



Morven Hawthorn Pit Grid Connection Project

Preliminary Environmental Information Report

Volume 4, Annex 3.1: Economic Impact
Technical Report

MVCNS-J4029-BGR-00002
October 2026
B01

Document status

Version	Purpose of document	Authored by	Checker	Approved by	Date
B01	PEIR	BiGGAR	JG	LS	October 2026

Prepared by:	Prepared for:
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Table of contents

Table of contents	1
Executive Summary.....	1
1 Introduction	1
1.1 Overview.....	1
1.2 Consultation and engagement	1
1.3 Report structure.....	2
2 Methodology	3
2.1 Study Area.....	3
2.2 Approach to economic impacts	5
2.3 Data sources.....	5
2.4 Input-output modelling.....	5
2.5 Net economic impact.....	7
3 Economic impact of the MHPGC Project.....	8
3.1 Introduction	8
3.2 Economic impact of the MHPGC Project.....	8
3.3 MHPGC Project together with Morven North or Morven South.....	11
3.4 Morven Programme	14
4 Summary	17
5 References.....	19

List of tables

Table 1.1: Summary of scoping responses relevant to Economic Impact Technical Report	2
Table 3.1: MHPGC Project construction spending (£m).....	8
Table 3.2: MHPGC Project construction GVA impact (£m)	9
Table 3.3: MHPGC Project construction employment impact (years of employment).....	9
Table 3.4: MHPGC Project O&M spending (£m) per annum.....	9
Table 3.5: MHPGC Project O&M GVA impact (£m) per annum	10
Table 3.6: MHPGC Project O&M employment impact (jobs)	10
Table 3.7: MHPGC Project decommissioning spending (£m)	10
Table 3.8: MHPGC Project decommissioning GVA impact (£m)	11
Table 3.9: MHPGC Project decommissioning employment impact (years of employment)	11
Table 3.10: MHPGC Project and Morven North or Morven South construction spending (£m)	12
Table 3.11: MHPGC Project and Morven North or Morven South construction GVA impact (£m)	12
Table 3.12: MHPGC Project and Morven North or Morven South construction employment impact (years of employment)	12
Table 3.13: MHPGC Project and Morven North or Morven South O&M spending (£m) per annum	12

Table 3.14: MHPGC Project and Morven North or Morven South O&M GVA impact (£m) per annum	13
Table 3.15: MHPGC Project and Morven North or Morven South O&M employment impact (jobs)	13
Table 3.16: MHPGC Project and Morven North or Morven South decommissioning spending (£m)	13
Table 3.17: MHPGC Project and Morven North or Morven South decommissioning GVA impact (£m)	13
Table 3.18: MHPGC Project and Morven North or Morven South decommissioning employment impact (years of employment)	14
Table 3.19: Morven Programme construction spending (£m)	14
Table 3.20: Morven Programme construction GVA impact (£m)	14
Table 3.21: Morven Programme construction employment impact (years of employment)	15
Table 3.22: MHPGC Project and Morven North or Morven South O&M spending (£m) per annum	15
Table 3.23: Morven Programme O&M GVA impact (£m) per annum	15
Table 3.24: Morven Programme O&M employment impact (jobs)	15
Table 3.25: Morven Programme decommissioning spending (£m)	16
Table 3.26: Morven Programme decommissioning GVA impact (£m)	16
Table 3.27: Morven Programme decommissioning employment impact (years of employment)	16

List of figures

Figure 2.1: Socio-economics Local Study Area	4
Figure 2.2: Direct GVA impact – worked example	6
Figure 2.3: Indirect GVA impact – worked example	6
Figure 2.4: Induced GVA impact – worked example	6
Figure 2.5: Total GVA impact – worked example	7

Glossary

Term	Meaning
the Applicant	The legal entity making the application for consent; Morven Offshore Wind Limited (MvOWL).
Employment (Jobs)	This is a measure of economic output, the economic value added by an organisation, industry or region and is typically estimated by subtracting the non-staff operational costs from the turnover of an organisation.
Gross Value Added	A measure of economic activity that a company or industry accounts for, that is calculated by subtracting expenditure on goods and expenditure from turnover.
Marine Directorate Licensing Operations Team (MD-LOT)	The part of the Scottish Government's Marine Directorate responsible for assessing and administering applications for marine licences and Section 36 consent (offshore) in Scotland.
Marine Management Organisation (MMO)	The MMO, as a UK government body, is responsible for licensing, regulating and overseeing activities in the marine environment for English waters. For a DCO and deemed marine licence, the MMO acts as a statutory consultee, advising on marine planning, environmental impacts, habitats and compliance with marine licensing regulations.
MHPGC Project Scoping Opinions	Separate scoping opinions received from PINS (on behalf of the Secretary of State) and MD-LOT (on behalf of the Scottish Ministers) in response to the MHPGC Project Scoping Report. The MHPGC Project Scoping Opinions contain the range of issues that PINS, and MD-LOT in consultation with statutory stakeholders, have identified should be considered within the EIA process.
MHPGC Project Scoping Report	A Scoping Report for the MHPGC Project, scoping the likely significant effects of the project on the environment, was submitted and accepted by Planning Inspectorate (PINS) and submitted to the Scottish Ministers, via the Marine Directorate – Licensing Operations Team (MD-LOT) in February 2025.
MHPGC Project Preliminary Environmental Information Report (PEIR)	Report that assesses the preliminary environmental impacts of the MHPGC Project, prior to the preparation of the Environmental Statement.
Morven Branxton Area Grid Connection Project (hereafter 'MBAGC Project')	The Morven Branxton Area Grid Connection Project will be comprised of the offshore export cable in Scottish waters from the Morven North or the Morven South Offshore Substation Platforms, the onshore export cable and the onshore land substation in the vicinity of Branxton in East Lothian, Scotland.

Term	Meaning
Morven Hawthorn Pit Grid Connection Project (hereafter 'MHPGC Project')	The MHPGC Project is comprised of the offshore export cables in Scottish and English waters from the Morven North or the Morven South offshore substation platform(s) (OSP), landfall, onshore export cables, the onshore land substation (LSS) and AC connection cables.
Morven North Offshore Wind Array Project (hereafter 'Morven North')	The Morven North Offshore Wind Array Project which includes the wind turbines and foundations, Offshore Substation Platforms and foundations, inter-array and interconnector cables and associated infrastructure located within the Morven North Boundary.
Morven South Offshore Wind Array Project (hereafter 'Morven South')	The Morven South Offshore Wind Array Project, which includes the wind turbines and foundations, Offshore Substation Platforms and foundations, inter-array and interconnector cables and associated infrastructure located within the Morven South Boundary.
Morven Programme	The Morven Programme comprises the MHPGC Project, Morven North, Morven South and MBAGC Project collectively.
Planning Inspectorate (PINS)	The PINS is an executive agency of the UK Government responsible for administering and examining DCO applications for NSIPs in England. PINS manages the application process, oversees consultation and examination, and makes a recommendation to the relevant Secretary of State on whether consent should be granted.
Years of employment	This is a measure of employment which is equivalent to one person being employed for a year and is typically used when considering short-term employment impacts, such as those associated with construction.

Acronyms

Acronym	Meaning
EIA	Environmental Impact Assessment
GVA	Gross Value Added
LSS	Onshore land substation
MBAGC	Morven Branxton Area Grid Connection
MD-LOT	Marine Directorate Licensing Operations Team
MHPGC	Morven Hawthorn Pit Grid Connection
MMO	Marine Management Organisation
MvOWL	Morven Offshore Wind Limited
O&M	Operations and Maintenance
ONS	Office of National Statistics
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
SoS	Secretary of State
SCDS	Supply Chain Development Statement
UK	United Kingdom

Units

Unit	Meaning
£	Pounds Sterling
£m	Million Pounds Sterling

Executive Summary

The Economic Impact Technical Report presents the economic impact that the Morven Hawthorn Pit Grid Connection Project (hereafter 'the MHPGC Project') is expected to make in the Socio-economics Local Study Area (the administrative boundary of Durham County Council and Sunderland City Council), as well as the other Socio-economics Study Areas of Scottish, English and UK economies during the construction, operation and maintenance (O&M), and decommissioning phases.

Economic impacts were estimated by applying a purpose-built and well-recognised economic impact tool which uses an input-output methodology and is based on the expected expenditure in each Socio-economics Study Area. Economic impacts are presented in terms of Gross Value Added (GVA), a measure of the economic contribution that an organisation or industry makes) and employment.

It was estimated that during the construction phase, there would be supply chain contract and job opportunities in civil engineering and construction in particular (in the Socio-economics Local Study Area) and development and cable laying (in Scotland). It was estimated that the MHPGC Project could support:

- £31 million GVA and 430 years of employment in Scotland;
- £15 million GVA and 190 years of employment in the Socio-economics Local Study Area;
- £77 million GVA and 970 years of employment in England;
- £111 million GVA and 1,450 years of employment in the UK.

Similarly, during the O&M phase, there are expected to be opportunities associated with balance of plant maintenance. It was estimated that the annual economic impact would be:

- £<1 million GVA per annum and <10 jobs in the Socio-economics Local Study Area;
- £1 million GVA per annum and 10 jobs in England;
- £1 million GVA per annum and 10 jobs in the UK.

While the decommissioning phase is likely to be several decades into the future and the industry is difficult to predict, it was estimated that the economic impact of decommissioning the onshore land substation (LSS) would be:

- £9 million GVA and 110 years of employment in the Socio-economics Local Study Area;
- £28 million GVA and 340 years of employment in England;
- £30 million GVA and 370 years of employment in the UK.

In addition, there are expected to be potential impacts associated with the combination of the transmission asset (MHPGC Project) with the generation asset (either Morven North Offshore Wind Array Project (Morven North) or Morven South Offshore Wind Array Project (Morven South), that the MHPGC Project will be to be connected to), equating to half of the overall Morven Programme. Taking these into account and presenting impacts at the Scottish and UK level, it was estimated that the economic impact during the construction phase would be:

- £334 million GVA and 4,730 years of employment in Scotland;
- £480 million GVA and 7,020 years of employment in England;
- £814 million GVA and 11,750 years of employment in the UK.

During the O&M phase of the MHPGC Project together with Morven North or Morven South, it was estimated the annual economic impact would be:

- £7 million GVA per annum and 90 jobs in Scotland;
- £12 million GVA per annum and 150 jobs in England;
- £19 million GVA per annum and 240 jobs in the UK.

During the decommissioning phase of the Project together with Morven North or Morven South, it was estimated the economic impact would be:

- £44 million GVA and 530 years of employment in Scotland;
- £60 million GVA and 730 years of employment in England;
- £104 million GVA and 1,260 years of employment in the UK.

In addition, when the Morven Programme is considered, which includes Morven North, Morven South and the Morven Branxton Area Grid Connection (MBAGC) Project, in addition to the MHPGC Project, it is anticipated that total expenditure will be £6.8 billion. Taking this into account, it was estimated that the economic impact during the construction phase would be:

- £690 million GVA and 9,680 years of employment in Scotland;
- £925 million GVA and 13,650 years of employment in England;
- £1.6 billion GVA and 23,330 years of employment in the UK.

During the O&M phase of the Morven Programme, it was estimated the annual economic impact would be:

- £12 million GVA per annum and 160 jobs in Scotland;
- £25 million GVA per annum and 320 jobs in England;
- £37 million GVA per annum and 480 jobs in the UK.

During the decommissioning phase of the Morven Programme, it was estimated the economic impact would be:

- £102 million GVA and 1,240 years of employment in Scotland;
- £106 million GVA and 1,290 years of employment in England;
- £209 million GVA and 2,530 years of employment in the UK.

1 Introduction

1.1 Overview

- 1.1.1.1 This report presents the economic impact for the Morven Hawthorn Pit Grid Connection Project (hereafter 'the MHPGC Project'). It forms **Volume 4, Annex 3.1: Economic Impact Technical Report, of the Preliminary Environmental Information Report (PEIR)** prepared for the MHPGC Project and supports **Volume 4, Chapter 3: Socio-economics, of the PEIR**.
- 1.1.1.2 The Economic Impact Technical Report presents the economic impact that the MHPGC Project is expected to make in the Socio-economics Local Study Area and to the Scottish, English and UK economies during the construction, operation and maintenance (O&M), and decommissioning phases.
- 1.1.1.3 While consent for the MHPGC Project will be sought separately, this Economic Impact Technical Report also considers the impact of the MHPGC Project with either Morven North Offshore Wind Array Project (Morven North) or Morven South Offshore Wind Array Project (Morven South). It has been assumed that the impact will be the same, regardless of whether the MHPGC Project is connected to Morven North or Morven South. The economic impact of the Morven Programme includes the MHPGC Project, Morven North, Morven South and the Morven Branxton Area Grid Connection (MBAGC) Project.
- 1.1.1.4 Therefore, in addition to the impact of the MHPGC Project this Economic Impact Technical Report also assesses the economic impacts associated with the scenarios described in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR**, including:
- Scenario 1 – the MHPGC Project and Morven North;
 - Scenario 2 – the MHPGC Project and Morven South;
 - Scenario 3 – the Morven Programme, including the MHPGC Project, Morven North, Morven South and the MBAGC Project.
- 1.1.1.5 The purpose of this Economic Impact Technical Report is to provide:
- Detail on the methodology, assumptions and calculations of the economic impact estimates of the MHPGC Project in isolation;
 - An overview of the economic impacts expected to be associated with the MHPGC Project in addition to either Morven North or Morven South;
 - An overview of the economic impacts expected to be associated with the Morven Programme.
- 1.1.1.6 The economic impact assessment draws on a range of information, including publicly available information about the development of the offshore wind sector, commercial data from Morven Offshore Wind Limited (MvOWL) (hereafter 'the Applicant') and professional experience.

1.2 Consultation and engagement

- 1.2.1.1 A Scoping Report for the MHPGC Project was issued to the Planning Inspectorate (PINS) and Marine Directorate – Licencing Operations Team (MD-LOT) in February 2025 (RPS, 2025). Following consultation with the appropriate statutory bodies, PINS (on behalf of the Secretary of State (SoS)) and MD-LOT both provided Scoping Opinions in March 2025 (PINS, 2025; MD-LOT, 2025, respectively).
- 1.2.1.2 **Section 1.3 of Volume 4, Chapter 3: Socio-economics, of the PEIR** sets out the key comments raised during the scoping process specific to socio-economics, with **Table 1.1** summarising how comments relevant to the Economic Impact Technical Report have been addressed within the report.

Table 1.1: Summary of scoping responses relevant to Economic Impact Technical Report

Comment	How and where considered in the PEIR
Marine Analytical Unit	
We recommend that the assessment takes into account deadweight, leakage, displacement and substitution, and that sensitivity analysis will be performed to account for risk, uncertainty and optimism bias.	These factors are considered within Section 3.5 of this Economic Impact Technical Report.

1.3 Report structure

1.3.1.1 The Economic Impact Technical Report is structured as follows:

- **Section 2** provides an overview of the methodology utilised to estimate economic impact;
- **Section 3** quantifies the economic impact associated with the MHPGC Project and the cumulative economic impact of either Morven North or Morven South, and the Morven Programme;
- **Section 4** provides a summary of the economic impacts as quantified in **Section 3**.

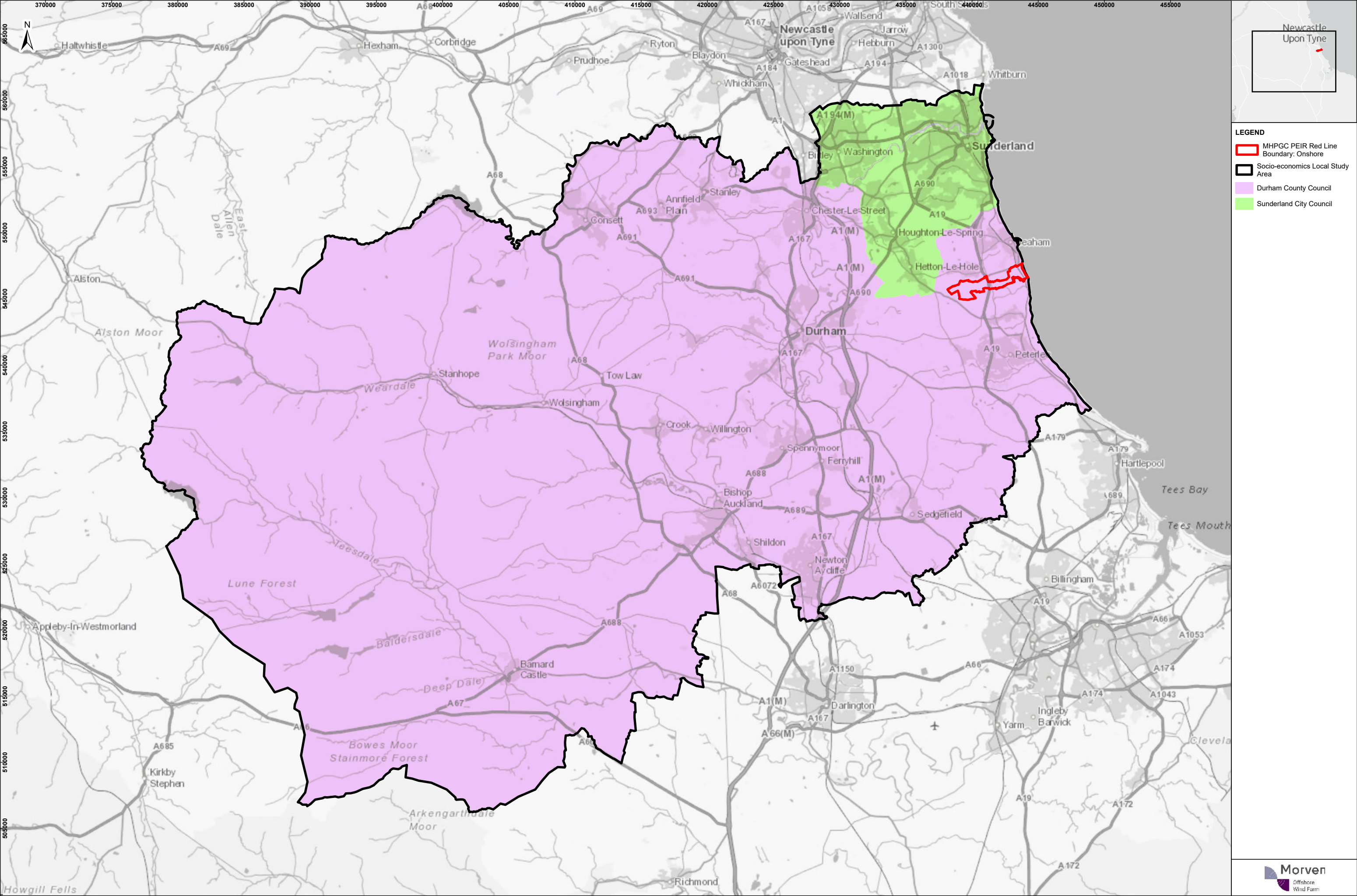
2 Methodology

2.1 Study Area

2.1.1.1 **Volume 1, Chapter 2: Project Description, of the PEIR** sets out the description of the MHPGC Project. The MHPGC Project consists of an offshore component, in Scottish and English waters, and an onshore component, in England. On this basis, the following Socio-economics Study Areas have been identified:

- The Socio-economics Local Study Area, comprising the administrative boundaries of Durham County Council and Sunderland City Council;
- England;
- Scotland;
- The UK.

2.1.1.2 All of the impacts presented for the UK include Scotland and England, and all of the impacts presented for England include the Socio-economics Local Study Area (**Figure 2.1**).



2.2 Approach to economic impacts

2.2.1.1 The estimation of the economic benefits is based on a purpose-built and well-recognised economic impact tool. The analysis is based on an input-output methodology using the following steps:

- Estimation of the total investment (construction, O&M and decommissioning);
- Estimation of the how value is split by different categories of expenditure;
- Estimation of contract content by Socio-economics Study Area (i.e. The proportion of each contract type that could be secured within Scotland, the Socio-economics Local Study Area, England and the UK);
- Conversion of contract values into the direct employment supported (based on turnover per employee in the relevant sectors for the suppliers of each type of goods and services);
- Estimation of direct Gross Value Added (GVA) based on direct employment supported;
- Estimation of supply chain (indirect) impacts on GVA and employment;
- Estimation of staff spending (induced) impacts on GVA and employment.

2.2.1.2 While the level of decommissioning spending is not available at this stage, the analysis considered the decommissioning phase based on industry expectations of the scale of spending required and on the assumption that the contract types will be similar to the construction phase.

2.3 Data sources

2.3.1.1 The assessment is based on information from a number of sources, including:

- Professional experience working with developers in the offshore wind sector and publicly available data, including BVG Associates' Guide to an Offshore Wind Farm (BVG Associates, 2021) (BVG Associates, 2025);
- Commercial data from the Supply Chain Development Statement (SCDS) (bp/EnBW, 2023);
- Classification of economic activity from the Office for National Statistics (ONS) Standard Industrial Classification of Economic Activity (ONS, 2024);
- Scottish Annual Business Statistics for data on GVA, turnover and employment across Scotland (Scottish Government, 2024);
- UK Annual Business Survey for data on GVA, turnover and employment across the UK (ONS, 2024);
- Scottish Government Input-Output GVA and employment multipliers for Type 1 impacts (supply chain spending) and Type 2 impacts (supply chain spending and staff spending (Scottish Government, 2023));
- UK Input-Output GVA and employment multipliers for Type 1 and Type 2 impacts (ONS, 2023).

2.3.1.2 As the information on expenditure is based on the SCDS, which is in 2023 prices, the economic impacts are presented in 2023 prices.

2.4 Input-output modelling

2.4.1 Metrics of assessment

2.4.1.1 Economic impacts are expressed in terms of:

- GVA: a measure of economic activity expressed as the difference between an organisation's turnover and its non-staff operational expenditure;
- Years of employment: a measure of short-term employment used in the context of jobs associated with development and construction activity. For example, a job lasting for six months would be 0.5 years of employment; two jobs lasting six months would be 1 year of employment, etc;
- Jobs: a measure of employment used to reflect long-term employment such as during the O&M phase.

2.4.2 Types of impact

2.4.2.1 The GVA and employment impacts include:

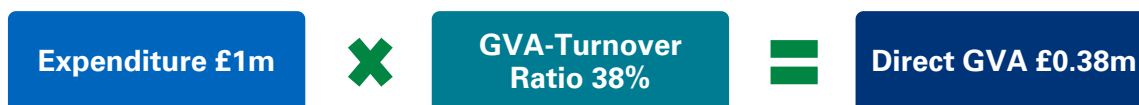
- Direct economic impacts: economic impact associated with the activity of primary contractors involved in development and construction, O&M and decommissioning. This was captured using the ratio of turnover to GVA and employment in relevant sectors, e.g. the level of employment supported by a given expenditure (Scottish Government, 2024) (ONS, 2024);
- Indirect economic impacts: economic impact associated with the spending taking place across the supply chain of those businesses involved in development and construction, O&M and decommissioning. This was captured using indirect (Type 1) economic multipliers (Scottish Government, 2023) (ONS, 2023);
- Induced economic impacts: economic impact associated with staff spending in the wider economy from businesses, involved in development and construction, O&M and decommissioning. This was captured using induced (Type 2 minus Type 1) economic multipliers (Scottish Government, 2023) (ONS, 2023).

2.4.3 Worked example

2.4.3.1 This section provides a worked example of how the direct, indirect and induced GVA impacts have been calculated.

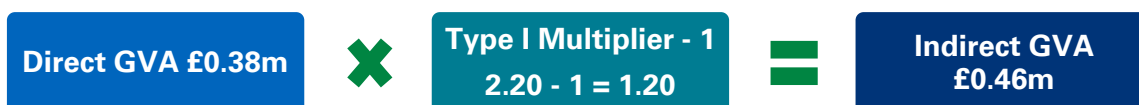
2.4.3.2 Expenditure was first broken down by contract type in each Socio-economics Study Area and the relevant economic sector was identified for each contract type. To determine the direct GVA impact the relevant turnover to GVA ratios from the ONS Annual Business Survey (ONS, 2024) were then applied, as shown in **Figure 2.2**.

Figure 2.2: Direct GVA impact – worked example



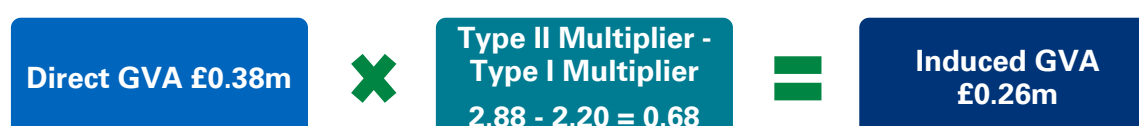
2.4.3.3 Alongside the direct impact generated by the MHPGC Project, there will be an impact on the supply chain of those businesses being awarded project-related contracts. To estimate indirect impacts, Type 1 multipliers were sourced from the Scottish and UK Input-Output Tables (Scottish Government, 2023) (ONS, 2023), which were applied as shown in **Figure 2.3**.

Figure 2.3: Indirect GVA impact – worked example



2.4.3.4 The analysis also reports on induced impacts, which are the result of those employed to carry out project-related work spending their salaries and wages across the economy. To calculate induced impacts, it was necessary to subtract Type 1 multipliers from Type 2 multipliers (Scottish Government, 2023) (ONS, 2023), which were applied as shown in **Figure 2.4**.

Figure 2.4: Induced GVA impact – worked example



2.4.3.5 The direct, indirect and induced impacts are then added to give the total impact, as shown in **Figure 2.5**.

Figure 2.5: Total GVA impact – worked example



2.4.3.6 For each of the impacts, the following rounding has been applied:

- Turnover and GVA impacts are rounded to the nearest £1 million. Figures below £500,000 are presented as £<1 million;
- Employment impacts are rounded to the nearest 10. Employment impacts below five are presented as <10.

2.5 Net economic impact

2.5.1.1 In accordance with the scoping response from the Marine Analytical Unit (see **Table 1.1**), the assessment also considers:

- **Deadweight:** any economic activity that would take place anyway, even if the MHPGC Project did not proceed. The MHPGC Project requires substantial capital investment, and it has been assumed that if it did not proceed this capital investment would not take place;
- **Leakage:** when expenditure takes place in an economy, not all of that expenditure is retained within that economy. Some of the spending may benefit other economies. This is known as leakage. Leakage has been accounted for in the analysis by making assumptions on the proportion of each category of expenditure (for each contract type) that directly benefits the economy in each Socio-economics Study Area;
- **Displacement:** economic activity that would not happen as a consequence of the Morven Programme, for example because the Morven Programme uses resources that would otherwise be used by another project. The assessment considers the impacts associated with other offshore wind developments, including whether Scottish and UK activity would be displaced;
- **Substitution:** activity that would have occurred without government intervention. Any investment attracted by government intervention is not expected to substitute for any other investment in the UK economy, since investors are operating on a level playing field, and therefore it was not necessary to adjust the analysis for substitution.

2.5.1.2 As the assessment is based on the worst case scenario (i.e. the lowest expected level of spend), no sensitivity assessment has been undertaken.

3 Economic impact of the MHPGC Project

3.1 Introduction

- 3.1.1.1 Applying the methodology set out in **Section 2**, this section sets out the economic impacts associated with the MHPGC Project. This includes the construction phase, the O&M phase and the decommissioning phase, and is considered the worst case scenario (i.e. the assessment with the lowest potential economic impacts based on the SCDS). The construction phase is expected to last 4.5 years and the O&M phase is up to 35 years, while the decommissioning phase is expected to be shorter than the construction phase.
- 3.1.1.2 In addition, the section assesses the economic impacts associated with the scenarios described in **Volume 1, Chapter 4: Approach to Environmental Impact Assessment, of the PEIR**, including:
- Scenario 1 – the MHPGC Project and Morven North;
 - Scenario 2 – the MHPGC Project and Morven South;
 - Scenario 3 – the Morven Programme, including the MHPGC Project, Morven North, Morven South and the MBAGC Project.

3.2 Economic impact of the MHPGC Project

3.2.1 Construction

- 3.2.1.1 Based on publicly available information from the initial SCDS (bp/EnBW, 2023) and industry reports (BVG Associates, 2021) (BVG Associates, 2025), it is anticipated that the total expenditure associated with the construction of the MHPGC Project will be £740 million. Assumptions were then made about the share of contracts that could be secured in each Socio-economics Study Area and this was used to inform the economic impact assessment.
- 3.2.1.2 It is anticipated that the main opportunities for the Socio-economics Local Study Area, England and the UK will relate to civil engineering and construction contracts, while the main opportunity in Scotland will be related to professional services and cable laying. The largest element of expenditure will be on the offshore cable and offshore cable installation, which is likely to be secured by a supplier based outside of the UK.
- 3.2.1.3 On this basis it was assumed that of the £740 million total construction cost, £101 million would be secured in the UK, with £40 million secured in Scotland, £28 million secured in the Socio-economics Local Study Area, and £60 million secured in England (which includes the Socio-economics Local Study Area).

Table 3.1: MHPGC Project construction spending (£m)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK	Total
Expenditure	40	28	60	101	740

- 3.2.1.4 As discussed in **Section 2.4**, the economic impact of this expenditure was then estimated by applying ratios of turnover/GVA and turnover per employee for the relevant sector, and the indirect (supplier spending) and induced (staff spending) impacts were then estimated by applying economic multipliers to the direct impacts.
- 3.2.1.5 On this basis, it was estimated that the total economic impact of the MHPGC Project would be £111 million GVA and 1,450 jobs in the UK. Of this it was estimated that £31 million GVA and 430 jobs would be supported in Scotland, £15 million GVA and 190 jobs in the Socio-economics Local Study Area and £77 million GVA and 970 jobs in England (which includes the Socio-economics Local Study Area).

Table 3.2: MHPGC Project construction GVA impact (£m)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK
Direct	19	9	21	40
Indirect	6	3	30	37
Direct + indirect	25	13	50	77
Induced	5	3	27	34
Total	31	15	77	111

Note, totals may not sum due to rounding

Table 3.3: MHPGC Project construction employment impact (years of employment)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK
Direct	280	110	250	530
Indirect	90	40	360	480
Direct + indirect	370	150	610	1,010
Induced	60	30	360	440
Total	430	190	970	1,450
Peak Employment	70	80	320	410

Note, totals may not sum due to rounding (to nearest 10). Peak employment is when the highest annual employment impact is expected.

3.2.2 Operation and maintenance

3.2.2.1 Based on information from the Applicant and industry reports, it is anticipated that there will be O&M spending worth £2 million per annum (mainly balance of plant). Of this, it was estimated that £1 million could be secured in the UK and England, with less than £1 million secured in the Socio-economics Local Study Area.

Table 3.4: MHPGC Project O&M spending (£m) per annum

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK	Total
Expenditure	<1	<1	1	1	2

3.2.2.2 Applying appropriate economic ratios and multipliers, it was estimated that the annual economic impact from O&M would be £1 million GVA per annum and around 10 jobs in the UK, with less than £1 million GVA and less than 10 jobs secured in Scotland, less than £1 million GVA and less than 10 jobs secured in the Socio-economics Local Study Area and £1 million GVA and 10 jobs secured in England (which includes the Socio-economics Local Study Area).

Table 3.5: MHPGC Project O&M GVA impact (£m) per annum

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK
Direct	<1	<1	<1	<1
Indirect	<1	<1	<1	<1
Direct + indirect	<1	<1	1	1
Induced	<1	<1	<1	<1
Total	<1	<1	1	2

Table 3.6: MHPGC Project O&M employment impact (jobs)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK
Direct	<10	<10	<10	10
Indirect	<10	<10	<10	10
Direct + indirect	<10	<10	10	20
Induced	<10	<10	<10	<10
Total	<10	<10	20	30

3.2.3 Decommissioning

- 3.2.3.1 While the level of decommissioning spend is not known, industry studies (BVG Associates, 2021) on the cost of decommissioning an offshore wind farm suggest that the cost of decommissioning the MHPGC Project could be approximately £47 million. It should be noted that this is based on the onshore export cables, Alternating Current (AC) connection cables and offshore export cables and cable protection remaining in-situ and not being decommissioned. If these were to be decommissioned the total spend would be higher.
- 3.2.3.2 It was assumed that 80% of contracts would be secured in the UK and England, primarily associated with the decommissioning of the onshore land substation (LSS), with some more specialised contracts being secured outside of the UK. It was then assumed that half of UK contracts could be secured in Socio-economics Local Study Area. It should be noted that decommissioning is expected to take place several decades after the time of writing and so it is possible that the capacity of the UK economy to undertake decommissioning work may change in that period.
- 3.2.3.3 On this basis, of the £47 million total, it was assumed that £38 million could be secured in England and the UK, with £19 million secured in the Socio-economics Local Study Area (included as part of the England and UK impact).

Table 3.7: MHPGC Project decommissioning spending (£m)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK	Total
Expenditure	-	19	38	38	47

3.2.3.4 Applying appropriate economic ratios and multipliers, it was estimated that the economic impact from decommissioning would be £30 million GVA and 370 years of employment in the UK. Of this it was estimated that the Socio-economics Local Study Area could secure £9 million GVA and 110 years of employment and £28 million GVA and 340 years of employment in England (which includes the Socio-economics Local Study Area).

Table 3.8: MHPGC Project decommissioning GVA impact (£m)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK
Direct	-	6	11	11
Indirect	-	2	9	10
Direct + indirect	-	7	21	22
Induced	-	2	8	9
Total	-	9	28	30

Note, totals may not sum due to rounding

Table 3.9: MHPGC Project decommissioning employment impact (years of employment)

	Scotland	Socio-economics Local Study Area	England (including Socio-economics Local Study Area)	UK
Direct	-	70	130	130
Indirect	-	20	120	130
Direct + indirect	-	90	250	260
Induced	-	20	90	100
Total	-	110	340	370

Note, totals may not sum due to rounding; Note, peak employment is not included in this table as was the case for construction, since decommissioning is too far into the future for the detailed programme of work and therefore employment patterns to be known.

3.3 MHPGC Project together with Morven North or Morven South

3.3.1 Introduction

3.3.1.1 This section sets out the impacts associated with the whole project; MHPGC Project and either Morven North or Morven South, which corresponds to Scenario 1 or Scenario 2 described in **Volume 1, Chapter 4: Approach to EIA, of the PEIR**. This includes the construction phase, the O&M phase and the decommissioning phase. These are set out for three of the Socio-economics Study Areas: Scotland, England and the UK. Whole project economic impacts have not been considered at the level of the Socio-economics Local Study Area as there will be no impacts associated with either Morven North or Morven South.

3.3.2 Construction

3.3.2.1 When the MHPGC Project and Morven North or Morven South were combined, it was assumed that the total construction spending would be £3.5 billion. Of this, £758 million would be secured in the UK, of which £478 million would be secured in Scotland and £280 million in England.

Table 3.10: MHPGC Project and Morven North or Morven South construction spending (£m)

	Scotland	England	UK	Total
Expenditure	478	280	758	3,491

3.3.2.2 The whole project economic impact of the MHPGC Project and Morven North or Morven South would be £814 million GVA and 11,750 years of employment in the UK, of which £334 million GVA and 4,730 years of employment would be secured in Scotland and £480 million GVA and 7,020 years of employment in England.

Table 3.11: MHPGC Project and Morven North or Morven South construction GVA impact (£m)

	Scotland	England	UK
Direct	193	102	295
Indirect	84	209	292
Direct + indirect	277	311	587
Induced	57	169	226
Total	334	480	814

Note, totals may not sum due to rounding

Table 3.12: MHPGC Project and Morven North or Morven South construction employment impact (years of employment)

	Scotland	England	UK
Direct	2,830	1,230	4,060
Indirect	1,220	3,260	4,480
Direct + indirect	4,050	4,480	8,530
Induced	670	2,540	3,210
Total	4,730	7,020	11,750
Peak Employment	1,440	2,070	3,030

Note, totals may not sum due to rounding

3.3.3 Operation and maintenance

3.3.3.1 When the MHPGC Project and Morven North or Morven South were combined, it was assumed that the annual O&M spending would be £30 million. Of this it was assumed that £20 million would be secured in the UK, of which £10 million would be secured in Scotland and £10 million in England.

Table 3.13: MHPGC Project and Morven North or Morven South O&M spending (£m) per annum

	Scotland	England	UK	Total
Expenditure	10	10	20	30

3.3.3.2 The whole project economic impact of the MHPGC Project and Morven North or Morven South during the O&M phase would be £19 million GVA per annum and 240 jobs in the UK, of which £7 million GVA and 90 jobs would be secured in Scotland and £12 million GVA and 150 jobs in England.

Table 3.14: MHPGC Project and Morven North or Morven South O&M GVA impact (£m) per annum

	Scotland	England	UK
Direct	4	3	7
Indirect	2	4	6
Direct + indirect	6	8	13
Induced	1	4	5
Total	7	12	19

Note, totals may not sum due to rounding

Table 3.15: MHPGC Project and Morven North or Morven South O&M employment impact (jobs)

	Scotland	England	UK
Direct	50	40	90
Indirect	20	70	90
Direct + indirect	80	90	170
Induced	10	50	60
Total	90	150	240

Note, totals may not sum due to rounding

3.3.4 Decommissioning

3.3.4.1 When the MHPGC Project and Morven North or Morven South were combined, the total decommissioning spend was assumed to be £276 million (mainly from decommissioning of the Array). Of this £276 million, it was assumed that £130 million would be secured in the UK (£83 million would be secured in Scotland and £47 million in England), with the majority secured outside of the UK.

Table 3.16: MHPGC Project and Morven North or Morven South decommissioning spending (£m)

	Scotland	England	UK	Total
Expenditure	83	47	130	276

3.3.4.2 The whole project economic impact of the MHPGC Project and Morven North or Morven South during the decommissioning phase would be £44 million GVA and 530 years of employment in Scotland, £60 million GVA and 730 years of employment in England, and £104 million GVA and 1,260 years of employment in the UK.

Table 3.17: MHPGC Project and Morven North or Morven South decommissioning GVA impact (£m)

	Scotland	England	UK
Direct	25	14	39
Indirect	11	24	35
Direct + indirect	36	39	75
Induced	8	22	30
Total	44	60	104

Note, totals may not sum due to rounding

Table 3.18: MHPGC Project and Morven North or Morven South decommissioning employment impact (years of employment)

	Scotland	England	UK
Direct	290	170	460
Indirect	150	300	450
Direct + indirect	440	470	910
Induced	90	270	360
Total	530	730	1,260

Note, totals may not sum due to rounding; Note, peak employment is not included in this table as was the case for construction, since decommissioning is too far into the future for the detailed programme of work and therefore employment patterns to be known.

3.4 Morven Programme

3.4.1 Introduction

3.4.1.1 This section sets out the economic impacts associated with the Morven Programme, which includes the MHPGC Project, Morven North, Morven South and the MBAGC Project and corresponds to Scenario 3 of outlined in described in **Volume 1, Chapter 4: Approach to EIA, of the PEIR**. This includes the construction phase, the O&M phase and the decommissioning phase. These are set out for three of the Socio-economics Study Areas: Scotland, England and the UK. Morven Programme economic impacts have not been considered at the level of the Socio-economics Local Study Area as there will be no impacts associated with Morven North, Morven South or the MBAGC Project.

3.4.2 Construction

3.4.2.1 It was assumed that the total construction spending associated with the Morven Programme would be £6.8 billion. Of this, £1.5 billion would be secured in the UK, of which £995 million would be secured in Scotland and £510 million in England.

Table 3.19: Morven Programme construction spending (£m)

	Scotland	England	UK	Total
Expenditure	995	510	1,505	6,784

3.4.2.2 The economic impact of the Morven Programme would be £1.6 billion GVA and 23,300 years of employment in the UK, of which £690 million GVA and 9,680 years of employment would be secured in Scotland and £925 million GVA and 13,650 years of employment in England.

Table 3.20: Morven Programme construction GVA impact (£m)

	Scotland	England	UK
Direct	398	187	585
Indirect	174	407	581
Direct + indirect	573	594	1,167
Induced	117	331	448
Total	690	925	1,615

Note, totals may not sum due to rounding

Table 3.21: Morven Programme construction employment impact (years of employment)

	Scotland	England	UK
Direct	5,790	2,260	8,050
Indirect	2,510	6,400	8,910
Direct + indirect	8,300	8,650	16,960
Induced	1,380	5,000	6,370
Total	9,680	13,650	23,330
Peak Employment	1,460	2,230	3,390

Note, totals may not sum due to rounding

3.4.3 Operation and maintenance

3.4.3.1 It was assumed that the annual O&M spending associated with the Morven Programme would be £60 million. Of this it was assumed that £40 million would be secured in the UK, of which £21 million would be secured in Scotland and £19 million in England.

Table 3.22: MHPGC Project and Morven North or Morven South O&M spending (£m) per annum

	Scotland	England	UK	Total
Expenditure	21	19	40	60

3.4.3.2 The economic impact of the Morven Programme during the O&M phase would be £37 million GVA per annum and 480 jobs in the UK, of which £12 million GVA and 160 jobs would be secured in Scotland and £25 million GVA and 320 jobs in England.

Table 3.23: Morven Programme O&M GVA impact (£m) per annum

	Scotland	England	UK
Direct	7	7	14
Indirect	3	9	12
Direct + indirect	10	16	26
Induced	2	9	11
Total	12	25	37

Note, totals may not sum due to rounding

Table 3.24: Morven Programme O&M employment impact (jobs)

	Scotland	England	UK
Direct	90	80	170
Indirect	40	130	170
Direct + indirect	140	210	350
Induced	30	100	130
Total	160	320	480

Note, totals may not sum due to rounding

3.4.4 Decommissioning

- 3.4.4.1 The total decommissioning spend associated with the Morven Programme was assumed to be £551 million (mainly from decommissioning of the Array). Of this, it was assumed that £260 million would be secured in the UK (£194 million would be secured in Scotland and £66 million in England), with the majority secured outside of the UK.

Table 3.25: Morven Programme decommissioning spending (£m)

	Scotland	England	UK	Total
Expenditure	194	66	260	551

- 3.4.4.2 The economic impact of the Morven Programme during the decommissioning phase would be £102 million GVA and 1,240 years of employment in Scotland, £106 million GVA and 1,290 years of employment in England, and £209 million GVA and 2,530 years of employment in the UK.

Table 3.26: Morven Programme decommissioning GVA impact (£m)

	Scotland	England	UK
Direct	59	20	79
Indirect	26	44	70
Direct + indirect	85	64	149
Induced	18	42	60
Total	102	106	209

Note, totals may not sum due to rounding

Table 3.27: Morven Programme decommissioning employment impact (years of employment)

	Scotland	England	UK
Direct	690	230	920
Indirect	350	550	900
Direct + indirect	1,030	790	1,820
Induced	200	510	710
Total	1,240	1,290	2,530

Note, totals may not sum due to rounding; Note, peak employment is not included in this table as was the case for construction, since decommissioning is too far into the future for the detailed programme of work and therefore employment patterns to be known.

4 Summary

4.1.1.1 The assessment presented in this report considers the economic impact of the MHPGC Project as well as the economic impact of the MHPGC Project in combination with either Morven North or Morven South (the whole project) and the Morven Programme. Economic impacts during the construction, O&M and decommissioning phases have been considered on the economies of the Socio-economics Local Study Area (within the administrative boundaries of Durham County Council and Sunderland City Council), England and the UK.

4.1.1.2 It is anticipated that the total expenditure associated with the MHPGC Project will be £740 million. The economic impact has been assessed as:

- During the construction phase:
 - £31 million GVA and 430 years of employment in Scotland;
 - £15 million GVA and 190 years of employment in the Socio-economics Local Study Area;
 - £77 million GVA and 970 years of employment in England;
 - £111 million GVA and 1,450 years of employment in the UK.
- During the O&M phase:
 - £<1 million GVA per annum and <10 jobs in Scotland;
 - £<1 million GVA per annum and <10 jobs in the Socio-economics Local Study Area;
 - £1 million GVA per annum and 10 jobs in England;
 - £1 million GVA per annum and 10 jobs in the UK.
- During the decommissioning phase:
 - £9 million GVA and 110 years of employment in the Socio-economics Local Study Area;
 - £28 million GVA and 340 years of employment in England;
 - £30 million GVA and 370 years of employment in the UK.

4.1.1.3 In addition, when the MHPGC Project and Morven North or Morven South are considered together, it is anticipated that total expenditure will be £3.5 billion. The economic impact has been assessed as:

- During the construction phase:
 - £334 million GVA and 4,730 years of employment in Scotland;
 - £480 million GVA and 7,020 years of employment in England;
 - £814 million GVA and 11,750 years of employment in the UK.
- During the O&M phase:
 - £7 million GVA per annum and 90 jobs in Scotland;
 - £12 million GVA per annum and 150 jobs in England;
 - £19 million GVA per annum and 240 jobs in the UK.
- During the decommissioning phase:
 - £44 million GVA and 530 years of employment in Scotland;
 - £60 million GVA and 730 years of employment in England;
 - £104 million GVA and 1,260 years of employment in the UK.

4.1.1.4 In addition, when the Morven Programme is considered, it is anticipated that total expenditure will be £6.8 billion. The economic impact has been assessed as:

- During the construction phase:
 - £690 million GVA and 9,680 years of employment in Scotland;
 - £925 million GVA and 13,650 years of employment in England;
 - £1.6 billion GVA and 23,330 years of employment in the UK.
- During the O&M phase:
 - £12 million GVA per annum and 160 jobs in Scotland;

-
- £25 million GVA per annum and 320 jobs in England;
 - £37 million GVA per annum and 480 jobs in the UK.
 - During the decommissioning phase:
 - £102 million GVA and 1,240 years of employment in Scotland;
 - £106 million GVA and 1,290 years of employment in England;
 - £209 million GVA and 2,530 years of employment in the UK.

5 References

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