Marine Space

EREBUS ECONOMIC ASSESSMENT

JUNE 2021

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1 ECONOMIC ASSESSMENT

1.1 INTRODUCTION

1.1.1. The proposed Project Erebus (the Project) is a demonstration scale (generating capacity up to 100 Megawatts (MW) Floating Offshore Wind (FLOW) development in the Celtic Sea region. The Applicant, Blue Gem Wind, is a joint venture between Simply Blue Energy (SBE) and TotalEnergies, set up to create a new low carbon offshore energy sector in the region; that contributes to climate change targets, supply chain diversification and energy security.

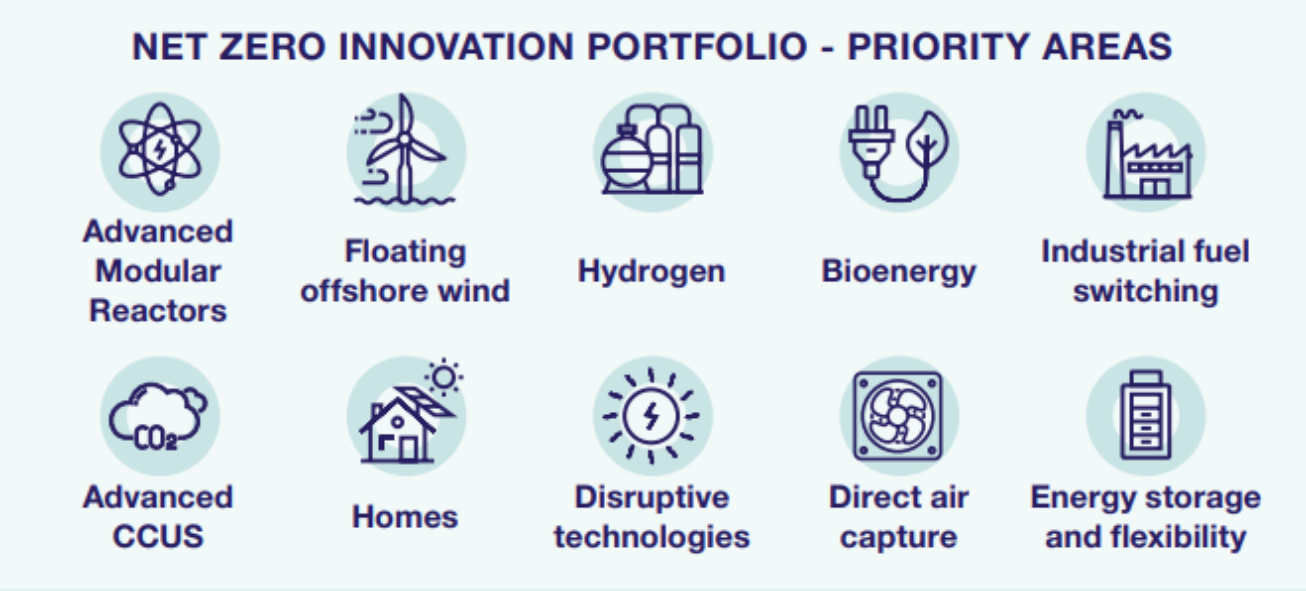
1.1.2. The Project area is located approximately 35 km southwest of the Pembrokeshire coastline and comprises six to ten Wind Turbine Generators (WTG). Each WTG is housed on a semi-submersible floating platform with a mooring system comprising a maximum of five catenary mooring lines. The offshore export cable, up to 49 km in length, links the array area to landfall at West Angle Bay, Pembrokeshire.

1.1.3. The Project also comprises an onshore export cable and an onshore substation, located close to the existing Pembroke Power Station.

1.1.4. The Project is expected to support the growing provision of the low carbon and clean growth agenda of the UK Government by providing offshore wind energy off the coast of Pembrokeshire. The UK is the largest offshore wind market in Europe with 42% of Europe's operating fleet and a growing development pipeline. During 2020, an additional 0.7GW of generating capacity became available, with the addition of East Anglia ONE bringing the UK operational fleet to 10.4GW (based on information from the Crown Estate). They also state that has made the UK the largest provider of operating capacity in the world. With the Government's Net Zero commitments and the aim for the UK to be Net Zero by 2050, there is greater demand for low carbon and renewable energy schemes such as Erebus.

1.1.5. The UK Government's "Powering our Net Zero Future" White Paper published in December 2020 provides further details of the commitments in place to create a Net Zero economy. Figure 1-1 provides a breakdown of the key priority areas for the UK government to meet its Net Zero commitments in the energy sector.

Figure 1-1 - Net Zero Priorities



Source: Powering our Net Zero Future, December 2020

1.1.6. One of the UK Governments commitments includes a target of 40GW of offshore wind by 2030, including 1GW from FLOW alongside the expansion of other low-cost renewable technologies. The Project will help to achieve this goal as it will become the largest FLOW project in the world (when constructed).

1.1.7. FLOW will generate significant economic benefits to the local and national economy, thus creating additional jobs. This analysis examines the extent that new jobs will create additional Gross Value Added (GVA). The new employment opportunities will also generate further demand across the new businesses' supply chains, which in turn creates additional economic growth and employment.

1.1.8. This impact assessment (which forms an Appendix to Chapter 27 of the Erebus Environmental Statement; Socio-Economics, Tourism and Recreation) reflects the findings of other relevant work, including the April 2018 "Marine Renewable Energy Supply Chain Development" report (prepared by Aquatera on behalf of the Pembrokeshire Coastal Forum and Marine Energy Wales) and the most recent (2020) "State of the Sector – Economic Benefits for Wales" report, prepared on behalf of Marine Energy Wales.

1.1.9. The assessment undertaken is also in accordance with the following guidance:

- HM Treasury: The Green Book (2020);
- Homes England (formerly Homes and Communities Agency, HCA): Additionality Guide (2014);
- HCA: Calculating Cost Per Job (2015);
- The Ministry of Housing, Communities and Local Government (MHCLG): The DCLG[1] Appraisal Guide (2016); and

[1] Note that DCLG (Department for Communities and Local Government) subsequently became the MHCLG.

- Guidance on assessing the socio-economic impacts of offshore wind farms (2020).

1.1.10. The employment and activity generated by the Project will increase economic activity in the local economy (as measured by its GVA impact). GVA is used in the estimation of Gross Domestic Product (GDP), which is a key indicator of economic activity across the whole economy. The methodology used to estimate each benefit is as follows:

- **Direct Employment** – number of jobs generated per £1.12 million of scheme costs (2021 prices).
- **Indirect and induced employment** – additional jobs and economic activity created indirectly or by induced effects. Indirect impacts include further activity by firms in the supply chain as a result of the investment. Induced effects occur through the expenditure of those who benefit from the investment or through supply chain expenditure.

1.1.11. The number of direct and indirect/induced jobs has been calculated based on the scheme costs provided to WSP. These cover:

- **Capital Expenditure** (CAPEX) costs – includes development costs (DEVEX),
- **Operational Expenditure** (OPEX) costs; and
- **Decommissioning costs** (DECEX).

1.2 GENERAL METHODOLOGY

1.2.1. The economic impact assessment has quantified the key benefits associated with the creation of FLOW energy in Pembrokeshire. The assessment looks at the direct and indirect/induced impacts of job creation and GVA impacts. GVA is a measure of the economic output of output produced for industries, local areas or the national economy.

1.2.2. For this assessment, the GVA impacts are calculated using costs at three different stages. These are CAPEX, OPEX and DECEX. The scheme costs have then been used to calculate the costs per job in line with the methodology outlined in HCA - Calculating Cost Per Job Guidance (2015).

1.3 SCHEME COSTS

1.3.1. Each item of the Project costs has been appraised on a per cost item basis. The economic impacts associated with the Project are only quantified on a UK level in line with standard EIA guidance. The scheme costs have been provided by Blue Gem Wind on behalf of Total, with annual cost profiles shown in Table 1-1. The proportions attributed to the UK are based on the Catapult report "Job Creation Analysis for the Erebus Floating Offshore Wind Project"[2]. This assessment has used the UK content proportions stated in Annex 1.

1.3.2. The different costs associated with the Project and the extent to which the scheme is local are shown below in Table 1-1, Table 1-2 and Table 1-3.

[2] Analysis of Job Creation in the Erebus Floating Offshore Wind Project, Offshore Renewable Energy Development Services Ltd (ODSL), May 2021

Table 1-1 – CAPEX (inc DEVEX) Costs £m and UK proportion

Cost Item	Value, £m	UK Proportion %
Project Management/Assets Management	£31.9m	100%
Project Design	£19.3m	84%
Surveys	£11.8m	84%
Wind Turbine/Platform/Mooring	£290.4m	31%
Transmission	£48.0m	77%
Lease/Insurance/Certification	£10.6m	100%
Contingency	£40.5m	80%
Total	**£452.4m**	**50% (weighted average)**

Source: Blue Gem Wind and Catapult "Job Creation Analysis for the Erebus Floating Offshore Wind Project"

1.3.3. Table 1-1 shows that the CAPEX for the scheme is £452.4 million. The largest expenditure is on Wind Turbine/Platform/Mooring at £290.4 million, accounting for 64% of the total CAPEX costs (with 31% of the cost estimated to be incurred within the UK). The CAPEX costs are spread out over a seven-year period, from 2021 to 2027 inclusive. The scheme shows that approximately half of the scheme costs will be incurred in the UK supply chain, based on a weighted average of the costs incurred. This varies across scheme cost items with the range being 31% to 100%.

Table 1-2 – OPEX Costs (annual) and UK Proportion

Cost Item	Value per annum, £m	UK Proportion %
Project Management/Assets Management	£1.0m	90%
Transmission	£0.5m	100%
Lease/Insurance/Certification	£3.0m	100%
Maintenance	£7.0m	78%
Contingency	£0.5m	100%
Total	**£12.0m**	**86% (weighted average)**

Source: Blue Gem Wind and Catapult "Job Creation Analysis for the Erebus Floating Offshore Wind Project"

1.3.4. Table 1-2 shows the per annum cost per item for OPEX to be incurred over the period 2028 to 2051; this totals £288.0 million over this 24-year period. Overall, it has been estimated that approximately 86% of the total OPEX cost will be provided by the UK supply chain. Maintenance is the largest contributor of OPEX with £7.0 million out of the total £12.0 million (78% of which will be provided by companies in the UK).

Table 1-3 – Decommissioning costs and UK Proportion

Cost Item	Value, £m	UK Proportion %
Project Management/Assets Management	£0.5m	40%
Lease/Insurance/Certification	£1.0m	40%
Decom gross costs	£6.5m	40%
Total	**£8.0m**	**40% (weighted average)**

Source: Blue Gem Wind and Catapult "Job Creation Analysis for the Erebus Floating Offshore Wind Project"

1.3.5. Table 1-3 shows that the DECEX costs for Erebus will be approximately £8.0 million and will be incurred in 2052. Using the estimates provided by Catapult[3], 40% of the cost will be incurred by the UK supply chain.

1.3.6. The combined cost across the CAPEX, OPEX and DECEX is shown in Table 1-4.

Table 1-4 – Total costs and UK Proportion (entire project lifetime)

Cost Item	Value, £m	UK Proportion %
CAPEX	£452.4m	50%
OPEX	£288.0m	86%
DECEX	£8.0m	40%
Overall	**£748.4m**	**64%**

1.3.7. Overall, it is estimated that approximately 64% of the total scheme costs will be incurred by the UK supply-chain.

1.3.8. The methodology that has been used to calculate the benefits are as follows:

- **Direct jobs** –The direct jobs created at CAPEX, OPEX and DECEX stages of the proposed development will bring economic benefits to local and national labour markets;
- **Indirect/Induced jobs** – Jobs and economic activity with be generated through supply chain expenditure in the local and regional economy. Furthermore, those induced or indirectly employed will further support the local economy through expenditure on goods and services;

[3] Analysis of Job Creation in the Erebus Floating Offshore Wind Project, Offshore Renewable Energy Development Services Ltd (ODSL), May 2021

- **Gross Value added** – This captures the GVA created by the proposed development. GVA data has been adjusted from 2018 to 2021 values using the GDP deflator from the Department for Transport (DfT) Transport Analysis Guidance (TAG) Data Book; and
- **Multiplier effects** – Expected job numbers are based on scheme costs combined with a relevant employment multiplier for each cost item as provided by the Standard Industrial Classification (SIC) codes (ONS: Type 1 UK employment multipliers and effects, 2018).

GVA AND GVA PER WORKER

1.3.9. Gross Value Added (GVA) and GVA per worker data is based on publicly available data published by the Office for National Statistics (ONS). Using GVA data for the (UK published in December 2019 for 2018 GVA values (ONS – Regional Gross Value added, 2019).

1.3.10. Using the ONS employment values for 2018 provided by the Business Registry and Employment Survey, a GVA per worker value is calculated by dividing GVA by the total number of employees. The GVA per worker value is initially calculated in 2018 prices and is uplifted to 2021 values by applying a GDP deflator factor of 1.06. Using this method, a GVA per worker value of £67,888 has been used as part of the assessment.

DIRECT EFFECTS

Direct jobs

1.3.11. The direct impacts have been calculated using scheme costs, jobs per coefficient, labour coefficient relevant to the construction job type and GVA per worker for different stages of the proposed development. Following the methodology in the HCA guidance, the scheme costs were used to estimate the number of jobs. These are calculated as follows:

- **Scheme Costs** – This is based on estimates provided by Blue Gem Wind, which are broken down for the CAPEX, OPEX and DECEX stages of the proposed development . Within each stage, the costs are broken down per cost item as shown in Table 1-1, Table 1-2 and Table 1-3.
- **Jobs per coefficient** - Using ONS' Input-Output dataset to obtain labour coefficients, the number of jobs per year is based on £1.12 million of output per year (2021 prices). This provides the estimate for the jobs per coefficient.
- **Construction job labour coefficient** -These are based on the labour coefficient for construction job roles (ONS: Type I UK employment multipliers and effects, 2018). These cost activities are matched with the SIC codes provided by the Macroeconomic Benefits of Floating Offshore Wind in the UK (2018). For example, Wind Turbines has a SIC code of 24, this corresponds with the labour coefficient of 8.7 as provided by ONS data. A full breakdown of the corresponding SIC Codes matched to the cost items can be found in Annex B.
- **GVA per worker** – Depending on the proposed development (CAPEX, OPEX, DECEX) a relevant GVA per worker has been used to undertake the calculations.

1.3.12. To estimate direct jobs, the annual cost for each cost item is divided by the jobs per coefficient. This value is then multiplied by the labour coefficient related to that cost item.

Direct GVA

1.3.13. The Direct GVA is estimated using the direct jobs and the UK GVA per worker associated with that activity type. The direct number of jobs per year is multiplied by the GVA per worker for the relevant cost item. The values for each year are then added together to obtain the total Direct GVA impact.

Indirect/Induced

1.3.14. The estimation of indirect and induced impacts is based on using the direct job numbers as well as GVA per worker and economic activity multipliers (ONS: Type I UK employment multipliers and effects, 2018):

- **GVA per worker** – For the indirect impacts, the average GVA per worker has been applied to all cost types (CAPEX, OPEX and DECEX).
- **Economic activity multipliers –** These are taken from the same dataset as the labour coefficients, where the activity cost is matched with a SIC code provided by Macroeconomic Benefits of Floating Offshore Wind in the UK (2018).

1.3.15. Annex C provides a breakdown of the Economic Multipliers used.

Indirect/Induced Jobs

1.3.16. Indirect jobs are estimated by applying an economic activity multiplier associated with the cost item to the direct jobs for each year.

Indirect/Induced GVA

1.3.17. The Indirect/Induced GVA is estimated by taking the number of indirect/induced jobs per year and multiplying these by average GVA per worker. The value for all years is then summed to get a total indirect/Induced GVA.

1.4 ADDITIONALITY

1.4.1. To estimate how much additional GVA will be generated, the calculations are based on standard 'additionality' guidance. Additionality refers to the impact of an intervention over and above what would have occurred in the absence of the intervention. The additionality factors considered are Deadweight, Leakage and Displacement. Substitution impacts are not relevant for this type of scheme.

DEADWEIGHT

- Definition: The proportion of the scheme that would happen anyway without funding from Blue Gem Wind.
- Rate Applied: 0%
- Explanation:
  Blue Gem Wind is a joint venture between Simple Blue Energy and Total to develop FLOW projects. Without investment from the joint venture the scheme is not feasible and would not come forward. This is because of the viability of the site coming forward resulting in the scheme not being feasible. Given that the proposed development would not happen, we have quantified the deadweight impact at 0%.

LEAKAGE

- Definition: The proportion of output (GVA and jobs) that benefit those outside the targeted area (United Kingdom).
- Rate Applied: 10%
- Explanation:
  As shown in Table 1-1 Table 1-2 and Table 1-3, scheme costs have been proportioned using information from Catapult to identify how much expenditure would be within the targeted area

(UK). This means we have minimised the impacts of leakage outside of the targeted area. Therefore, a low leakage factor of 10% is appropriate for this scheme (and to ensure that any leakage not captured within the Catapult report is captured when calculating the net benefits of this scheme).

DISPLACEMENT

- Definition: The proportion of intervention outputs/outcomes accounted for by reduced outputs/outcomes elsewhere in the target area (UK).
- Rate Applied: 10%
- Explanation: Displacement is the crowding out impact of other investment in the targeted area as a result of the scheme going forward. When considering the displacement rate of this scheme, the development of other renewable energy interventions within the UK has been taken into consideration (other than FLOW). From a policy perspective, the UK has binding targets to achieve Net Zero status by 2050 and to reduce emissions by 80% of 1990 levels by 2035.

1.4.2. Energy think tank "Ember" analysis showed that renewable energy (wind, solar, bioenergy and hydro waterpower) became the largest source of UK electricity, accounting for 42% of all energy produced in 2020 compared to 41% for fossil fuels[4]. With the phasing out of fossil fuels across the next 15 to 20 years, there is increasing demand for green energy to come forward. Wind energy, and in particular Offshore Wind, is likely to increase due to investment being in place from a variety of sources, including TCE. In February 2021, TCE announced investment in six Offshore Wind Energy projects across the United Kingdom including England, Wales and Northern Ireland. This shows the potential of this scheme coming forward in the UK to support the UK offshore wind sector (the sector could employ as many as 60,000 people by 2030, up from approximately 11,000 today). The Project will complement these schemes and could help the UK meet its objectives as set out in the "Powering our Net Zero Future" White Paper. Based on the evidence provided above, a low displacement rate of 10% has been applied.

ADDITIONALITY RATE

1.4.3. Using the rates stated above for deadweight, leakage and displacement and the additionality formula (below), the additionality rate has been calculated based on the following formula.

- Formula for Additionality:
  - Additionality = (1-Deadweight) * (1-Leakage) * (1-Displacement)
  - Additionality = (1-0%) *(1-10%) *(1-10%)
  - Additionality = 1*0.9*0.9 = 81%

1.4.4. An additionality rate of 81% has been applied to job creation and GVA estimates. An additionality rate of greater than 75% indicates that there is a strong relationship between the scheme coming forward and the gross benefits. The evidence provided above shows that the rationale of intervening

[4] Ember: Milestone Reached as Renewables Overtake Fossil Fuels in the UK UK Wind Power and Low Demand Pushed Fossil Gas to 5-Year Low, 28th January 2021

in this sector will generate significant economic benefits without impacting on areas outside of the target area.

1.5 IMPACTS

1.5.1. This section covers the estimated impacts in terms of job creation and the associated GVA according to the different stages of the proposed development. The jobs created are broken down into gross and net amounts for both the direct and indirect categories. Gross jobs are the number of jobs created before additionality whilst net jobs are the jobs created after additionality. The GVA impacts are broken down into direct and indirect GVA.

CAPITAL EXPENDITURE

1.5.2. Table 1-5 shows the indirect and direct jobs created during the CAPEX stage of the proposed development.

Table 1-5 – Total Construction jobs created, before and after additionality

Direct Gross Jobs	Direct Net Jobs	Indirect/Induced Gross Jobs	Indirect/Induced Net Jobs
715	578	818	662

1.5.3. As shown in Table 1-5 the direct jobs created figure is 715 and after applying an additionality rate of 81% the direct net jobs figure is revised to 578. The Indirect/Induced job values are higher than the direct jobs in both cases with 818 gross jobs and 662 net jobs. Error! Not a valid bookmark self-reference. displays the total direct and indirect GVA impacts of this proposed development. The direct construction GVA is £117.7 million, higher than the indirect GVA of £116.2 million.

Table 1-6 – Total CAPEX GVA

Direct GVA (£m)	Indirect GVA (£m)
£117.7m	£116.2m

OPERATIONAL EXPENDITURE

1.5.4. Table 1-7 shows the indirect and direct jobs created in the OPEX stage of the proposed development.

Table 1-7 – Total OPEX jobs created, before and after additionality

Direct Gross Jobs	Direct Net Jobs	Indirect/Induced Gross Jobs	Indirect/Induced Net Jobs
146	118	283	229

1.5.5. In Table 1-7, it can be noted that the direct jobs created value is 146 and after applying additionality the direct net jobs value is found to be 118. The Indirect/Induced jobs are higher than the direct jobs in both cases with 283 gross jobs and 229 net jobs.

1.5.6. The GVA impacts for operational are shown in Table 1-8.

Table 1-8 – Total OPEX GVA

Direct GVA (£m)	Indirect GVA (£m)
£104.9m	£203.3m

1.5.7. Table 1-8 shows the indirect operational GVA is £203.3 million, higher than the direct GVA of £104.9 million.

DECOMMISSIONING EXPENDITURE

1.5.8. Table 1-9 shows the indirect and direct jobs created in the DECEX stage of the proposed development.

Table 1-9 – Total Decommissioning jobs created, before and after additionality

Direct Gross Jobs	Direct Net Jobs	Indirect/Induced Gross Jobs	Indirect/Induced Net Jobs
42	33	55	45

1.5.9. Table 1-9 shows that the direct jobs created is 42 and after applying additionality the direct net jobs is found to be 33. The Indirect/Induced jobs are higher than the direct jobs in both cases with 55 gross jobs and 45 net jobs.

1.5.10. The GVA impacts for Decommissioning are shown in .

1.5.11. Table 1-10.

Table 1-10 – Total Decommissioning GVA

Direct GVA (£m)	Indirect GVA (£m)
£0.8m	£1.1m

1.5.12. .

1.5.13. Table 1-10 shows the total direct and indirect GVA impacts of this proposed development. The direct Decommissioning GVA is £0.8 million, lower than the indirect GVA of £1.1 million.

1.6 SUMMARY

1.6.1. This section acts as a summary to the economic impacts combining jobs and GVA values found in CAPEX, OPEX and Decommissioning.

1.6.2.

1.6.3.

1.6.4.

1.6.5. **Table 1-11** shows the total jobs created from the Project, split into direct and indirect/induced jobs and whether the jobs are gross or net.

Table 1-11 - Total Jobs Created, before and after additionality

Cost Type	Direct Gross Jobs	Direct Net Jobs	Indirect/Induced Gross Jobs	Indirect/Induced Net Jobs
CAPEX	715	578	818	662
OPEX	146	118	283	229
DECEX	42	33	55	45
Total	**903**	**729**	**1,156**	**936**

1.6.6. In

1.6.7.

1.6.8.

1.6.9. **Table 1-11**, it can be noted that the Project is predicted to create 2,059 gross jobs or 1,665 net jobs across all three stages. CAPEX is the largest contributor of direct gross jobs created with 715 jobs created. This is to be expected with the cost of CAPEX being higher than the costs associated with OPEX and DECEX. OPEX is estimated to create a smaller number of jobs (146 direct gross jobs) whilst DECEX are estimated to create 42 and 33 gross and net jobs respectively. Combining the CAPEX, OPEX and DECEX jobs created, the total direct gross jobs is 903 whilst the net jobs is 729.

1.6.10. For Indirect/Induced jobs CAPEX is also the largest contributor with 818 gross jobs and 662 net jobs. OPEX is the next largest contributor with 283 gross jobs and 229 net jobs, higher than DECEX which has 55 gross jobs and 45 net jobs. Combining the CAPEX, OPEX and DECEX jobs created, the total indirect/induced gross jobs is 1,156 whilst the net jobs is 936.

1.6.11. Table 1-12 shows the GVA that will be generated across the proposed development stages as well as the total GVA that will be generated, either directly or indirectly.

Table 1-12 – Total GVA

Cost type	Direct GVA (£m)	Indirect GVA (£m)
CAPEX	£117.7m	£116.2m
OPEX	£104.9m	£203.3m
DECEX	£0.8m	£1.1m
Total	**£223.4m**	**£320.6m**

1.6.12.

1.6.13. Table 1-12 shows the total indirect/induced GVA is higher than the total direct GVA. Total indirect/induced GVA is estimated to be £320.6 million compared to £232.4 million for Direct GVA. Indirect OPEX is the largest contributor to overall GVA with £203.3 million,accounting for 63% of total OPEX GVA (£320.3 million).

1.6.14. Overall, the Project will generate significant benefits in terms of GVA and job creation within the local Pembrokeshire economy and the wider area. The benefits will include direct jobs at the Project as well as indirect jobs created in the supply chain. There will also be significant GVA gains generated by various activities associated with the Project.

Appendix A

ANNUAL COST PROFILES

Table 1-13 – CAPEX (inc DEVEX) costs (2021-2027)

Cost item	2021* (£)	2022 (£)	2023 (£)	2024 (£)	2025 (£)	2026 (£)	2027 (£)
PM/Assets Management	£3,000,000	£1,500,000	£1,000,000	£3,000,000	£9,000,000	£9,200,000	£5,200,000
Project Design	£4,750,000	£2,300,000	£2,800,000	£4,200,000	£5,000,000	£200,000	-
Surveys	£5,500,000	£1,000,000	£1,750,000	-	£3,500,000	-	-
Wind Turbine/Platform/Mooring	£1,000,550	£2,350,000	-	£21,500,000	£80,500,000	£120,000,000	£65,000,000
Transmission	£220,000	£250,000	£15,000	£1,015,000	£18,500,000	£19,500,000	£8,500,000
Lease/Insurance/Certification	£1,550,000	£800,000	£550,000	£775,000	£1,700,000	£3,250,000	£2,000,000
Contingency	£892,000	£820,000	£611,500	£3,049,000	£11,820,000	£15,215,000	£8,070,000
Total	**£16,912,550**	**£9,020,000**	**£6,726,500**	**£33,539,000**	**£130,020,000**	**£167,365,000**	**£88,770,000**

***2021 includes costs incurred in 2020**

Table 1-14 – OPEX costs (2028-2051)

Cost item	£ per annum
Project Management/Assets Management	£1,000,000
Transmission	£500,000
Lease/Insurance/Certification	£3,000,000
Maintenance	£7,000,000
Contingency	£ 500,000
Total	**£12,000,000**

Table 1-15 – DECEX costs (2052)

Cost item	£, Value
Project Management/ Asset Management	£500,000
Lease / Insurance / Certification	£1,000,000
Decom gross costs	£6,500,000

Total	**8,000,000**

Appendix B

SIC CODES

Table 1-16 – Employment Coefficient by industry for each cost item

Cost item	SU114 Industry group	Industry	FTE Effects
Project Management/ Asset Management multiplier	74	Other Professional, Scientific And Technical Activities	21.1
Project Design	74	Other Professional, Scientific And Technical Activities	21.1
Surveys	74	Other Professional, Scientific And Technical Activities	21.1
Labour Coefficient - Wind Turbine / Platform / Moorings	24.1-3	Manufacture of basic iron and steel	8.7
Transmission	27	Manufacture Of Electrical Equipment	9.8
Lease / Insurance / Certification	65	Insurance and reinsurance, except compulsory social security & Pension funding	9.2
Maintenance	33OTHER	Rest of repair; Installation - 33.11-14/17/19/20	19.9
Contingency	24.1-3	Manufacture of basic iron and steel	8.7
Decom gross costs	41-43	Construction	15.0

Source: ONS: Type I employment multipliers and effects by SU114 industry and sector (market, government and NPISH). Note: cost items provided by Blue Gem Wind

Appendix C

ECONOMIC MULTIPLIERS

Table 1-17 - Multiplier by industry for each cost item

Cost item	SU114 Industry group	Industry	FTE Multiplier
Project Management/ Asset Management multiplier	74	Other Professional, Scientific And Technical Activities	1.43
Project Design	74	Other Professional, Scientific And Technical Activities	1.43
Surveys	74	Other Professional, Scientific And Technical Activities	1.43
Labour Coefficient - Wind Turbine / Platform / Moorings	24.1-3	Manufacture of basic iron and steel	2.26
Transmission	27	Manufacture Of Electrical Equipment	1.72
Lease / Insurance / Certification	65	Insurance and reinsurance, except compulsory social security & Pension funding	7.19
Maintenance	33OTHER	Rest of repair; Installation - 33.11-14/17/19/20	1.66
Contingency	24.1-3	Manufacture of basic iron and steel	2.26
Decom gross costs	41-43	Construction	1.97

Source: ONS: Type I employment multipliers and effects by SU114 industry and sector (market, government and NPISH) Note: cost items provided by Blue Gem Wind.

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