UK

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

29.4.4.64 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.18.

Table 29.18: Total population and population change.

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

Socio-economics and community study area	Total population (2020)	Total population change (2015 to 2020)	Average annual population change (2015 to 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

29.4.4.65 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 is 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.

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

Northwest England

29.4.4.67 The Department for Levelling Up, Housing and Communities (DLUHC) (formerly Ministry of Housing, Communities & Local Government (MHCLG)) provides live tables on dwelling stock (including vacant).

29.4.4.68 In 2022, the Northwest England socio-economics and community regional study area had approximately 3.4 million dwellings (DLUHC, 2022a). This increased by

approximately 162,000 over the period 2015 to 2022, at an average annual rate of 0.8%.

29.4.4.69 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.19.

Table 29.19: 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 and community 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

29.4.4.70 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

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

Northwest England

29.4.4.72 In 2021, 591,000 dwellings were recorded within the private rented sector within the Northwest England socio-economics and community regional study area (DLUHC, 2022a). This represented 17.6% of the total dwelling stock.

29.4.4.73 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.20.

⁸ North Wales – 2020; Northwest England – 2021.

⁹ North Wales – 2015 to 2020; Northwest England – 2015 to 2021

Table 29.20: 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 and community 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%

Vacant dwellings

29.4.4.74 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

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

29.4.4.76 In the statistical period 2022 to 2023, the North Wales socio-economics and community regional study area has approximately 4,300 total chargeable¹¹ long term empty dwellings (Stats Wales, 2022b). This represents 1.5% of the total dwelling stock.

Northwest England

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

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

29.4.4.79 The figures for each socio-economics and community regional study area and socio-economics and community national study area are presented in Table 29.21.

Table 29.21: 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 and community 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%

¹⁰ North Wales – 2020; Northwest England – 2021.

Tourism

North Wales

29.4.4.80 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).

29.4.4.81 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 to 2019 (Conwy (6.5 million), Gwynedd (5.4 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 million), Gwynedd (£203 million), Denbighshire (£126 million), Flintshire (£50 million), Isle of Anglesey (£44 million)) (Visit England, Visit Scotland, and Visit Wales, 2019).

Visual amenity

29.4.4.82 Based on the representative viewpoints and designated sites presented in Volume 4, chapter 26: Seascape, landscape and visual resources (SLVIA), the visual resources within the SLVIA study area of relevance to tourism that are located within the North Wales tourism regional study area are listed in Table 29.22.

Table 29.22: Visual resources, North Wales tourism regional study area.

Source: volume 4, chapter 26: Seascape, landscape and visual resource.

Visual resource	Relevance to tourism and recreation
Representative viewpoints	
1: Mynydd y Garn trig point	Access land (or public access equivalent)
2: Llanlleiana Head	Long distance path
3: Mynydd Eilian	Access land (or public access equivalent)
4: Bwrdd Arthur trig point	Access land (or public access equivalent)
6: Carnedd Llewelyn	Access land (or public access equivalent)
7: Great Orme, Llandudno	Access land (or public access equivalent)
8: Mynydd y Gear	Access land (or public access equivalent)
9: Rhyl	Settlement seafront
10: Graig Fawr	Access land (or public access equivalent)
11: Moel y Parc	Access land (or public access equivalent)
24: Bull Bay, Amlwch	Long distance path
25: Moelfre headland	Long distance path
26: Yr Arwydd trig point, near Mynydd Bodafon	Access land (or public access equivalent)
27: Benllech	Settlement seafront

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

Visual resource	Relevance to tourism and recreation
28: Penmon Point	Long distance path
29: Base of Moel Wnion	Long distance path
30: Garreg Fawr	Long distance path
31: Tal y Fan, summit	Access land (or public access equivalent)
32: Foel Lus, summit	Access land (or public access equivalent)
33: Conwy Mountain, summit	Access land (or public access equivalent)
34: Little Orme, Llandudno	Access land (or public access equivalent)
35: Bryn Euryn Nature Reserve	Access land (or public access equivalent)
36: Bryn y Maen	Long distance path
37: Pen-y-Corddyn-Mawr	Access land (or public access equivalent)
38: Moelfre Isaf	Long distance path
39: Prestatyn Hillside	Long distance path
40: Point of Ayr	Long distance path
47: Llanfairfechan	Settlement seafront
48: Llandudno	Settlement seafront
Designated sites	
Anglesey AONB	Three special qualities: <ul style="list-style-type: none"> • Expansive Views/Seascapes • Peace and Tranquillity • Islands around Anglesey.
Eryri (Snowdonia) National Park	Two special qualities: <ul style="list-style-type: none"> • Diverse landscapes • Tranquillity and solitude – Peaceful areas.
Clwydian Range and Dee Valley AONB	Two special qualities: <ul style="list-style-type: none"> • Tranquillity • Remoteness and Wildness, Space and Freedom Expansive Views/Seascapes.

Overnight trips and accommodation

29.4.4.83 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.

29.4.4.84 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 29.23.

Table 29.23: Monthly occupancy figures for serviced accommodation, Wales (2017 to 2021).

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%

29.4.4.85 Based on these occupancy rates, there is some slack in overnight accommodation capacity in the North Wales tourism regional study area – this assumes regional occupancy rates reflect national rates. The highest monthly occupancy figure during the period 2017 to 2021 was 86% during August 2021. It is notable that occupancy rates from July 2021 onwards (when Covid-19 restrictions were mostly lifted) have been consistently higher than the average across the period 2017 to 2021.

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

29.4.4.87 Average occupancy across the period 2017 to 2021 was 57%.

Visitor assets

29.4.4.88 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 Eryri (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, Yr Wyddfa (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 Eryri’s (Snowdonia’s) national park is used for white water rafting with its intense river rapids
 - Canyoning: a popular activity in Eryri (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. Yr Wyddfa (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

29.4.4.89 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).

Visual amenity

29.4.4.90 Based on the representative viewpoints and designated sites presented in Volume 4, chapter 26: Seascape, landscape and visual resources (SLVIA), the visual resources within the SLVIA study area of relevance to tourism that are located within the Northwest England tourism regional study area are listed in Table 29.24.

Table 29.24: Visual resources, Northwest England tourism regional study area.

Source: volume 4, chapter 25: Seascape, landscape and visual resource.

Visual resource	Relevance to tourism and recreation
Representative viewpoints	
12: Wallasey embankment, Leasowe Common	Access land (or public access equivalent)
13: Formby	Long distance path
15: Blackpool North Pier	Settlement seafront
41: Southport Pier	Settlement seafront

Overnight trips and accommodation

29.4.4.91 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.

29.4.4.92 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 29.25

Table 29.25: Monthly occupancy figures for serviced accommodation, England (2017 to 2021).

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%

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
March	66%	75%	75%	37%	33%	57%
April	70%	77%	76%	22%	34%	56%
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%

29.4.4.93 Based on these occupancy rates, it can be estimated there is some slack in overnight accommodation capacity in the Northwest England tourism regional study area – this assumes regional occupancy rates reflect national rates. The highest monthly occupancy figure during the period 2017 to 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 to 2021.

29.4.4.94 Average occupancy across the period 2017 to 2021 was 64%.

Visitor assets

29.4.4.95 Northwest England has a wide range of tourist attractions 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 Arnsdale 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 FC, 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.

29.4.5 Future baseline scenario

29.4.5.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) 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 Mona Offshore Wind Project does not come forward, an assessment of the future baseline conditions has been carried out and is described within this section.

Economy – employment and GVA

29.4.5.2 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 (Covid-19) level in the fourth quarter of 2024 (OBR, 2022).

29.4.5.3 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, focussing in particular on the patterns of employment by industry and occupation.

- 29.4.5.4 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.
- 29.4.5.5 A summary of the forecasts for employment across six broad economic sectors is presented in Table 29.26.
- 29.4.5.6 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.
- 29.4.5.7 Employment in primary sector and utilities is expected to decrease by an average of 0.1% per annum between 2019–2035. Employment in manufacturing is expected to decrease by an average of 0.9% per annum between 2019–2035. Both 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.
- 29.4.5.8 Employment in construction is expected to increase by an average of 0.6% per annum between 2019–2035, which is above the forecast for the whole of the economy.

Table 29.26: 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, accom. & trans.	9,300	9,900	+500	+0.3%

Broad sector	2019	2035	Change 2019–2035 (total)	Change per annum (%)
Business & other serv’s.	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%

- 29.4.5.9 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).
- 29.4.5.10 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 (28%) have ‘good’ skills overlap with low carbon industries. There is therefore a need for ‘upskilling’ in order to successful transition workers from carbon intensive to low carbon sectors.
- 29.4.5.11 A summary of the forecasts for GVA across six broad economic sectors is presented in Table 29.27.
- 29.4.5.12 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.
- 29.4.5.13 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.
- 29.4.5.14 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 29.27: 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, accom. & trans.	9,300	9,900	+500	+1.0%
Business & other serv’s.	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%

Labour market

29.4.5.15 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

29.4.5.16 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.

29.4.5.17 The latest available data for the UK is the 2020-based interim set of projections (ONS, 2023). Data for the North West England socio-economics regional study area is available via the previous 2018-based edition of the dataset (ONS, 2020). Data for 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 29.28.

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

Table 29.28: 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%
North West 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

29.4.5.19 Not including the Morgan Generation Assets project, there are currently three offshore proposed wind farms located within English and Welsh waters off the North West England and North Wales coasts – as set out in Table 29.29.

Table 29.29: 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

Proposed offshore wind farm	Proposed commissioning date	Proposed installed capacity	Proposed no. of turbines
Awel y Môr Offshore Wind Farm	TBC	500 MW	Up to 50

29.4.5.20 These proposed windfarms have the potential to visually impact coastal areas.

29.4.6 Data limitations

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

29.4.6.2 Conventional modelling of 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 maturing 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.

29.4.6.3 Use of BRES data covers the period 2015 to 2019 as there is a discontinuity with earlier data (pre-2015) following the inclusion of PAYE only businesses in the dataset.

29.4.6.4 Employment, GVA, and labour market data for 2020 to 2021 is not included due to the labour market uncertainty resulting from the Covid-19 pandemic. Multiple lockdowns and government measures to mitigate subsequent adverse economic impacts (for example, the Coronavirus Job Retention Scheme) created a highly unusual set of circumstances potentially impacting official labour market statistics. Exclusion of 2020 to 2021 data ensures this limitation does not impact data and statistics used in this chapter.

29.4.6.5 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.

29.5 Impact assessment methodology

29.5.1 Overview

29.5.1.1 The socio-economics and community 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

community 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.

29.5.1.2 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.

29.5.2 Impact assessment criteria

29.5.2.1 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.

29.5.2.2 As this assessment sets out magnitude, sensitivity and significance for multiple socio-economics study areas (both regional and national), 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

29.5.2.3 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). Within the topic of socio-economics and community, these factor 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). Give community 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.

29.5.2.4 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. The average value across baseline conditions is then calculated and used to determine the overall scale. The criteria for defining magnitude in this chapter are outlined in Table 29.30 below.

Table 29.30: 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 and community conditions compared to the baseline, and/or quality of socio-economic and community 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 and community conditions compared to the baseline, and/or quality of socio-economic and community 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 and community 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 and community 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 and community 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 and community 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 and community 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 and community 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).	

Magnitude of impact	Definition	Assigned value for calculating overall scale
No change	The impact would result in no change of socio-economic and community conditions.	N/A – no socio-economic and community impact will result in no change.

Sensitivity of receptors

29.5.2.5 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.

29.5.2.6 The criteria for defining sensitivity in this chapter are outlined in Table 29.31 below.

Table 29.31: 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 and community 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 and community 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 and community 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 and community 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 and community challenges.

Significance of effects

29.5.2.7 The significance of the effect upon socio-economics and community is determined by correlating the magnitude of the impact and the sensitivity of the receptor. The

particular method employed for this assessment is presented in section 29.5. Where a range of significance of effect is presented in Table 29.32, the final assessment for each effect is based upon expert 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.

29.5.2.8 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 29.32: 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

29.5.3 Technical impact report – socio-economics

29.5.3.1 Volume 8: annex 29.1: Technical Impact Report – Socio-economics of the PEIR sets out an analysis of the economic and social impacts associated with the Mona Offshore Wind Project. This has been prepared to inform the assessment of significant effects for the topic of socio-economics and community.

29.5.3.2 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 Mona Offshore Wind Project
- 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.

MONA OFFSHORE WIND PROJECT

29.5.3.3 Volume 8: annex 29.1: Technical Impact Report – Socio-economics considers the potential socio-economics impacts of the Mona Offshore Wind Project within the following categories:

- Economic impacts: covering the employment and GVA impacts associated with the Mona Offshore Wind Project
- Social impacts: covering the impacts of the workforce associated with the Mona Offshore Wind Project on housing, accommodation, and population.

29.5.3.4 In addition to the information summarised below, further details on the approach to estimating economic and social impacts can be found in volume 8: annex 29.1: Technical Impact Report – Socio-economics of the PEIR.

Economic impacts

Scenarios

29.5.3.5 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.

29.5.3.6 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 Mona Offshore Wind Project. Port capacity and capabilities determine the facilities at which the installation of individual components could take place.

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

29.5.3.8 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 and community regional study area, Northwest England socio-economics and community regional study area, and Wales. 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.

29.5.3.9 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 and community regional study area, Northwest England socio-economics and community regional study area, Wales, and the UK. 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.

29.5.3.10 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.

29.5.3.11 The Next steps section 29.14 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

29.5.3.12 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.

29.6 Key parameters for assessment

29.6.1 Maximum design scenario

29.6.1.1 The maximum design scenarios (hereafter abbreviated to MDS) identified in Table 29.33 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.

29.6.1.2 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 29.33: Maximum design scenario considered for the assessment of potential impacts on socio-economics and community.

^a C=construction, O=operational 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.	✓	✓	✓	<p>Construction phase</p> <ul style="list-style-type: none"> MDS assumes 1.5 GW installed capacity. MDS assumes a similar delivery model to previous offshore wind farms developed in the UK. MDS assumes offshore construction phase of up to four years MDS assumes onshore construction period of up to threeyears 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. MDS assumes Onshore Substation site to be located at Bodelwyddan, North Wales. UK economic impacts are assessed on the basis of spend assumptions established by bp in 2021. See volume 8: annex 29.1: Technical Impact Report – Socio-economics for more details. Sub UK level 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 8: annex 29.1: Technical Impact Report – Socio-economics for more details. <p>Operations and maintenance phase</p> <ul style="list-style-type: none"> 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. MDS assumes Onshore Substation site to be located at Bodelwyddan, North Wales. UK economic impacts are assessed on the basis of spend assumptions established by bp in 2021. See volume 8: annex 29.1: Technical Impact Report – Socio-economics for more details. Sub UK level 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 8: annex 29.1: Technical Impact Report – Socio-economics for more details. <p>Decommissioning phase</p> <ul style="list-style-type: none"> MDS assumes 1.5 GW installed capacity. MDS assumes decommissioning support facility to be located in North Wales or Northwest England. MDS assumes Onshore Substation will be removed. MDS assumes offshore cables may be removed, with cable and foundation protection to be left <i>in situ</i>. 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 	<p>Construction phase</p> <p>Potential expenditure on the following activities associated with the Mona Offshore Wind Project could support employment and GVA output in companies that are directly engaged in the fabrication and installation supply chain:</p> <ul style="list-style-type: none"> Wind turbine manufacturing and supply – blades, nacelle, hub, tower etc Balance of plant manufacturing and supply (offshore) – foundations, inter-array cables, Offshore Substation Platforms (OSPs), offshore export cables, and interconnector cables Balance of plant manufacturing and supply (onshore) – Onshore Substation, onshore export cable, onshore grid connection Construction and installation of wind turbines and balance of plant (offshore) – wind turbine, foundation and inter-array cable Construction and installation of balance of plant (onshore) – Onshore Substation, onshore export cable, onshore grid connection. <p>The central impact scenario has been assessed to provide a fair assessment of the potential impacts associated with the Mona Offshore Wind Project and to avoid over-stating beneficial effects.</p> <p>The fabrication and installation of the Mona Offshore Wind Project could also go on to support employment and GVA output indirectly in the wider supply chain through:</p> <ul style="list-style-type: none"> 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 Mona Offshore Wind Project. <p>Operational and maintenance phase</p> <p>Potential expenditure on the following activities associated with the operations and maintenance of the Mona Offshore Wind Project could support employment and GVA output in companies that are directly engaged in the operations and maintenance supply chain:</p> <ul style="list-style-type: none"> Wind turbine maintenance and servicing Balance of plant and transmission (offshore) maintenance and servicing Balance of plant and transmission (onshore) maintenance and servicing Vessel and crew activity Service Operation Vessels (SOV) Guard vessels. <p>The central impact scenario has been assessed to provide a fair assessment of the potential impacts associated with the Mona Offshore Wind Project and to avoid over-stating beneficial effects.</p> <p>Decommissioning phase</p> <p>Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Mona Offshore Wind Project could support employment and GVA output in companies that are directly engaged in the decommissioning supply chain. The decommissioning of the Mona Offshore Wind Project could also go on to support employment and GVA output indirectly in the wider supply chain through:</p> <ul style="list-style-type: none"> indirect impacts result from the activities of suppliers to the Applicant or its major contractors; and induced impacts result from the personal expenditure of individuals working on the Mona Offshore Wind Project. <p>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</p>

Potential impact	Phase ^a Maximum Design Scenario			Justification	
	C	O	D		
				<p>a similar way to installation. Therefore, MDS assumes decommissioning phase of up to four years.</p> <ul style="list-style-type: none"> The exact approach to decommissioning is not yet confirmed as best practice at the time is not currently known. 	<p>seabed level will be removed, but subject to review in the future on the basis of likely environmental impacts. Cabling will also be removed where possible and appropriate to do so.</p> <p>Volume 8, annex 29.1: 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.</p> <p>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).</p>
The impact of increased employment opportunities.	✓	✓	✓	<p>Construction phase</p> <ul style="list-style-type: none"> As per the impact on economic receptors including employment, GVA, and supply chain demand. <p>Operational and maintenance phase</p> <ul style="list-style-type: none"> As per the impact on economic receptors including employment, GVA, and supply chain demand. <p>Decommissioning phase</p> <ul style="list-style-type: none"> As per the impact on economic receptors including employment, GVA, and supply chain demand. 	<p>Construction phase</p> <p>The central impact scenario has been assessed to provide a fair assessment of the potential impacts associated with the Mona Offshore Wind Project and to avoid over-stating beneficial effects..</p> <p>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.</p> <p>Operational and maintenance phase</p> <p>The central impact scenario has been assessed to provide a fair assessment of the potential impacts associated with the Mona Offshore Wind Project and to avoid over-stating beneficial effects..</p> <p>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.</p> <p>Decommissioning phase</p> <p>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.</p> <p>Decommissioning phase effects have been assessed on the basis of the assessment of potential construction phase effects (which have been discounted in order to account for construction phase impacts including those resulting from fabrication).</p>
The impact on the demand for housing, accommodation and local services.	✓	✓	✓	<p>Construction phase</p> <ul style="list-style-type: none"> 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 at any one time will be: <ul style="list-style-type: none"> Main installation and support vessels: x4 Survey vessels: x2 Crew transfer vessels: x5 Cable lay installation and support vessels: x4 Seabed preparation vessels for boulder removal, grapnel, pre-sweep/levelling: 4 Cable protection installation vessels: x2 MDS assumes construction phase of up to four years, MDS assumes construction support facility to be located in North Wales or Northwest England.. <p>Operations and maintenance phase</p> <ul style="list-style-type: none"> MDS assumes 1.5 GW installed capacity. MDS assumes a similar delivery model to previous offshore wind farms developed in the UK. 	<p>It is appropriate to test the MDS in order to test whether the scale of effects is likely to create a beneficial or adverse impact.</p> <p>The MDS is informed by analysis within Volume 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR setting out the likely source of workforce associated with offshore and onshore infrastructure, and likely demand for temporary, medium term and long term accommodation. Volume 8, annex 29.1 draws on the Project Design Envelope setting out likely crew sizes, vessel movements and shift patterns.</p> <p>Construction phase</p> <p>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 the workers associated with construction of offshore infrastructure will be based offshore, but may give rise to temporary accommodation demand before and after two week shifts. Workers associated with construction of onshore infrastructure will be based onshore. Maximum vessel activity is assumed on the basis of wind turbine and inter array cable staging and installation to be based at the same port.</p> <p>Operational and maintenance phase</p> <p>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 associated with the operation and maintenance of offshore infrastructure may relocate to the area requiring long term/permanent housing within the vicinity of the operations and maintenance port. Some of those associated with the operation and maintenance of onshore infrastructure may relocate to the area requiring long term/permanent housing within the vicinity of the Onshore Substation.</p> <p>Decommissioning phase</p> <p>As for construction phase</p>

Potential impact	Phase ^a Maximum Design Scenario			Justification
	C	O	D	
			<ul style="list-style-type: none"> MDS assumes the maximum activity, and associated vessel numbers, located at any single potential port will be: <ul style="list-style-type: none"> Crew transfer vessel/workboats: x6 Jack-up vessels: x3 Cable repair vessels: x4 Service Operation Vessels (SOV) and other vessels: x4 Excavators or backhoe dredger: x4 MDS assumes operations and maintenance phase of 35 years. MDS assumes construction support facility to be located in North Wales or Northwest England. <p>Decommissioning phase</p> <ul style="list-style-type: none"> As for construction phase. 	
The impact on tourism and recreation.	✓	✓	<p>Construction phase</p> <p>Visual amenity</p> <ul style="list-style-type: none"> As per volume 4, chapter 26: Seascape, landscape and visual resources Table 26.19. <p>Overnight trips and accommodation</p> <ul style="list-style-type: none"> As per the impact on the demand for housing, accommodation and local services (above). <p>Recreation</p> <ul style="list-style-type: none"> As per volume 2, chapter 12: Shipping and navigation of the PEIR As per volume 2, chapter 14: Other sea user of the PEIR. As per volume 3, chapter 20: Land use and recreation of the PEIR. <p>Operational and maintenance phase</p> <p>Visual amenity</p> <ul style="list-style-type: none"> As per volume 4, chapter 26: Seascape, landscape and visual resources Table 26.19. <p>Overnight trips and accommodation</p> <ul style="list-style-type: none"> As per the impact on the demand for housing, accommodation and local services (above). <p>Recreation</p> <ul style="list-style-type: none"> As per volume 2, chapter 12: Shipping and navigation of the PEIR As per volume 2, chapter 14: Other sea user of the PEIR As per volume 3, chapter 20: Land use and recreation of the PEIR. <p>Decommissioning phase</p> <p>Visual amenity</p> <ul style="list-style-type: none"> As per volume 4, chapter 26: Seascape, landscape and visual resources Table 26.19. <p>Overnight trips and accommodation</p> <ul style="list-style-type: none"> As per the impact on the demand for housing, accommodation and local services (above). <p>Recreation</p>	<p>Potential impacts of the construction, operations and maintenance, and decommissioning of the Mona 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.</p> <p>Visual amenity</p> <p>It is necessary to derive an assessment of significance of effects on visual amenity from the findings of volume 4, chapter 26: Seascape, Landscape and Visual Resources. The potential visual impacts of the construction, operations and maintenance, and decommissioning of the Mona Offshore Wind Project 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 4, chapter 26: Seascape, Landscape and Visual Resources.</p> <p>Overnight trips and accommodation</p> <p>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.</p> <p>Recreation</p> <p>It is necessary to derive an assessment of significance of effects on recreation from the findings in volume 2, chapter 12: Shipping and Navigation, volume 2, chapter 14: Other Sea Users, and volume 3, chapter 20: Land use and recreation of the PEIR. On this basis, the MDS for the impact on recreation draws directly on the MDS for volume 2, chapter 12: Shipping and Navigation, volume 2, chapter 14: Other Sea Users, and volume 3, chapter 20: Land use and recreation of the PEIR.</p>

Potential impact	Phase ^a			Maximum Design Scenario	Justification
	C	O	D		
				<ul style="list-style-type: none"> As per volume 2, chapter 12: Shipping and navigation of the PEIR As per volume 2, chapter 14: Other sea user of the PEIR As per volume 3, chapter 20: Land use and recreation of the PEIR. 	

29.6.2 Impacts scoped out of the assessment

29.6.2.1 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 29.34.

Table 29.34: Impacts scoped out of the assessment for socio-economics and community.

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.

29.7 Measures adopted as part of the Mona Offshore Wind Project

29.7.1.1 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 Mona Offshore Wind Project 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).

29.7.1.2 Measures have been adopted as part of the Mona Offshore Wind Project to enhance the potential for beneficial impacts on socio-economics and community. These are outlined in Table 29.35 below.

Table 29.35: Measures adopted as part of the Mona Offshore Wind Project.

Measures adopted as part of the Mona Offshore Wind Project	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 Mona Offshore Wind Project.	Plan secured as a requirement of the DCO.

29.8 Assessment of significant effects

29.8.1.1 The potential impacts of the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Project have been assessed on socio-economics and community receptors. The potential impacts arising from the construction, operations and maintenance and decommissioning phases of the Mona Offshore Wind Project are listed in Table 29.33, along with the MDS against which each impact has been assessed.

29.8.1.2 A description of the potential effects on socio-economics and community receptors caused by each identified impact is given below.

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

29.8.2.1 The construction, operations and maintenance, and decommissioning of the Mona Offshore Wind Project 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 8, annex 29.1: Technical Impact Report – Socio-economics and community.

Magnitude (scale) of impact – assessment approach

29.8.2.2 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.

29.8.2.3 The criteria against which magnitude of potential economic impacts are assessed can be found in Table 29.36.

Table 29.36: Magnitude of employment impacts assessment criteria.

Magnitude 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

29.8.2.4 Potential expenditure on the following activities associated with the Mona Offshore Wind Project could support employment and GVA output 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 (offshore) – foundations, inter-array cables, Offshore Substation Platforms (OSPs), offshore export cables, and interconnector cables
- Balance of plant manufacturing and supply (onshore) – Onshore Substation, onshore export cable, onshore grid connection
- Construction and installation of wind turbines and balance of plant (offshore) – wind turbine, foundation and inter-array cable
- Construction and installation of balance of plant (onshore) – Onshore Substation, onshore export cable, onshore grid connection.

29.8.2.5 The central impact scenario has been assessed on the basis of currently available information to provide a fair assessment of the potential impacts associated with the Mona Offshore Wind Project to avoid over-stating beneficial effects.

29.8.2.6 The fabrication and installation of the Mona Offshore Wind Project 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 resulting from the personal expenditure of individuals working on the Mona Offshore Wind Project.

29.8.2.7 A 4 year (48-month) offshore construction period has been assumed throughout.

29.8.2.8 The potential impacts of the Mona Offshore Wind Project on employment in fabrication and installation activities under the central impact scenario are set out in Table 29.37. These impacts will create opportunities to both safeguard existing economic activities, and facilitate new economic growth.

Table 29.37: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment and GVA in fabrication and installation activities.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)	GVA – per annum	GVA – total
Regional				
North Wales	130	530	£11 million	£40 million
Northwest England	390	1,600	£30 million	£130 million
National				
Wales	390	1,600	£30 million	£130 million
UK	800	3,200	£70 million	£260 million

Magnitude of impact

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

- direct impacts result from the activities of the Applicant and its major contractors
- indirect impacts result from the activities of suppliers to the Applicant or its major contractors
- induced impacts result from the personal expenditure of individuals working on the Mona Offshore Wind Project (direct and indirect).

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

29.8.2.11 As discussed in section 29.1, impacts are considered across multiple socio-economics and community study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.

29.8.2.12 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics and community study area is set out in Table 29.38.

Table 29.38: Comparison of construction phase employment and GVA impacts vs. relevant baseline conditions.

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%	1.6%	>306% ¹⁴	1.3%	7.3%
Northwest England	<0.1%	0.6%	18.2%	0.2%	1.4%
National					
Wales	<0.1%	1.1%	306%	0.6%	3.3%
UK	<0.1%	0.1%	2.6%	0.0%	0.3%

29.8.2.13 The magnitude of impact for each socio-economics and community regional study area and the socio-economics and community national study area is set out in Table 29.39. The share of offshore wind sector employment within the regional study areas is inferred based on the nationally available data. Magnitudes have been assigned on the basis of criteria set out in Table 29.39.

Table 29.39: Magnitude of construction phase employment and GVA impacts vs. relevant baseline conditions.

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

Sensitivity of the receptor

29.8.2.14 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 29.5.2.5.

Value and importance

29.8.2.15 Whether a socio-economics study area’s policy position 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 local 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 local residents in any sector will also be considered.

29.8.2.16 Increasing employment in the renewable energy sector, including offshore wind activities specifically, is a policy objective at the UK, Wales, and Northwest England socio-economics regional study area 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.

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

Vulnerability/tolerance

29.8.2.18 According to section 29.4.4, 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 North West England socio-economics regional study area (–1.2% per annum), 3,000 in the Wales socio-economics national study area (–1.4% per annum), and 42,000 in the UK socio-economics national study area (–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 the offshore wind sector – although this would very likely require a degree of ‘upskilling’ and transitioning for firms and workers, as discussed at paragraph 29.4.5.10 as part of the future baseline scenario.

29.8.2.19 The future baseline conditions set out in section 29.4.5 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 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.

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

Recoverability

29.8.2.21 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 impacts.

29.8.2.22 Retention of impacts (particularly at the regional level) will be heavily dependent on any initiatives to enhance opportunities for procurement local/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

¹³ Construction impact industries.

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

a pipeline of activity would have the potential to create market certainty to support sustainable investment in regional infrastructure and supply chain capabilities.

Overall

29.8.2.23 The sensitivity of the receptor for each socio-economics study area is assessed as in Table 29.40.

Table 29.40: Sensitivity of construction phase employment and GVA receptor.

Study area	Sensitivity
Regional	
North Wales	High
North West England	High
National	
Wales	High
UK	High

Significance of the effect

29.8.2.24 The significance of the effect for each socio-economics and community study area are set out in Table 29.41.

Table 29.41: Significance of construction phase economic and GVA impacts (central impact 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	Moderate (beneficial)	Yes

Operations and maintenance phase

29.8.2.25 Potential expenditure on the following activities associated with the Mona Offshore Wind Project could support employment and GVA output in companies that are directly engaged in the operations and maintenance supply chain:

- Wind turbine maintenance and servicing
- Balance of plant and transmission (offshore) maintenance and servicing

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

29.8.2.26 The central impact scenario has been assessed to provide a fair assessment of the realistic impacts associated with the Mona Offshore Wind Project to avoid over-stating beneficial effects.

29.8.2.27 The operation and maintenance of the Mona Offshore Wind Project could also go on to support employment indirectly in the wider supply chain.

29.8.2.28 A 35-year operations and maintenance period has been assumed throughout.

29.8.2.29 The potential impacts of the Mona Offshore Wind Project on employment in operation and maintenance activities under the central impact scenario are set out in Table 29.42. These impacts will create opportunities to both safeguard existing economic activities, and facilitate new economic growth.

Table 29.42: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment and GVA in operation and maintenance activities.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)	GVA – per annum	GVA – total
Regional				
North Wales	100	3,500	£12 million	£400 million
Northwest England	300	10,500	£30 million	£1,200 million
National				
Wales	300	10,500	£30 million	£1,200 million

Magnitude of impact

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

29.8.2.31 On the basis of a 35-year operations and maintenance period, the impact is considered long term. The majority of operations and maintenance activities will be on a continuous rolling programme. The impact is therefore continuous.

29.8.2.32 As discussed in section 29.1, impacts are considered across multiple socio-economics and community study areas linked to the selection of operation and maintenance ports and the Onshore Substation site. A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics and community regional study area and the socio-economics and community national study area is set out in Table 29.43.

Table 29.43: Comparison of operation and maintenance phase employment impacts vs. relevant baseline conditions.

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%	1.3%	>233% ¹⁶	1.0%	5.6%
Northwest England	<0.1%	0.5%	13.9%	0.2%	1.1%
National					
Wales	<0.1%	0.9%	233%	0.4%	2.5%

29.8.2.33 The magnitude of impact for each socio-economics and community regional study area and the socio-economics and community national study area is set out in Table 29.44. The share of offshore wind sector employment within the regional study areas is inferred based on the nationally available data. Magnitudes have been assigned on the basis of criteria set out in Table 29.30.

Table 29.44: Magnitude of operation and maintenance phase employment impacts vs. relevant baseline conditions.

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

Sensitivity of the receptor

29.8.2.34 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 29.5.2.5.

Value and importance

29.8.2.35 For reasons discussed in paragraphs 29.8.2.15–29.8.2.17, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

29.8.2.36 According to section 29.4.4, between 2015–2021 employed persons in operations and maintenance impact industries decreased by approximately 1,500 in the North Wales

¹⁵ Construction impact industries.

socio-economics regional study area (–7.5% per annum), 4,000 in the Wales socio-economics national study area (–5.9% per annum), and 5,000 in the UK socio-economics national study area (–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 the offshore wind sector – although 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 offshore wind sector operations and maintenance activities are currently in a strong position of growth.

29.8.2.37 The potential future baseline conditions associated with the offshore wind sector and their relevance to the assessment of sensitivity are discussed at paragraphs 29.8.2.18–29.8.2.19.

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

Recoverability

29.8.2.39 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 local 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.

29.8.2.40 Retention of impacts (particularly at the regional level) will be heavily dependant on any initiatives to enhance opportunities for procurement of local/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 impacts are likely to be permanent. This makes sustainable investment in related infrastructure and supply chain capabilities more likely.

Overall

29.8.2.41 The sensitivity of the receptor for each socio-economics study area is assessed as in Table 29.45.

Table 29.45: Sensitivity of operations and maintenance phase employment and GVA receptor.

Study area	Sensitivity
Regional	
North Wales	High
North West England	High

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

Study area	Sensitivity
National	
Wales	High

Significance of the effect

29.8.2.42 The significance of the effect for each socio-economics and community study area are set out in Table 29.46.

Table 29.46: Significance of construction phase employment and GVA impacts (central impact 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

Decommissioning phase

- 29.8.2.43 Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Mona Offshore Wind Project could support employment in activities associated with decommissioning and recycling of components.
- 29.8.2.44 The scale and duration of decommissioning activity is uncertain at this time. 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.
- 29.8.2.45 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.
- 29.8.2.46 The workforce for the decommissioning of the offshore parts of the Mona Offshore Wind Project 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).
- 29.8.2.47 On this basis the magnitude of effects would be lower than those set out for the construction phase under the central impact scenario.
- 29.8.2.48 The significance of effects assessed at construction phase for employment in fabrication and installation activities are set out in Table 29.37. 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 29.47 below.

Table 29.47: Significance of decommissioning phase economic impacts (central impact 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

29.8.3 The potential impact of increased employment opportunities

29.8.3.1 The expenditure in both socio-economics and community regional and socio-economics and community national study areas may create a range of employment opportunities 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.

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

Magnitude (scale) of impact – assessment approach

29.8.3.3 The scale of potential economic 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 employment impacts in the context of potentially available workforce within an area.

29.8.3.4 The criteria against which magnitude of potential economic impacts amongst local residents are assessed can be found in Table 29.48.

Table 29.48: Magnitude (scale) of employment opportunity impacts amongst local residents assessment criteria.

Magnitude 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%

Magnitude of Impact	Share of relevant baseline conditions	
Medium	0.5%–1.0%	5%–10%
Low	0.1%–0.5%	1%–5%
Negligible	<0.1%	<1%

Construction phase

- 29.8.3.5 Potential expenditure on the following activities associated with the Mona Offshore Wind Project could improve employment opportunities for local residents in activities (including supply chain) associated with development, fabrication, and installation:
- Wind turbine manufacturing and supply – blades, nacelle, hub, tower
 - Balance of plant manufacturing and supply (offshore) – foundations, inter-array cables, Offshore Substation Platforms (OSPs), offshore export cables, and interconnector cables
 - Balance of plant manufacturing and supply (onshore) – Onshore Substation, onshore export cable, onshore grid connection
 - Construction and installation of wind turbines and balance of plant (offshore) – wind turbine, foundation and inter-array cable
 - Construction and installation of balance of plant (onshore) – Onshore Substation, onshore export cable, onshore grid connection.
- 29.8.3.6 The development, fabrication, and installation of the Mona Offshore Wind Project could also go on to support employment opportunities for local residents indirectly in the wider supply chain and shown in Table 29.60.
- 29.8.3.7 A four year (48 month) construction period has been assumed throughout.
- 29.8.3.8 The potential impacts of the Mona Offshore Wind Project on access to employment amongst local residents in development, fabrication, and installation activities are set out in Table 29.49.

Table 29.49: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment opportunities in fabrication and installation activities.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)
Regional		
North Wales	130	530
Northwest England	390	1,600
National		
Wales	390	1,600
UK	800	3,200

Magnitude of impact

- 29.8.3.9 Employment impacts have been assessed on the basis of direct, indirect, and induced impacts.
- 29.8.3.10 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.
- 29.8.3.11 As discussed in section 29.1, impacts are considered across multiple socio-economics and community study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.
- 29.8.3.12 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics and community study area is set out in Table 29.50.

Table 29.50: Comparison of construction phase employment opportunity impacts vs. relevant baseline conditions.

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%	0.9%
Northwest England	<0.1%	0.2%
National		
Wales	<0.1%	0.5%
UK	<0.1%	<0.1%

- 29.8.3.13 The magnitude of impact for each socio-economics and community study area is set out in Table 29.51

Table 29.51: Magnitude of construction phase employment opportunity impacts.

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

Sensitivity of the receptor

29.8.3.14 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 29.5.2.5.

Value and importance

29.8.3.15 Whether a socio-economics study area’s policy position 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 local 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 local residents in any sector will also be considered.

29.8.3.16 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.

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

Vulnerability/tolerance

29.8.3.18 According to section 29.4.4, 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 North West England socio-economics regional study area, 79,000 in the Wales socio-economics national study area, and 1.7 million in the UK socio-economics national study area (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 North West England socio-economics regional study area, 54,000 in the Wales socio-economics national study area, and 1.3 million in the UK socio-economics national study area (ONS, 2022e). This suggests there is a significant number of residents across all socio-economics study areas looking to enter the workforce.

29.8.3.19 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 29.4.5.10 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.

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

Recoverability

29.8.3.21 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

a local 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.

29.8.3.22 Retention of impacts (particularly at the regional level) will be heavily dependant on any initiatives to enhance employment opportunities for local 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

29.8.3.23 The sensitivity of the receptor for each socio-economics study area is assessed as in Table 29.52.

Table 29.52: Sensitivity of construction phase employment opportunity receptor.

Study area	Sensitivity
Regional	
North Wales	High
North West England	High
National	
Wales	High
UK	High

Significance of the effect

29.8.3.24 The significance of the effect for each socio-economics and community study area are set out in Table 29.53

Table 29.53: Significance of construction phase employment opportunity impacts (central impact 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

- 29.8.3.25 Potential expenditure associated with the Mona Offshore Wind Project could improve employment opportunities for local residents in activities associated with the operations and maintenance supply chain:
 - Wind turbine maintenance and servicing
 - Balance of plant and transmission (offshore) maintenance and servicing
 - Balance of plant and transmission (onshore) maintenance and servicing
 - Vessel and crew activity
 - Service Operation Vessels (SOV)
 - Guard vessels.
- 29.8.3.26 The operation and maintenance of the Mona Offshore Wind Project could also go on to support access to employment amongst local residents indirectly in the wider supply chain.
- 29.8.3.27 A 35 year operations and maintenance period has been assumed throughout.
- 29.8.3.28 The potential impacts of the Mona Offshore Wind Project on employment opportunities for local residents in operation and maintenance activities are set out in Table 29.54.

Table 29.54: Potential impacts (central impact scenario) of the Mona Offshore Wind Project on employment opportunities in operations and maintenance activities.

Study area	Employment – per annum (FTE years)	Employment – total (FTE years)
Regional		
North Wales	100	3,500
Northwest England	300	10,500
National		
Wales	300	10,500

Magnitude of impact

- 29.8.3.29 Employment impacts have been assessed on the basis of direct, indirect, and induced impacts.
- 29.8.3.30 On the basis of a 35 year operation and maintenance period, 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.
- 29.8.3.31 As discussed in section 29.1, impacts are considered across multiple socio-economics and community study areas linked to the selection of the operations and maintenance port and Onshore Substation site.
- 29.8.3.32 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics and community study area is set out in Table 29.55.

Table 29.55: Comparison of operations and maintenance phase employment opportunity impacts vs. relevant baseline conditions.

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%	0.2%
Northwest England	<0.1%	<0.1%
National		
Wales	<0.1%	<0.1%

29.8.3.33 The magnitude of impact for each socio-economics and community study area is set out in Table 29.56.

Table 29.56: Magnitude of operations and maintenance phase employment opportunity impacts on employment opportunities, central impact scenario.

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

Sensitivity of the receptor

29.8.3.34 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 29.5.2.5.

Value and importance

29.8.3.35 For reasons discussed in paragraphs 29.8.3.15, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

29.8.3.36 For reasons discussed in paragraphs 29.8.3.18–29.8.3.19, the vulnerability/tolerance of the receptor is assessed as high. The impact is considered to be beneficial.

Recoverability

29.8.3.37 Discussed in paragraphs 29.8.3.21–29.8.3.22.

Overall

29.8.3.38 The sensitivity of the receptor for each socio-economics study area is assessed as in Table 29.57.

Table 29.57: Sensitivity of operation and maintenance phase employment opportunity receptor.

Study area	Sensitivity
Regional	
North Wales	High
North West England	High
National	
Wales	High

Significance of the effect

29.8.3.39 The significance of the effect for each socio-economics and community study area are set out in Table 29.58.

Table 29.58: Significance of operations and maintenance phase employment opportunity impacts (central impact 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

29.8.3.40 Potential expenditure on decommissioning of wind turbines and balance of plant associated with the Mona Offshore Wind Project could support employment opportunities for local residents in activities associated with decommissioning.

29.8.3.41 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.

29.8.3.42 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.

29.8.3.43 The workforce for the decommissioning of the offshore parts of the wind farm 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).

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

29.8.3.45 The significance of effects assessed at construction phase for employment opportunities for local residents in fabrication and installation activities are set out in Table 29.53. 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 29.59 below.

Table 29.59: Significance of decommissioning phase employment opportunity impacts (central impact 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

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

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

29.8.4.2 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.

29.8.4.3 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.

29.8.4.4 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.

29.8.4.5 This impact is applicable to the construction, operations and maintenance, and decommissioning phases. The assessment draws on the assessment of employment impacts and discussion of workforce issues as set out in the supporting Volume 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR.

Magnitude (scale) of impact – assessment approach

- 29.8.4.6 The magnitude of impacts is assessed against the following baseline conditions and shown in Table 29.60:
- Potential permanent relocations:
 - total population: comparison with total population to give an indication of the scale of the impact of labour migration on the resident population
 - total dwellings stock: 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: 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: 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: comparison with the scale of the private rented sector to assess potential effects on local housing market.
 - Potential temporary overnight stays:
 - total number of overnight stays: comparison with total number of overnight stays (in nights per annum) to provide indication of scale relative to existing market
 - temporary accommodation capacity: comparison with overnight accommodation capacity to give an indication of the scale of impact of demand from temporary workers.

Table 29.60: Magnitude of impacts on the demand for housing, accommodation and local services.

Magnitude 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

29.8.4.7 Potential expenditure on activities associated with the construction phase of the Mona Offshore Wind Project could support temporary or medium term labour migration into socio-economics and community regional study areas.

29.8.4.8 A 4 year (48 month) construction period has been assumed throughout, although not all impacts will occur for the entire duration of the construction period. Any variation is described and aligns to the anticipated construction programme.

29.8.4.9 Under the central impact 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.

29.8.4.10 As set out in Volume 8, annex 29.1: Technical Impact Report – Socio-economics, 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 impact 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.

29.8.4.11 The potential demand for temporary accommodation, as measured in nights per annum, arising from the Mona Offshore Wind Project are set out in Table 29.61. The maximum estimated number of overnight stays per annum is calculated based on the following assumptions:

- maximum activities within a single socio-economics and community 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 local overnight accommodation.

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

29.8.4.13 It is anticipated there will be no material medium term or permanent relocation of workers into any of the socio-economics and community regional study areas.

Table 29.61: Potential maximum demand for temporary accommodation, central impact 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

- 29.8.4.14 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.
- 29.8.4.15 As discussed in section 29.1, impacts are considered across multiple socio-economics and community regional study areas linked to the selection of construction ports, and the associated supply of a range of inputs and services.
- 29.8.4.16 The assessment is based on the maximum potential effects as set out at Table 29.33. 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.
- 29.8.4.17 Impacts are assessed as beneficial, creating demand for temporary accommodation within identified levels of available capacity in each socio-economics and community regional study area.
- 29.8.4.18 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics and community regional study area is set out in Table 29.62.

Table 29.62: Magnitude of temporary accommodation demand, central impact scenario.

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%

- 29.8.4.19 The magnitude of impact, relative to the baseline for each socio-economics and community regional study area is set out in Table 29.64.

Table 29.63: Magnitude of temporary accommodation demand, central impact scenario.

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

Sensitivity of the receptor

- 29.8.4.20 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 29.5.2.5.

Value and importance

- 29.8.4.21 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.
- 29.8.4.22 As such, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

- 29.8.4.23 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.
- 29.8.4.24 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).
- 29.8.4.25 The future baseline scenario set out in section 29.4.5 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.
- 29.8.4.26 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.
- 29.8.4.27 As set out in Table 29.25 and Table 29.23, 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.

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

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

Recoverability

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

29.8.4.31 The recoverability of the receptor is assessed as high.

Overall

29.8.4.32 The sensitivity of the receptor for each socio-economics study area is assessed as in Table 29.64.

Table 29.64: 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

29.8.4.33 The significance of the effect for each socio-economics and community regional study area is set out in Table 29.65.

Table 29.65: Significance of construction phase employment impacts on the demand for housing, accommodation, and local services, central impact 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

29.8.4.34 Potential expenditure on activities associated with the operation and maintenance phase of the Mona Offshore Wind Project could support labour migration into socio-economics and community regional study areas.

29.8.4.35 A 35 year operations and maintenance period has been assumed throughout.

29.8.4.36 Under the central impact scenario it is assumed that a port within a socio-economics and community 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.

29.8.4.37 As set out in Volume 8, annex 29.1: Technical Impact Report – Socio-economics, 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 locally, within the socio-economics and community regional study area identified relevant to each potential port under consideration.

29.8.4.38 The Mona Offshore Wind Project will create new roles within operation 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.

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

29.8.4.40 For the purposes of assessment it is assumed a maximum of 50% of the workforce is recruited from outside the relevant socio-economics and community 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).

29.8.4.41 Table 29.66 sets out the scale of employment associated with the operation and maintenance phase under the central impact scenario. It is assumed jobs are net additional as the Mona Offshore Wind Project adds to the requirement for operations and maintenance workforce above existing baseline conditions.

29.8.4.42 Other periodic operation 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 and community regional study areas and do not warrant further consideration

Table 29.66: Potential itinerant employment impacts on the demand for housing, accommodation and local services, central impact 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

- 29.8.4.43 On the basis of a 35 year operations and maintenance period, the magnitude of impact is assessed as long term. Due to the ongoing rolling programme of the majority of operation and maintenance activity the magnitude of impact is assessed as continuous.
- 29.8.4.44 As discussed in section 29.1, impacts are considered across multiple socio-economics and community regional study areas linked to the selection of operation and maintenance port facilities, and the associated supply of a range of inputs and services.
- 29.8.4.45 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.
- 29.8.4.46 A comparison of the assessed impact compared to the relevant baseline conditions for each socio-economics and community regional study area is set out in Table 29.67

Table 29.67: Comparison of operations and maintenance phase employment impacts on the demand for housing, accommodation and local services vs. relevant baseline conditions.

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%

- 29.8.4.47 The magnitude of impact for each socio-economics and community regional study area is set out in Table 29.68.

Table 29.68: Magnitude of operations and maintenance phase employment impacts on demand for housing, accommodation and local services, central impact scenario.

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

Sensitivity of the receptor

- 29.8.4.48 Sensitivity to potential economic impacts is assessed on the basis of the conditions set out at paragraph 29.5.2.5.

Value and importance

- 29.8.4.49 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.
- 29.8.4.50 As such, the value and importance of the receptor is assessed as high.

Vulnerability/tolerance

- 29.8.4.51 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 locally, within the socio-economics regional study area identified relevant to each potential port under consideration.
- 29.8.4.52 As per the baseline population conditions set out in paragraphs 29.8.4.24–29.8.4.25, 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.
- 29.8.4.53 Consideration of the above factors leads to the vulnerability/tolerance of the receptor being assessed as low.

Recoverability

- 29.8.4.54 Given the long term nature of operations 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.
- 29.8.4.55 The recoverability of the receptor is assessed as low.

Overall

- 29.8.4.56 The sensitivity of the receptor for each socio-economics study area is assessed as in Table 29.69.

Table 29.69: 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

- 29.8.4.57 The significance of the effect for each socio-economics and community regional study area is set out in Table 29.70.

Table 29.70: Significance of operations and maintenance phase employment impacts on the demand for housing, accommodation, and local services, central impact 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

- 29.8.4.58 Potential expenditure on decommissioning of wind turbine and balance of plant associated with the Mona Offshore Wind Project could support temporary or medium term labour migration into socio-economics and community regional study areas.
- 29.8.4.59 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.
- 29.8.4.60 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 and community regional study areas.
- 29.8.4.61 Volume 8, annex 29.1: Technical Impact Report – Socio-economics of the PEIR notes that the workforce for the decommissioning of the offshore parts of the wind farm is likely to be sourced in a similar way to installation and commissioning. However, the scale of activity will be reduced.
- 29.8.4.62 On this basis the magnitude of effects would be lower than those set out for the construction phase under the central impact scenario.
- 29.8.4.63 The significance of effects assessed at construction phase for accommodation, housing and local services are set out at Table 29.65. On the basis of currently available evidence the significance of effects for the decommissioning phase will be of negligible significance across socio-economics and community regional study areas. This is not significant in EIA terms.

29.8.5 The potential impact on tourism and recreation.

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

- 29.8.5.1 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.
- 29.8.5.2 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.

- 29.8.5.3 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.
- 29.8.5.4 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 effect 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.
- 29.8.5.5 A study by Cronin et al (2021) conducted an 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.
- 29.8.5.6 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

- 29.8.5.7 Mona Offshore Wind Farm has the potential to cause both beneficial and adverse impacts on tourism and recreation. This impact is applicable to the construction, operation and maintenance, and decommissioning phases.
- 29.8.5.8 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 4, chapter 26: 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 Service Operation Vessels (SOV). 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. Similarly, workers associated with the installation of the Onshore Substation and landfall cabling have the potential to give rise to demand for temporary accommodation during the construction phase. Assessment of potential impacts on overnight trips and accommodation is based on section 29.8.4: The impact on the demand for housing, accommodation and local services
- Recreation: the direct or indirect effect of potential impacts on recreation – based on volume 2, chapter 12: Shipping and navigation, volume 2, chapter 14: Other sea users, and volume 3, chapter 20: Land use and recreation of the PEIR.

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

Visual amenity

29.8.5.10 Volume 4, chapter 26 assesses the potential impacts of the construction, operations and maintenance, and decommissioning phases of the Mona Offshore Wind Farm on visual resources.

29.8.5.11 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 tourism regional study areas.

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

- Designated sites: special qualities of national and international landscape designations
- National trails/long distance paths
- Access land (or public access equivalent)
- Key coastal settlement seafronts/shorelines.

North Wales

29.8.5.13 The visual resources which relate to these receptors and fall within the North Wales tourism regional study area are listed in Table 29.71. A summary of the significance of effects assessed at each of these visual resources during the construction phase is summarised in Table 29.71, and the operation and maintenance phase is summarise in Table 29.72 (based on volume 4, chapter 26: Seascape, landscape and visual resources).

Table 29.71: Magnitude, sensitivity, and significance of effects on visual resources in North Wales tourism regional study area – construction phase.

Source: volume 4, chapter 26: Seascape, landscape and visual resources.

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Representative viewpoints				
1: Mynydd y Garn trig point	Negligible	High	Negligible or minor	No
2: Llanlleiana Head	Low/negligible	High	Minor	No
3: Mynydd Eilian	Negligible	High	Negligible or minor	No
4: Bwrdd Arthur trig point	Low/negligible	High	Minor	No
6: Carnedd Llewelyn	Negligible	Very high	Minor	No
7: Great Orme, Llandudno	Low/negligible	Very High/high	Minor or moderate	No
8: Mynydd y Gear	Negligible	High	Negligible or minor	No
9: Rhyl	Negligible	High	Negligible or minor	No
10: Graig Fawr	Negligible	High	Negligible or minor	No
11: Moel y Parc	Negligible	High	Negligible or minor	No
24: Bull Bay, Amlwch	Low/negligible	High	Minor	No
25: Moelfre headland	Low/negligible	High	Minor	No
26: Yr Arwydd trig point, near Mynydd Bodafon	Low/negligible	High	Minor	No
27: Benllech	Negligible	High	Negligible or minor	No
28: Penmon Point	Negligible	High	Negligible or minor	No
29: Base of Moel Wnion	Negligible	High	Negligible or minor	No
30: Garreg Fawr	Negligible	High	Negligible or minor	No
31: Tal y Fan, summit	Negligible	High	Negligible or minor	No
32: Foel Lus, summit	Negligible	High	Negligible or minor	No
33: Conwy Mountain, summit	Negligible	High	Negligible or minor	No
34: Little Orme, Llandudno	Low/negligible	High	Minor	No
35: Bryn Euryn Nature Reserve	Negligible	High	Negligible or minor	No
36: Bryn y Maen	Negligible	High	Negligible or minor	No
37: Pen-y-Corddyn-Mawr	Negligible	High	Negligible or minor	No
38: Moelfre Isaf	Negligible	High	Negligible or minor	No
39: Prestatyn Hillside	Negligible	High	Negligible or minor	No
40: Point of Ayr	Negligible	High	Negligible or minor	No
47: Llanfairfechan	Negligible	High	Negligible or minor	No
48: Llandudno	Low/negligible	Very high/High	Minor or moderate	No

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Designated sites				
Anglesey AONB	Negligible	High	Negligible or minor	No
Eryri (Snowdonia) National Park	Negligible	High	Negligible or minor	No
Clwydian Range and Dee Valley AONB	Negligible	High	Negligible or minor	No

Table 29.72: Magnitude, sensitivity, and significance of effects on visual resources in North Wales tourism regional study area – operation and maintenance phase.

Source: volume 4, chapter 26: Seascape, landscape and visual resources.

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Representative viewpoints				
1: Mynydd y Garn trig point	Negligible	High	Negligible or minor	No
2: Llanlleiana Head	Low	High	Minor or moderate	No
3: Mynydd Eilian	Negligible	High	Negligible or minor	No
4: Bwrdd Arthur trig point	Low	High	Minor or moderate	No
6: Carnedd Llewelyn	Low/negligible	Very high	Minor or moderate	No
7: Great Orme, Llandudno	Low	Very High/high	Moderate	No
8: Mynydd y Gear	Negligible	High	Negligible or minor	No
9: Rhyl	Negligible	High	Negligible or minor	No
10: Graig Fawr	Negligible	High	Negligible or minor	No
11: Moel y Parc	Negligible	High	Negligible or minor	No
24: Bull Bay, Amlwch	Low	High	Minor or moderate	No
25: Moelfre headland	Low	High	Minor or moderate	No
26: Yr Arwydd trig point, near Mynydd Bodafon	Low	High	Minor or moderate	No
27: Benllech	Low/negligible	High	Minor	No
28: Penmon Point	Low	High	Minor or moderate	No
29: Base of Moel Wnion	Low/negligible	High	Minor	No
30: Garreg Fawr	Negligible	High	Negligible or minor	No
31: Tal y Fan, summit	Low/negligible	High	Minor	No
32: Foel Lus, summit	Low/negligible	High	Minor	No
33: Conwy Mountain, summit	Low/negligible	High	Minor	No
34: Little Orme, Llandudno	Low	High	Minor or moderate	No
35: Bryn Euryn Nature Reserve	Low/negligible	High	Minor	No

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
36: Bryn y Maen	Low/negligible	High	Minor	No
37: Pen-y-Corddyn-Mawr	Low/negligible	High	Minor	No
38: Moelfre Isaf	Negligible	High	Negligible or minor	No
39: Prestatyn Hillside	Low/negligible	High	Minor	No
40: Point of Ayr	Negligible	High	Negligible or minor	No
47: Llanfairfechan	Low/negligible	High	Minor	No
48: Llandudno	Low	Very high/High	Moderate	No
Designated sites				
Anglesey AONB	Negligible	High	Negligible or minor	No
Eryri (Snowdonia) National Park	Negligible	High	Negligible or minor	No
Clwydian Range and Dee Valley AONB	Negligible	High	Negligible or minor	No

29.8.5.14 Of the visual resources assessed within volume 4, chapter 26: Seascape, landscape and visual resource that are located within the North Wales tourism regional study area, none are anticipated to have significant effects in EIA terms at either the construction, operation and maintenance, or decommissioning phases.

29.8.5.15 On the basis of this assessment, there are no likely significant effects on tourism and recreation in the North Wales regional tourism regional study area.

Northwest England

29.8.5.16 The visual resources which relate to these receptors and fall within the Northwest England tourism regional study area are listed in Table 29.24. A summary of the significance of effects assessed at each of these visual resources during the construction phase is summarised in Table 29.73, and the operation and maintenance phase is summarise in Table 29.74 and Table 29.74 (based on volume 4, chapter 26: Seascape, landscape and visual resources).

Table 29.73: Magnitude, sensitivity, and significance of effects on visual resources in Northwest England tourism regional study area – construction phase.

Source: volume 4, chapter 26: Seascape, landscape and visual resources.

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Representative viewpoints				
12: Wallasey embankment, Leasowe Common	Negligible	High/medium	Negligible or minor	No
13: Formby	Negligible	High	Negligible or minor	No

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
15: Blackpool North Pier	Negligible	High	Negligible or minor	No
41: Southport Pier	Negligible	High	Negligible or minor	No

Table 29.74: Magnitude, sensitivity, and significance of effects on visual resources in Northwest England tourism regional study area – operations and maintenance phase.

Source: volume 4, chapter 26: Seascape, landscape and visual resources.

Visual resource	Magnitude	Sensitivity	Significance	Significant in EIA terms
Representative viewpoints				
12: Wallasey embankment, Leasowe Common	Negligible	High/medium	Negligible or minor	No
13: Formby	Low/negligible	High	Minor	No
15: Blackpool North Pier	Negligible	High	Negligible or minor	No
41: Southport Pier	Negligible	High	Negligible or minor	No

29.8.5.17 Of the visual resources assessed within volume 4, chapter 26: Seascape, landscape and visual resource that are located within the Northwest England tourism regional study area, none are anticipated to have significant effects in EIA terms at either the construction, operation and maintenance, or decommissioning phases.

29.8.5.18 On the basis of this assessment, there are no likely significant effects on tourism and recreation in the Northwest England regional tourism regional study area.

Overnight trips and accommodation

29.8.5.19 The assessment of effects on housing, accommodation and local services set out in section 29.8.4 identified the following effects during the construction, operation and maintenance, and decommissioning phases. The significance of construction phase employment is presented in Table 29.75.

Table 29.75: Significance of construction phase employment impacts on the demand for housing, accommodation, and local services, central impact scenario.

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Construction				
North Wales	Low (beneficial)	Medium	Minor (beneficial)	No

Study area	Magnitude	Sensitivity	Significance	Significant in EIA terms
Northwest England	Negligible	Medium	Minor (beneficial)	No
Operation and Maintenance				
North Wales	Low (beneficial)	Medium	Minor (beneficial)	No
Northwest England	Negligible	Medium	Minor (beneficial)	No
Decommissioning				
North Wales	Negligible	Medium	Negligible	No
Northwest England	Negligible	Medium	Negligible	No

29.8.5.20 On the basis of this assessment, there are no likely significant effects on tourism and recreation in either tourism regional study areas.

Recreation

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

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

29.8.5.23 Volume 2, chapter 14: Other sea users of the PEIR assesses the significance of the following potential impacts:

- Displacement of recreational activities
- Increased suspended sediment concentrations and associated deposition affecting recreational diving and bathing sites

29.8.5.24 The assessment concludes that during the construction phase, operations and maintenance and decommissioning phases potential effects will be of no more than minor adverse significance, which is not significant in EIA terms.

29.8.5.25 Volume 3, chapter 20: Land use and recreation of the PEIR assesses the significance of the following potential impacts during the construction phase of the onshore infrastructure (and therefore applies only to the North Wales regional tourism study area):

- The temporary impact on the recreational use of Coastal Areas
- The temporary impact on the recreational use of recreational resources
- The temporary impact on the recreational use of the Wales Coast Path and NCR 5
- The temporary impact on the recreational use of PRow and other linear routes.

29.8.5.26 The assessment concludes that during the construction phase, potential effects will be of the following significance:

- The temporary impact on the recreational use of Coastal Areas: minor (adverse) – not significant in EIA terms
 - The temporary impact on the recreational use of recreational resources: moderate (adverse) – significant in EIA terms
 - The temporary impact on the recreational use of the Wales Coast Path and NCR 5: minor (adverse) – not significant in EIA terms
 - The temporary impact on the recreational use of PRow and other linear routes: minor (adverse) – not significant in EIA terms.
- 29.8.5.27 The only potential impact assessed as having a significant effect in EIA terms is on the temporary impact on the recreational use of recreational resources. There is potential for the installation of the landfall and Mona Onshore Cable Corridor and Mona Onshore 400kV Corridor to result in temporary disruption of a number of recreational resources that lie in or adjacent to the land use and recreation study area during the construction period. This includes a castle, three holiday parks, a golf club, and a trout fishery. Within the context of the North Wales visitor economy, disruption to these recreational resources is considered negligible.
- 29.8.5.28 This consideration of potential indirect effects on recreation indicates that there are unlikely to be any material impacts on tourism and recreation as a result of the Mona Offshore Wind Project.

Overall

Construction phase

- 29.8.5.29 Based on a consideration of the pathways by which tourism and recreation activities might be impacted by Mona Offshore Wind Farm during the construction phase, the following sets out the magnitude, sensitivity, and significance for each socio-economic 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

- 29.8.5.30 Based on a consideration of the pathways by which tourism and recreation activities might be impacted by Mona Offshore Wind Farm during the operation and maintenance phase, the following sets out the magnitude, sensitivity, and significance for each socio-economic 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

- 29.8.5.31 Based on a consideration of the pathways by which tourism and recreation activities might be impacted by Mona Offshore Wind Farm during the decommissioning phase, the following sets out the magnitude, sensitivity, and significance for each socio-economic 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.

29.9 Cumulative effect assessment methodology

29.9.1 Methodology

- 29.9.1.1 The Cumulative Effects Assessment (CEA) takes into account the impact associated with the Mona Offshore Wind Project 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 5, annex 5.3: CEA screening matrix). 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.

- 29.9.1.2 The socio-economics and community 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 Mona Offshore Wind Project have been allocated into 'tiers' reflecting their current stage within the planning and development process, these are listed below.

- 29.9.1.3 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 and is in the public domain.

MONA OFFSHORE WIND PROJECT

- Tier 3
 - Scoping report has not been submitted
 - Identified in the relevant Development Plan
 - Identified in other plans and programmes.

29.9.1.4 This tiered approach is adopted to provide a clear assessment of the Mona Offshore Wind Project alongside other projects, plans and activities.

29.9.1.5 The specific projects, plans and activities scoped into the CEA, are outline in Table 29.76.

29.9.1.6 National Grid Electricity Transmission (NGET) are proposing to undertake upgrades to their Bodelwyddan substation; to facilitate the connection of multiple projects (e.g. Awel Y Mor). The upgrades will comprise works to the existing substation, an extension to the substation and associated works and infrastructure (e.g. new overhead gantries).

29.9.1.7 It is understood that works to the existing substation will be undertaken via NGET's permitted development rights. The proposed extension to Bodelwyddan substation will require planning consent. At the time of writing, an application had not been submitted to Denbighshire County Council but the anticipated timeframe is early 2024. Given that an application has not been submitted, the potential cumulative impacts of the Bodelwyddan upgrade have not been assessed within the PEIR. This will be re-visited in the application for consent for the Mona Offshore Wind Project should further information become available.

Table 29.76: List of other projects, plans and activities considered within the CEA.

Project/Plan	Status	Distance from the Mona Array Area (km)	Distance from the Mona offshore/onshore cable corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Tier 1							
Awel y Môr Offshore Wind Farm	Submitted but not yet determined	12.2	3.6/16.2	500 MW capacity offshore wind farm. Applicant expects consent Q3 2023.	2026–2030	2030–onwards	<p>Construction Phase</p> <p>Construction period scheduled to overlap with the construction period of the Mona Offshore Wind Project in its entirety.</p> <p>Construction port(s) not yet identified, therefore possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Operations and Maintenance Phase</p> <p>Operation of project scheduled to commence at the same point as the Mona Offshore Wind Project.</p> <p>Operations and maintenance port not yet identified, therefore possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Decommissioning Phase</p> <p>Decommissioning period (commencing 2055) is not scheduled to overlap with the decommissioning period of the Mona Offshore Wind Project.</p>
Tier 2							
Morgan Offshore Wind Farm	Pre-application	5.52	32.93/72.07	Application for the generation assets of the Morgan Offshore Wind Project in the east Irish Sea	2026–2030	2030–onwards	<p>Construction Phase</p> <p>Construction period scheduled to overlap with the construction period of the Mona Offshore Wind Project in its entirety.</p> <p>Construction port(s) not yet identified. Possibility that installation activities will be co-located with the Mona Offshore Wind Project in order to deliver project efficiencies. Possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Operations and Maintenance Phase</p> <p>Operation of project scheduled to commence at the same point as the Mona Offshore Wind Project.</p> <p>Operations and maintenance port not yet identified. Possibility that operation activities will be co-located with the Mona Offshore Wind Project in order to deliver project efficiencies. Possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Decommissioning Phase</p> <p>Decommissioning period (commencing 2065) is scheduled to overlap with the decommissioning period of the Mona Offshore Wind Project.</p>

Project/Plan	Status	Distance from the Mona Array Area (km)	Distance from the Mona offshore/onshore cable corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
Morgan Offshore Wind Project and Morecambe Offshore Wind Farm Transmission Assets	Pre-application	8.92	21.53/50.72	Application for the coordinated transmission assets for the Morgan and Morecambe Offshore Wind Projects.	2026–2030	2030–onwards	<p>Possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Construction Phase Construction period scheduled to overlap with the construction period of the Mona Offshore Wind Project in its entirety. Possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Operations and Maintenance Phase Operation of project scheduled to commence at the same point as the Mona Offshore Wind Project. Possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Decommissioning Phase Decommissioning period (commencing 2065) is scheduled to overlap with the decommissioning period of the Mona Offshore Wind Project. Possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p>
Round 4 Preferred Project 5 (Morecambe)	Pre-application	8.9	21.5/50.7	480 MW capacity floating offshore wind farm.	Unknown – overlap likely	Unknown – overlap likely	<p>Construction phase</p> <ul style="list-style-type: none"> • effect-receptor pathway; • spatial overlap; and • temporal overlap (likely). <p>Construction phase scheduled to overlap with the construction phase of the Mona Offshore Wind Project in its entirety. Construction port(s) not yet identified, therefore possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p> <p>Operations and maintenance phase</p> <ul style="list-style-type: none"> • effect-receptor pathway; • spatial overlap; and • temporal overlap. <p>Operation of project scheduled to commence at the same point as the Mona Offshore Wind Project. Operations and maintenance port not yet identified, therefore possibility remains that both North Wales and Northwest England socio-economics and community regional study areas may be subject to cumulative effects.</p>

Project/Plan	Status	Distance from the Mona Array Area (km)	Distance from the Mona offshore/onshore cable corridor (km)	Description of project/plan	Dates of construction (if applicable)	Dates of operation (if applicable)	Overlap with the Mona Offshore Wind Project
							Decommissioning phase Decommissioning phase is not yet scheduled – therefore determination of cumulative effects not yet possible.
Tier 3							
None							

29.9.2 Maximum design scenario

29.9.2.1 The MDS identified in Table 29.77 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 29.77: Maximum design scenario considered for the assessment of potential cumulative effects on socio-economics and community.

^a C=construction, O=operational 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 Mona Offshore Wind Project (Table 29.33) assessed cumulatively with the following other projects/plans: Tier 1 <ul style="list-style-type: none"> Awel y Môr Offshore Wind Farm Tier 2 <ul style="list-style-type: none"> Morgan Offshore Wind Project Generation Assets Morgan Offshore Wind Project and Morecambe offshore wind farm 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 Mona Offshore Wind Project (Table 29.33) assessed cumulatively with the following other projects/plans: Tier 1 <ul style="list-style-type: none"> Awel y Môr Offshore Wind Farm Tier 2 <ul style="list-style-type: none"> Morgan Offshore Wind Farm Morgan Offshore Wind Project and Morecambe Offshore Wind Farm 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 on the demand for housing, accommodation and local services.	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 29.33) assessed cumulatively with the following other projects/plans: Tier 1 <ul style="list-style-type: none"> Awel y Môr Offshore Wind Farm Tier 2 <ul style="list-style-type: none"> Morgan Offshore Wind Farm Morgan Offshore Wind Project and Morecambe Offshore Wind Farm 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 on tourism and recreation.	✓	✓	✓	MDS as described for the Mona Offshore Wind Project (Table 29.33) assessed cumulatively with the following other projects/plans: Tier 1 <ul style="list-style-type: none"> Awel y Môr Offshore Wind Farm Tier 2 <ul style="list-style-type: none"> Morgan Offshore Wind Farm Morgan Offshore Wind Project and Morecambe Offshore Wind Farm 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.

29.10 Cumulative effects assessment

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

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

Construction phase

Magnitude of impact

29.10.2.1 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on economic receptors within the socio-economics and community study areas.

29.10.2.2 This would be dependant on the selection of primary construction ports for other projects within the same socio-economics and community regional study area as the Mona Offshore Wind Project. The likelihood of this situation occurring is strongest with the Morgan Offshore Wind Farm project – there is a possibility construction activities for this project will be co-located with the Mona Offshore Wind Project in order to deliver project efficiencies, as they are being promoted by the same developer.

29.10.2.3 Cumulative effects are very likely to occur at the UK level, as there is a very high likelihood the selection of primary construction ports for other projects will be within the UK.

29.10.2.4 As per Table 29.46, the magnitude of impact assessed for the Mona Offshore Wind Project is medium (beneficial) in North Wales and Northwest England, medium (beneficial) in Wales, and low (beneficial) in the UK.

29.10.2.5 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 Mona Offshore Wind Farm impact assessment, and is shown in Table 29.78.

Table 29.78: Magnitude of cumulative construction phase employment and GVA 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)

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

Sensitivity of the receptor

29.10.2.7 As per section 29.8.2, 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 dependant 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

29.10.2.8 The significance of the cumulative effects for each socio-economics study area are set out in Table 29.79.

Table 29.79: Significance of cumulative construction phase employment and GVA 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

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

29.10.2.10 As per Table 29.46, the magnitude of impact assessed for the Mona Offshore Wind Project is medium (beneficial) in North Wales, Northwest England, and Wales.

29.10.2.11 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 and community regional study areas is assessed relative to the Mona Offshore Wind Farm impact assessment, and is shown in Table 29.80.

Table 29.80: Magnitude of cumulative operations and maintenance phase employment and GVA impacts.

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

29.10.2.12 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 and community regional study area.

Sensitivity of the receptor

29.10.2.13 As per section 29.8.2, 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 dependant 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

29.10.2.14 The significance of the cumulative effects for each socio-economics study area are set out in Table 29.81.

Table 29.81: Significance of cumulative operation and maintenance phase employment and GVA 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

29.10.2.15 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.

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

29.10.2.17 If decommissioning ports were selected within the same socio-economics and community 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.

29.10.2.18 Within the socio-economics and community 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 significant in EIA terms.

29.10.2.19 Within the Wales socio-economics and community national study area 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 significant in EIA terms.

29.10.2.20 Within the UK socio-economics and community national study area 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 significant in EIA terms.

29.10.3 The potential impact of increased employment opportunities

Construction phase

Magnitude of impact

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

29.10.3.2 As per Table 29.51, the magnitude of impact assessed for the Mona Offshore Wind Project is negligible in North Wales, Northwest England, Wales, and the UK.

29.10.3.3 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 and community study areas is assessed relative to the Mona Offshore Wind Farm impact assessment, and is shown in Table 29.82

Table 29.82: 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)

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

Sensitivity of the receptor

29.10.3.5 As per section 29.8.3, the potential impact of increased employment opportunities is deemed to be of high value and importance, and high vulnerability. The receptor’s recoverability is dependant 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

29.10.3.6 The significance of the cumulative effects for each socio-economics study area are set out in Table 29.83.

Table 29.83: 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

29.10.3.7 Whilst detailed information is not available it is reasonable to assume there is potential for cumulative impact on employment opportunities within the socio-economics and community study areas. This would be dependant on the selection of primary

operation and maintenance ports for other projects within the same socio-economics and community regional study area as the Mona Offshore Wind Project. The likelihood of this situation occurring is strongest with the Morgan Offshore Wind Farm project – there is a possibility operation and maintenance activities for this project will be co-located with the Mona Offshore Wind Project in order to deliver project efficiencies. The same is largely true with regards to the Wales socio-economics and community national study area. The likelihood of cumulative effects occurring within the UK socio-economics and community national study area is greater, as this would be dependant on the selection of primary operation and maintenance ports for other projects within the UK – a situation with a much higher probability of occurring.

29.10.3.8 As per Table 29.58, the magnitude of impact assessed for the Mona Offshore Wind Project is negligible in North Wales, Northwest England, and Wales.

29.10.3.9 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 Mona Offshore Wind Farm impact assessment, and is shown in Table 29.84.

Table 29.84: 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)

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

Sensitivity of the receptor

29.10.3.11 As per section 29.8.3, the potential impact of increased employment opportunities is deemed to be of high value and importance, and high vulnerability. The receptor’s recoverability is dependant 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

29.10.3.12 The significance of the cumulative effects for each socio-economics study area are set out in Table 29.85.

Table 29.85: 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

- 29.10.3.13 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.
- 29.10.3.14 No plans are in place to consider potential locations for decommissioning support ports.
- 29.10.3.15 If decommissioning ports were selected within the same socio-economics and community 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.
- 29.10.3.16 Within the socio-economics and community regional study areas the significance of cumulative effects assessed at construction phase on employment opportunities is negligible. 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.
- 29.10.3.17 Within the Wales socio-economics and community national study area the significance of cumulative effects assessed at construction phase on economic receptors is negligible. 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.
- 29.10.3.18 Within the UK socio-economics and community national study area the significance of cumulative effects assessed at construction phase on economic receptors negligible. 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.

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

Construction phase

Magnitude of impact

- 29.10.4.1 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 and community regional study areas. This would be dependant on the selection of primary construction ports for other projects within the same socio-economics and community regional study area as the Mona Offshore Wind Project. The likelihood of this situation occurring is strongest with the Morgan Offshore Wind Farm project – there is a possibility construction activities for this project will be co-located with the Mona Offshore Wind Project in order to deliver project efficiencies.
- 29.10.4.2 As per Table 29.65, the magnitude of impact assessed for the Mona Offshore Wind Project is negligible in North Wales and Northwest England.
- 29.10.4.3 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 Mona Offshore Wind Farm impact assessment, and is shown in Table 29.86.

Table 29.86: 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)

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

Sensitivity of the receptor

- 29.10.4.5 As per section 29.8.4, 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

- 29.10.4.6 The significance of the cumulative effects for each socio-economics study area are set out in Table 29.87.

Table 29.87: 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

Operation and maintenance phase

Magnitude of impact

- 29.10.4.7 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 and community regional study areas. This would be dependent on the selection of primary operation and maintenance ports for other projects within the same socio-economics and community regional study area as the Mona Offshore Wind Project. The likelihood of this situation occurring is strongest with the Morgan Offshore Wind Farm project – there is a possibility operation and maintenance activities for this project will be co-located with the Mona Offshore Wind Project in order to deliver project efficiencies.
- 29.10.4.8 The magnitude of impact arising from the Mona Offshore Wind Project has been assessed as negligible in North Wales and Northwest England.
- 29.10.4.9 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 Mona Offshore Wind Farm impact assessment, and is shown in Table 29.88.

Table 29.88: 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

- 29.10.4.10 As per section 29.8.4, 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

- 29.10.4.11 The significance of the cumulative effects for each socio-economics study area are set out in Table 29.89.

Table 29.89: 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

- 29.10.4.12 The 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.
- 29.10.4.13 No plans are in place to consider potential locations for decommissioning support ports.
- 29.10.4.14 If decommissioning ports were selected within the same socio-economics and community 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.
- 29.10.4.15 Within the socio-economics and community regional study areas 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.

29.10.5 The potential impact on tourism and recreation.

- 29.10.5.1 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:
 - Morgan Generation Assets: 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.
- 29.10.5.2 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

29.10.5.3 Based on a consideration of the assessment of tourism and recreation impacts associated 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 minor (adverse) significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the cumulative impact is deemed to be negligible and the sensitivity of the receptor is considered to be high. The cumulative effect will, therefore, be of minor (adverse) significance, which is not significant in EIA terms.

Operations and maintenance phase

29.10.5.4 Based on a consideration of the pathways by which tourism and recreation activities might be cumulatively impacted during the construction phase by Mona Offshore Wind Project 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 minor (adverse) significance, which is not significant in EIA terms.
- Northwest England: the magnitude of the cumulative 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.

29.10.5.5 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.

Decommissioning phase

29.10.5.6 Based on a consideration of the pathways by which tourism and recreation activities might be cumulatively impacted during the construction phase by Mona Offshore Wind Project 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 minor (adverse) significance, which is not significant in EIA terms
- Northwest England: the magnitude of the cumulative 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.

29.11 Transboundary effects

29.11.1.1 A screening of transboundary impacts has been carried out and any potential for significant transboundary effects with regard to socio-economics from the Mona Offshore Wind Farm upon the interests of other states has been assessed as part of this PEIR. The potential transboundary impacts are assessed within volume 5, annex 5.4: Transboundary screening of the PEIR and are summarised below:

29.11.1.2 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.

29.11.1.3 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 29.90.

Table 29.90: 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	<p><i>Potential effects on commercially important fish and shellfish resources will be restricted to the Mona Array Area and immediate surrounding areas, with the exception of underwater noise and the impacts of increased suspended sediment concentrations and associated sediment deposition. Effects of underwater noise on fish and shellfish receptors, and therefore commercial fisheries receptors, are not predicted to extend beyond UK and Isle of Man waters. The identified tidal excursion of 20km means that any increased SSC is likely to settle out before crossing any international boundaries, suggesting this impact is unlikely to have any significant transboundary effect on fish and shellfish stocks and therefore commercial fisheries receptors. Therefore, the potential transboundary impact of effects on commercially important fish and shellfish stocks is concluded to be not significant in EIA terms.</i></p> <p><i>Displacement of fishing vessels could occur into non-UK waters, such as the Isle of Man waters. However, it is not anticipated that there would be a significant displacement of fishing vessels into these EEZs, based on the established fishing grounds of the receptor groups within this assessment. For example, scallop vessels may be displaced into Isle of Man waters from the Mona Array Area, but due to the extensive king scallop grounds within the Irish Sea and the current management measures in place for this fishery in the Isle of Man, this impact is concluded as not significant. Queen scallop grounds are more discrete, however there are strict management measures in place which also control this fishery in Isle of Man waters, which would limit the displacement of scallop vessels targeting queen scallops into Isle of Man waters. Therefore, the potential transboundary impact of effects on displacement of fishing vessels is concluded to be not significant in EIA terms.</i></p>	No significant indirect transboundary effects.

Topic	Assessment of transboundary effects	Linkages to socio-economics
Volume 2, chapter 12: Shipping and Navigation of the PEIR	<i>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 chapter. Therefore, no additional transboundary impacts are anticipated [emphasis added].</i>	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	<i>A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to other sea users from the Mona Offshore Wind Project upon the interests of other states.</i>	No significant indirect transboundary effects
Volume 4, chapter 26: Seascape, landscape and visual resources of the PEIR.	<i>A screening of transboundary impacts has been carried out and has identified that there was no potential for significant transboundary effects with regard to seascape, landscape and visual resources from the Mona Offshore Wind Project upon the interests of other states.</i>	No significant indirect transboundary effects.

related effects (offshore) of the PEIR and volume 3, chapter 25: Inter-related effects (onshore) of the PEIR.

29.13 Summary of impacts, mitigation measures and monitoring

29.13.1.1 Table 29.91 to Table 29.94 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.

29.13.1.2 Table 29.95 to Table 29.98 present a summary of the potential cumulative socio-economic impacts, mitigation measures and residual effects.

29.13.1.3 No potential transboundary impacts have been identified in regard to socio-economic effects of the Mona Offshore Wind Farm.

29.11.1.4 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.

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

29.12 Inter-related effects

29.12.1.1 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 Mona Offshore Wind Project (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 and community, 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.

29.12.1.2 A description of the likely interactive effects arising from the Mona Offshore Wind Project on socio-economics and community is provided in volume 2, chapter 15: Inter-

Table 29.91: Summary of potential environmental effects, mitigation and monitoring – North Wales socio-economics and community 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 29.92: Summary of potential environmental effects, mitigation and monitoring – Northwest England socio-economics and community 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: 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 29.93: Summary of potential environmental effects, mitigation and monitoring – Wales socio-economics and community national 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

Table 29.94: Summary of potential environmental effects, mitigation and monitoring – UK socio-economics and community national 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: Low (beneficial) D: Negligible	C: High D: High	C: Moderate (beneficial) D: Minor (beneficial)	N/A	C: 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 D: Negligible	C: High D: High	C: Minor (beneficial) D: Minor (beneficial)	N/A	C: Minor (beneficial) D: Minor (beneficial)	N/A

Table 29.95: Summary of potential cumulative environmental effects, mitigation and monitoring – North Wales socio-economics and community 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 (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Moderate (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Major (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: Medium (beneficial) O: Medium (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 on the demand for housing, accommodation and local services.	✓	✓	✓	N/A	C: Medium (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: Moderate (beneficial) O: Minor (beneficial) D: Minor (beneficial)	N/A
The impact on tourism and recreation.	✓	✓	✓	N/A	C: Low (adverse) O: Low (adverse) D: Low (adverse)	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 29.96: Summary of potential cumulative environmental effects, mitigation and monitoring – Northwest England socio-economics and community 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 (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Major (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Major (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: Medium (beneficial) O: Low (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 on the demand for housing, accommodation and local services.	✓	✓	✓	N/A	C: Medium (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: Moderate (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 29.97: Summary of potential cumulative environmental effects, mitigation and monitoring – Wales socio-economics and community national 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: High (beneficial) O: Medium (beneficial) D: Low (beneficial)	C: High O: High D: High	C: Major (beneficial) O: Moderate (beneficial) D: Minor (beneficial)	N/A	C: Major (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: Medium (beneficial) O: Low (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

Table 29.98: Summary of potential cumulative environmental effects, mitigation and monitoring – UK socio-economics and community national 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: High (beneficial) D: Low (beneficial)	C: High D: High	C: Major (beneficial) D: Minor (beneficial)	N/A	C: Major (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

29.14 Next steps

29.14.1 Consideration of economic impact scenarios

29.14.1.1 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.

29.14.2 Consideration of potential indirect impacts

29.14.2.1 The PEIR has identified the following potential impacts which may result in indirect effects on socio-economic receptors.

Potential socio-economics and community effects relevant to the Isle of Man

29.14.2.2 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.

29.14.2.3 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 Mona Offshore Wind Project and are set out in Table 29.99 below.

Table 29.99: Commitments made to address shipping and navigation significant effects.

Commitment		
Mona Offshore Wind Project Array Area boundary design.	The Mona Offshore Wind Project has committed to exploring additional risk controls through further studies and engagement with stakeholders to ensure that they are appropriate and adequate for reducing risks to ALARP prior to submission of the DCO application. Appropriate risk controls will then be secured through the DCO or the marine licence(s). These will be explored in collaboration with other developers of cumulative projects.	Designed to increase manoeuvring space and reduce impact to operators. Specifically this will increase the offset between the Mona Array Area and the approaches to the Liverpool Bay TSS, and a reduction in the northern extent of the Mona Array Area.
Site layout design	Commitment to two lines of orientation	To facilitate internal navigation in the Mona 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.

29.14.2.4 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 and community assessment for the DCO application.

29.14.2.5 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 and community 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 29.99 above).

29.14.2.6 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.
- In the event effects are deemed significant, the Socio-economics and community chapter in the Environmental Statement will include an assessment of the potential indirect socio-economics and community effects on the Isle of Man.

29.14.2.7 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 Mona Offshore Wind Project.

29.14.2.8 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.
- In the event effects are deemed significant, the Socio-economics and community 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

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

29.14.2.10 The Applicant has committed to exploring these additional mitigation measures through further studies and engagement with stakeholders to ensure they are

MONA OFFSHORE WIND PROJECT

appropriate and adequate for reducing impacts on commercial fisheries prior to submission of the DCO application.

29.14.2.11 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 and community assessment for the DCO application.

29.14.2.12 The Socio-economics and community 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 and community 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.

29.14.2.13 Further 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.

29.15 References

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