Severn Estuary Commission
Socio Economics Workstream

Appendix 7 Core Effects Modelling

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OXFORD ECONOMICS

ARCADIS

Final Report
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OXFORD ECONOMICS

THE FUTURE ECONOMIC IMPACT OF TIDAL RANGE ENERGY IN THE SEVERN ESTUARY

MARCH 2025

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March 2025

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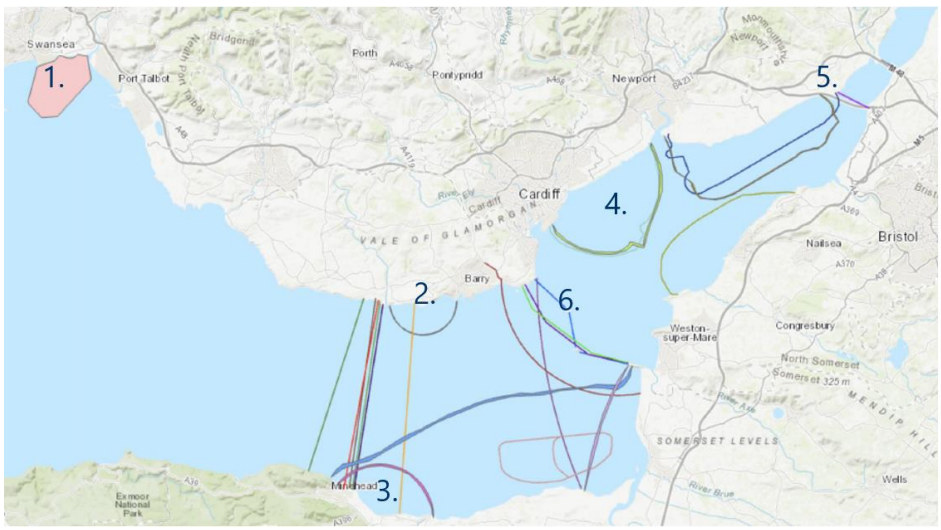
1. APPROACH AND ASSUMPTION

The economic impact model designed by Oxford Economics, explained in detail in Chapter 3 and the technical annex, requires as an input information on the spending that would need to take place to facilitate the construction of tidal range energy projects. This is the primary uncertainty with modelling projects of this nature as they are not yet built. Furthermore, no tidal range energy projects of similar scale have been constructed in the UK, and the detailed information on the spend of planned projects is often not available or out of date. This chapter therefore outlines the information which is available, and what we have drawn on, as well as the assumptions we have made to create the process through which **we have estimated information on the scale, timing, nature, and location of project spending**. Our guiding principle was to use external information from verifiable sources wherever possible, where these sources are in the public domain links have been provided. Our approach was honed, and final modelling inputs adjusted through discussions with leading figures in industry, planning, and academia.

1.1 PROJECTS

There have been many proposals for projects to take advantage of the Severn Estuary's high tidal range dating back decades. No schemes are currently consented. To capture the range of different possible projects and their scales we have chosen illustrative examples to quantify the future impact of four proposed lagoon projects of varying scales and two barrage projects in line with other research workstreams. The location of the various proposed projects is shown in Fig. 1

Fig. 1. Selected Projects



1. Small Lagoon: Swansea Bay
2. Medium Lagoon: Stepping Stones
3. Large Lagoon: West Somerset
4. Larger Lagoon: Cardiff
5. Small Barrage: Shoots Barrage
6. Large Barrage: Cardiff to Weston

Source: WSP, Oxford Economics.

1.2 PROJECT COSTS AND TIMINGS

These projects were partly chosen as there is evidence on their costs which we can draw on. The environmental consultancy WSP were previously commissioned by the Western Gateway to compile an evidence base and framework for sustainable energy in the Severn Estuary. This work included up to date inflation adjusted costings for our chosen projects, as well as the construction timescale for each project.[1] For the West Somerset Lagoon, a more up to date figure has been provided by the developer.

Fig. 2. Total development cost by project

Project	Cost (2023 £ millions)	Construction period (years)
Small Lagoon: Swansea Bay	1,779	5
Medium Lagoon: Stepping Stones	2,278	4
Large Lagoon: West Somerset	10,600	6
Larger Lagoon: Cardiff	12,365	8
Small Barrage: Shoots Barrage	6,830	5
Large Barrage: Cardiff to Weston	33,407	9

Source: WSP, West Somerset Lagoon

1.3 COMPOSITION OF SPEND

To model the economic impacts, we need to know what the project costs are spent on. To come up with a breakdown of spending by economic sectors we drew on a cost breakdown of the West Somerset Lagoon proposal which was made available to Oxford Economics. This project has a cost breakdown detailing what proportion of total cost would be required to be spent on each element of the project. From the descriptions of the elements, we could allocate each section of the spend to detailed four-digit economic sectors in the Standard Industrial Classification (SIC)[2]. For example:

The West Somerset Lagoon would spend £880 million on transformers, switchgear & cabling.

We allocate this spending to SIC sectors:

- *2711 Manufacture of electric motors, generators and transformers*
- *2732 Manufacture of other electronic and electric wires and cables*
- *3512 Transmission of electricity*
- *2712 Manufacture of electricity distribution and control apparatus*

The resultant breakdown of spend into economic sectors is used in our modelling process, allowing it to accurately calculate subsequent rounds of

[1] WSP, Sustainable Energy in the Severn Estuary: Evidence Base and Framework, 2023
[2] ONS, UK Standard Industrial Classification of Economic Activities, 2007

supply chain spending. The sectoral breakdown is also used in the next step of our approach to calculate the likely location of spending.

As the West Somerset Lagoon breakdown provided a proportion of cost for 38 separate construction elements, and the cost breakdown was calculated in December 2023, we considered this the most accurate and up to date representation of spend breakdown available for tidal lagoon projects in the Severn Estuary.[3] We therefore apply the same sectoral breakdown calculated from the West Somerset Lagoon to all the lagoons we model.

To account for the differences in construction requirements between lagoons and barrages, we augment the up-to-date cost breakdown provided for the West Somerset Lagoon using data from a report prepared for the Department of Energy & Climate Change by Parsons Brinckerhoff Ltd.[4] The report, published in 2008, provides a cost breakdown for a series of tidal lagoons and barrages. We compare the shares of the total construction cost spent on civil engineering for both lagoons and barrages. We then calculate a ratio between the two project types and apply it the civil engineering spend proportion provided by the West Somerset Lagoon, scaling down the proportion of spend in other spend categories. This results in a cost breakdown for barrages which is more heavily weighted towards the civil engineering categories.

1.4 LOCATION OF SPEND

For our model to accurately show the location of the economic impacts within the Western Gateway & Somerset and the South West & Wales, it needs to know what proportion of the spending in each sector takes place within those geographies. To estimate these proportions, we draw on three sources, the West Somerset Lagoon cost breakdown, the Swansea Bay Lagoon cost table, and our own location quotient-based approach.

(1) The West Somerset Lagoon cost breakdown provides an estimate for what proportion of the spending on each construction element can be fulfilled domestically (i.e. in the UK).
(2) The Swansea Bay Lagoon report by Tidal Lagoon Power provides an estimate for what proportion of construction spend in each of its categories can be reasonably fulfilled both domestically and within Wales.[5] We mapped these categories to corresponding construction elements for the West Somerset Lagoon.

[3] The cost breakdown for the West Somerset Lagoon was made available to OE for the purposes of this modelling exercise, and is not in the public domain.
[4] The Parson Brinckerhoff report was made available to OE, and is not in the public domain.
[5] Tidal Lagoon Power, Ours to Own, 2016

(3) Our location quotient-based approach creates an estimate for what proportion of construction spend in each element can be fulfilled within the South West & Wales under current conditions. This is calculated using detailed ONS Business Register and Employment Survey (BRES) data and input-output tables to find how specialised the South West & Wales economy is in the 4-digit tidal related sectors; and therefore, how much spending could be accommodated within these regions.

To account for the variances between these sources, and to account for any potential optimism bias within estimates provided by the West Somerset Lagoon and the Swansea Bay Lagoon, we compare the figures from these three sources to create a low and a high estimate for how much of the construction spend in each element would be fulfilled in the Western Gateway & Somerset, South West & Wales, and the UK economies, these are summarised below:

Fig. 3. Location and share of development spend [6]

Spend Category	Share of Spend: Lagoons	Share of Spend: Barrages	Share spent in UK		Share spent in Western Gateway and Somerset		Share spent in Wales & the South West	
			Low	High	Low	High	Low	High
Development and planning	2%	1%	98%	100%	53%	56%	53%	56%
Equipment	36%	21%	38% (19%)	44% (22%)	20% (10%)	34% (17%)	24% (12%)	41% (21%)
Turbine Area Mechanical & Engineering Works	16%	10%	59%	80%	15%	21%	19%	26%
Turbine Area Civil Engineering	9%	21%	73%	93%	35%	64%	38%	70%
Other Civil engineering	29%	44%	71%	85%	17%	34%	35%	63%
Other spending	7%	4%	97%	100%	51%	74%	54%	78%
Total			60%	72%	23%	38%	31%	50%

Source: Oxford Economics, Swansea Bay Lagoon, West Somerset Lagoon, Parsons Brinckerhoff Ltd.

1.5 OPERATIONAL PHASE

Following discussions with stakeholders, we have drawn on academia to provide an estimate of the operational spending of tidal range projects. Vanderkruyssen et al. suggest an annual operational expenditure assumption

[6] Following feedback from stakeholders we have reduced the shares of equipment spend for the Cardiff Weston Barrage. Stakeholder's suggested that given its size, there would be a greater need to import equipment. The adjusted shares are shown in brackets.

of 1.5% of the total capital expenditure in their research.[7] This assumption was deemed appropriate to apply to two proposed UK projects, albeit outside of the Western Gateway: the Morecambe Bay Tidal Barrage and the North Wales Lagoon. In the absence of more detailed information for the projects, we apply the same operational expenditure assumption for all of our projects, giving us the following annual operations spend estimate for the six projects.

Project	Annual operational expenditure (2023 £ millions)
Small Lagoon: Swansea Bay	27
Medium Lagoon: Stepping Stones	34
Large Lagoon: West Somerset	159
Larger Lagoon: Cardiff	185
Small Barrage: Shoots Barrage	102
Large Barrage: Cardiff to Weston	501

We assume that the operations and maintenance expenditure is spent in the electricity generation and repair & maintenance sectors. To estimate how much of the operational expenditure will be spent domestically we combine two sources: We first consider the ONS UK supply-use tables, which show the proportion of spend in maintenance and operations sectors which can be facilitated domestically across the economy. We then combine this with our domestic spend proportion assumptions from the development phase – accounting for the higher proportion of the operational spending which will need to take place abroad due to the specialised nature of a tidal project.

To estimate the proportion of the UK spend which will take place within the Western Gateway & Somerset and the South West & Wales, we draw on location quotients which show the extent to which these regional economies are specialised in maintenance and operations sectors. These location quotients are in turn based on ONS input-output tables, with adjustments made to account for the varying scale of regional economies in line with academic guidance.[8]

[7] Vandercruyssen et al., Tidal range generation: combining the Lancaster zero-dimension generation and cost models, 2024

[8] Flegg & Tohmo, Regional input-output tables and the FLQ formula: A case study of Finland, 2013.

2. MODELLING METHOD

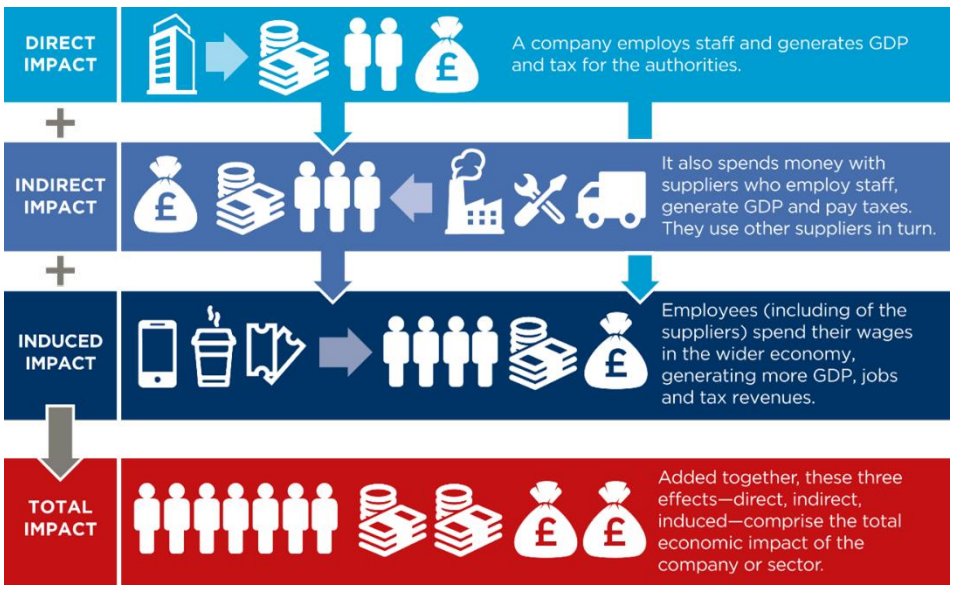
The approach and assumptions outlined in the previous chapter creates an estimation of how much spending will be created by each project; and where, when, and on what it will be spent. This information is used as the input into our model to calculate the economic impacts.

The potential economic impacts detailed in the subsequent chapter draw on a standard subnational impact model that quantifies the potential economic footprint of the proposed development across three channels.

- **Direct impact**: relates to the activities directly generated to support the development of the proposed projects;
- **Indirect impact**: captures the economic activity and employment within the supply chains that support these activities, through the procurement of goods and services from third-party suppliers; and
- **Induced impact**: comprises the wider economic benefits that arise when workers employed at the proposed development, and also by companies in their supply chain, spend their earnings.

Together the three channels make up our estimate of the total economic impact of each projects.

Fig. 4. Illustration of the channels of economic footprint analysis



Source: Oxford Economics

The economic footprint of the proposed projects are quantified through two metrics:

- **Gross value-added (to GDP)** quantifies the potential economic value associated with economic activity generated the proposed development;
- **Employment** is measured in job years for temporary employment facilitated through the development phase; and jobs for operational phase employment

3. RESULTS

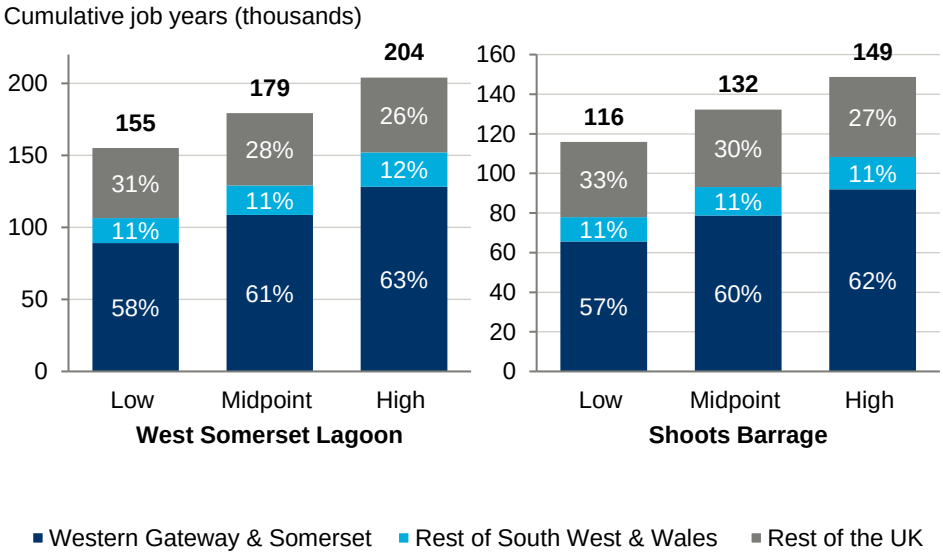
3.1 RESULTS: DEVELOPMENT AND CONSTRUCTION PHASE

To give an indication of how the economic impacts of the different chosen projects compare to one another, we modelled the economic impact of their development as if they were to be approved for construction within the near future. We have assumed a design phase of eight years beginning in 2028, during which the development and planning costs will be spent. The rest of the costs are then spent in the subsequent construction phase, which varies in length by project. The results for the West Somerset Lagoon and Shoots Barrage are presented here as examples of the other barrage and lagoon projects, whose economic impacts will follow the same proportional scale.

We modelled the low and high spend scenarios, detailed in section 1.4, and the results for the West Somerset Lagoon and the Shoots Barrage are shown in Fig. 5. These two projects are examples to show how the scale and location of the economic impact for the two types of projects vary between the two scenarios. In the high scenario the development phase of the West Somerset Lagoon would support 204,000 cumulative job years across the UK, and the Shoots Barrage would support 149,000. For both lagoons and barrages around three quarters of the UKs employment impact would be within the South West & Wales, and the Western Gateway & Somerset would see over 60% of this. Lagoon projects modelled in the high scenario have a 57% higher total employment impact compared to the low scenario.

However, the economic impacts of barrage projects are less sensitive to the low and high scenario assumptions, and the differences in the total impact between the low and the high scenario for barrage projects are smaller, with the high scenario only seeing a 28% increase in total employment impact over the low scenario. This is due to a higher proportion of spend in barrage projects going to civil engineering, which is more likely to be fulfilled domestically, than other types of project spending. The economic impact of barrage projects impacts are also slightly less concentrated locally than lagoon projects.

Fig. 5. Location of economic impact, West Somerset Lagoon and Shoots Barrage

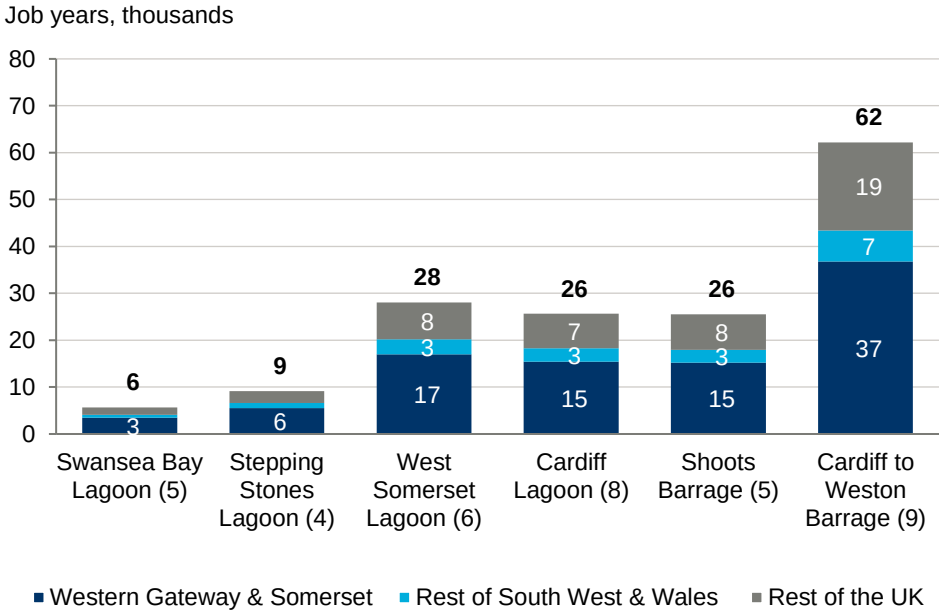


Source:Oxford Economics. Note: may not sum due to rounding.

Fig. 6 shows our estimated employment impact for each proposed development. In a midpoint between the high and low scenario, the **employment impact of projects during construction phase of development ranges between 6,000 and 62,000 average annual jobs years** depending on the scale of the project we modelled.[9] The Cardiff to Weston Large Barrage would support 37,000 jobs in the Western Gateway & Somerset, and a further 7,000 job years in the rest of the South West & Wales. The smallest project we modelled, the Swansea Bay Lagoon, could support 3,000 job years on average during its construction, and further 500 job years on average in the rest of the South West & Wales. Generally, **the larger the project the larger the employment impact will be**. Note that given the differences in construction time periods, the Cardiff Lagoon will support a comparable number of average jobs for each year of its construction to the smaller West Somerset Lagoon, but it will support those jobs over eight years instead of six. For a full breakdown of the results please see the appendix.

[9] Job years is a measure of temporary employment: 1,000 job years could be 1,000 people working for one year or 10,000 people working for a one tenth of a year etc.

Fig. 6. Average annual construction phase job years, midpoint scenario, UK



Source:Oxford Economics. Note: brackets denote construction period

The construction of tidal energy projects in the Severn Estuary would create significant new industries, both in the Western Gateway & Somerset and elsewhere in the UK. Using the results for the West Somerset Lagoon as an example,[10] manufacturing would see the greatest employment impact, with 49,900 job years of employment being created throughout the development phase (see Fig 7). Over 35,000 job years of this employment would be in the Western Gateway & Somerset, with an additional 5,700 job years supported in the rest of the South West & Wales. This reflects the extent to which the local economy is already capable of manufacturing components within the supply chain of the project.

Unsurprisingly the construction sector is also a large beneficiary, taking the second largest share of employment creation, over 30,000 job years nationally. A large proportion of the development cost will be spent on the day-to-day final construction of the project, mostly spent in the Western Gateway & Somerset.

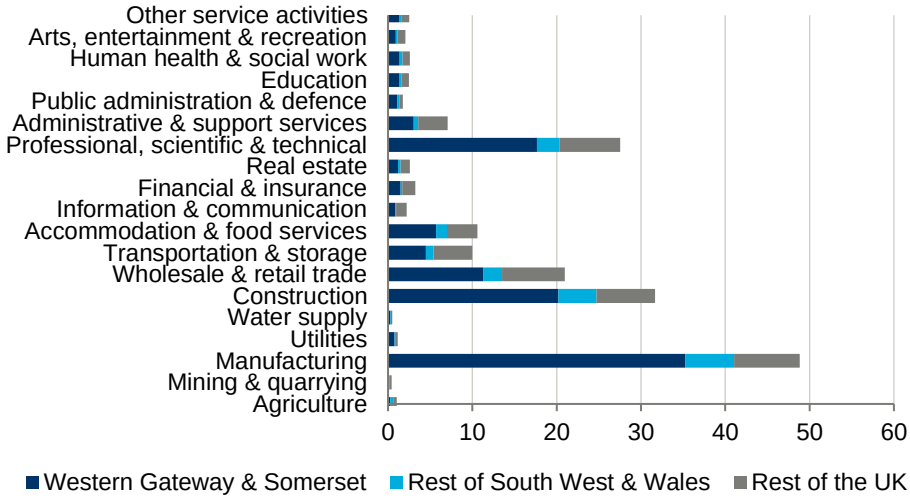
A large proportion of the first round of spending will be spent to employ workers in the Western Gateway & Somerset. The wages earned in the Western Gateway & Somerset will also be mainly spent locally, which can explain in part the high number of jobs supported in wholesale & retail trade. The jobs in this sector are concentrated locally as they are mainly supported by wage spending. Accommodation & food services jobs are also locally concentrated for the same reason.

[10] Note that the sectoral and geographic proportions of employment supported will be the same for all lagoon projects.

The spending on the design period of the development phase largely contributes to the fourth highest employment impact, in the highly productive professional, scientific & technical services sector. Businesses in this sector include engineering services, architectural services, legal services, and consultants. As these services can be fulfilled anywhere within the country, our model calculates a lower proportion of these jobs to fulfilled from within the Western Gateway & Somerset. Many of these jobs will be supported in the large cities across the UK where these industries cluster.

Fig. 7. Sectoral mix of development phase employment, West Somerset Lagoon

Cumulative job years, thousands

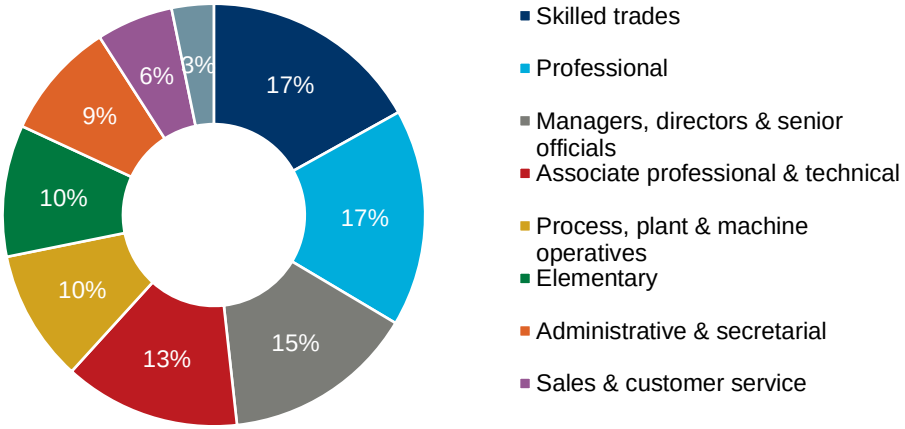


Source: Oxford Economics

We also consider the likely occupational and qualifications profile of the jobs which will be supported in the development phase of lagoon projects across the UK.[11] This analysis relates to the direct, indirect, and induced employment. **The construction of tidal lagoon projects in the Severn Estuary would create employment in all occupation categories across the UK**. Skilled trades and professional occupations would make up the joint largest share, together accounting for more than one-in-three jobs. Managers and directors will make up the next largest group of employees supported, followed by associated professional and technical occupations. Jobs in occupations which require fewer qualifications and are not directly related to the construction of civil engineering projects would also be supported across the economy, mainly due to the supply chain and wage spending economic impacts.

[11] Note that these calculations are based on national industry averages of occupations and qualifications within economic sectors, and therefore do not reflect the unique nature of a tidal range energy projects; however, these figures do provide an indication of demand.

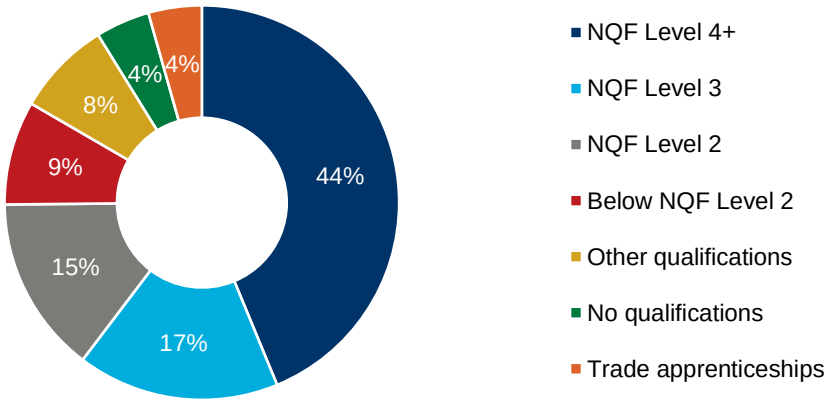
Fig. 8. Occupational mix of development phase employment, West Somerset Lagoon, UK



Source: Oxford Economics

The construction of tidal lagoon projects would support employment across all levels of qualification. The highest demand would be for employees which are educated to at least university degree level, denoted by the national qualification levels (NQF) four and above. These employees would be required in 44% of the roles supported in the development phase. Jobs requiring a lower NQF level of qualification would make up a further 41% of roles, and 16% of jobs could be filled by those with either trade apprenticeships, no qualifications, or qualifications not recognised by NQF.

Fig. 9. Qualification mix of development phase employment, West Somerset Lagoon, UK



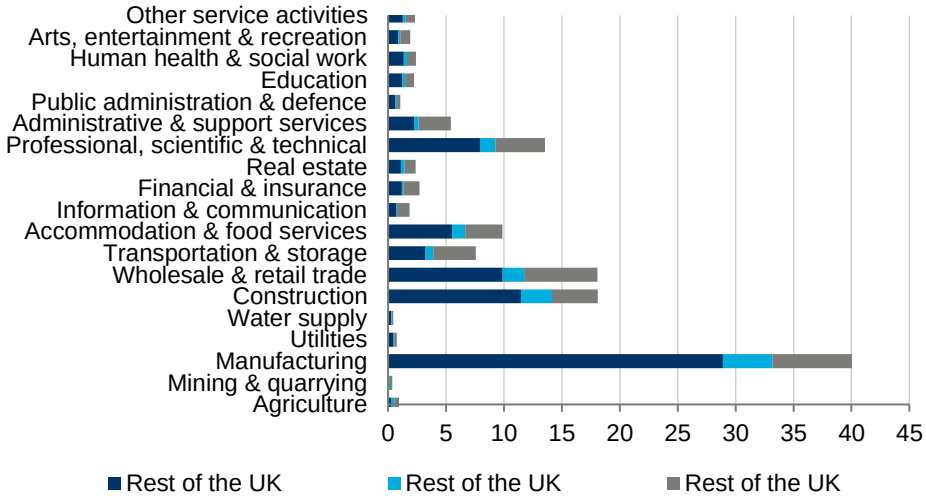
Source: Oxford Economics

The sectoral mix, as well as the associated occupational and qualification mix, of employment created by barrages would be broadly similar to that of lagoons. Using the employment impact of the Shoots Barrage as an example, we can see that the largest share of employment would again be created in manufacturing, followed by construction, wholesale & retail trade, and then professional, scientific & technical services. Manufacturing sees marginally lower share of jobs than it does with lagoon projects, as does

construction, with most other sectors seeing a slight increase in their share of employment impacts.

Fig. 10. Sectoral mix of development phase employment, Shoots Barrage

Cumulative job years, thousands



Source: Oxford Economics

TESTING ADDITIONAL SCENARIOS

Sensitivity testing domestic spending scenarios

We modelled a series of scenarios to test how the economic impacts would respond to a lower proportion of spending taking place in the UK in each of the spending categories. We reduced the domestic spend proportion assumption in the low scenario by 10% in turn. This analysis is designed to show how sensitive the results are to the modelling assumptions.

The results show that the economic impacts are most sensitive to reductions in domestic spend in the Equipment and Other Civil Engineering categories. For lagoons the greatest sensitivity is in equipment, whereas barrages are more sensitive to reductions in domestic spend in civil engineering. This is due to the variations in the spend composition between the two types of projects, with barrages requiring comparatively more spending on civil engineering.

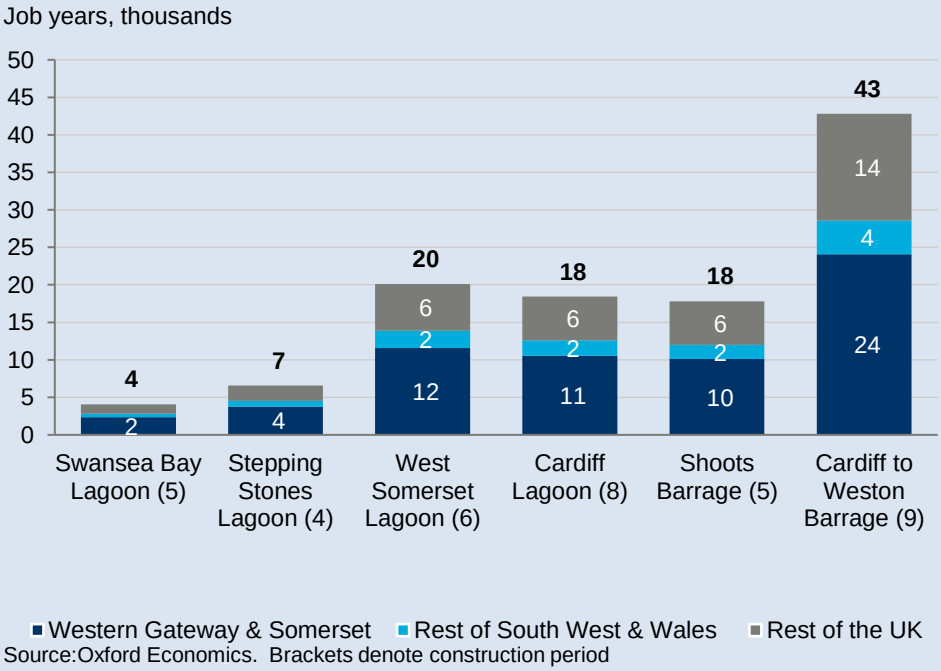
Fig. 11. Economic impact sensitivity to a 10% reduction in domestic capability in each category

Spend Category	Decrease in employments impacts, lagoons (%)	Decrease in employment impacts, Shoots Barrage (%)	Decrease in employment impacts, Cardiff Weston Barrage (%)
Development and Planning	0.8%	0.4%	0.5%
Equipment	5.9%	3.7%	2.3%
Turbine Area Mechanical & Engineering Works	2.1%	1.4%	1.5%
Turbine Area Civil Engineering	1.4%	2.9%	3.1%
Other Civil Engineering	3.9%	5.2%	5.6%
Other Spending	1.6%	0.9%	1.0%

Worst-case domestic spend scenario

We also ran a scenario designed to show the economic impact of the six projects under pessimistic assumptions on the capacity for the UK economy to facilitate the supply of construction phase inputs. From our conversations with stakeholders, we found that the greatest uncertainty in the UK's capability to fulfil the supply chain was in turbine manufacture. Therefore, in this worst-case scenario we assumed 100% of spending on equipment would take place abroad. We also reduced the proportion of spending on all other construction elements taking place in the UK by 20%. The results show that even under pessimistic assumptions, tidal energy projects would support a substantial level of employment in their development.

Fig. 12. Average annual construction phase job years, worst case domestic spend scenario, UK



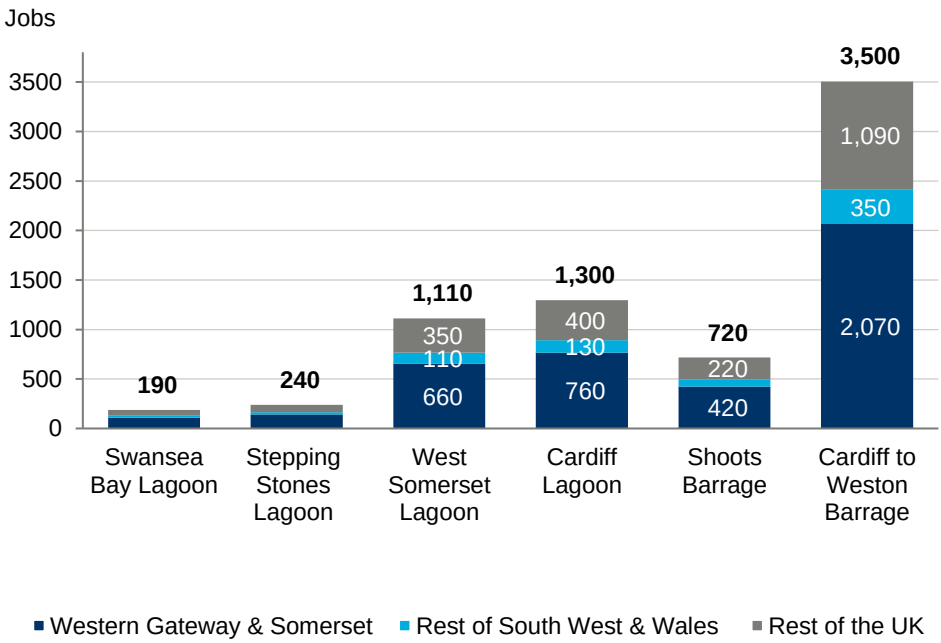
Source:Oxford Economics. Brackets denote construction period

3.2 RESULTS: OPERATIONAL PHASE

Once operational the maintenance and operations expenditure of tidal lagoons and barrages will have continuous operational economic impacts for the lifetime of the projects. These operational impacts are dependent on the scale of the project, and range in scale from 190 jobs supported annually across the UK to 3,500 jobs supported annually across the UK. As with the development phase these are the total employment impacts, including the direct, indirect, and induced effects.

The employment benefit created by the operational phase of tidal projects will be concentrated in the Western Gateway & Somerset. The largest Cardiff to Weston Barrage project would support over 2,000 total jobs each year in the Western Gateway & Somerset. The smallest project, the Swansea Bay Lagoon would support 110 jobs in the Western Gateway & Somerset each year through its operations and maintenance spending.

Fig. 13. Operational jobs, UK

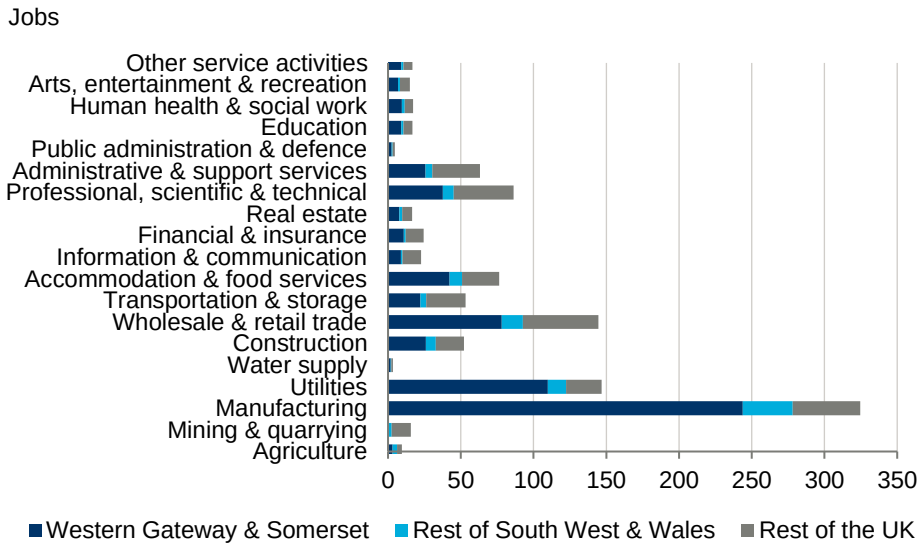


Source:Oxford Economics.

The largest share of operational phase employment supported will be in the manufacturing sector, largely due to the supply chain or indirect employment impacts. As an example, the West Somerset Lagoon project will support 240 permanent jobs in the Western Gateway in the manufacturing sector, more than a fifth of the total jobs it will support nationally. Utilities and wholesale & retail trade receive around an equal joint-second share of the jobs sustained in the operational phase. Jobs are supported in utilities due to the direct spending in electricity generation, and more than three-quarters of these will be in the Western Gateway & Somerset. Wholesale & retail trade employment will be supported in part due to the induced impacts of wage spending of employees in the supply chain, and therefore these jobs are more spread out across the UK, with more than a third being supported outside of Wales & the South West.

The same sectoral mix of employment and geographical distribution of employment will apply to all projects, please see the appendix for full operational results of each project.

Fig. 14. Sectoral mix of operational phase employment, West Somerset Lagoon



Source: Oxford Economics

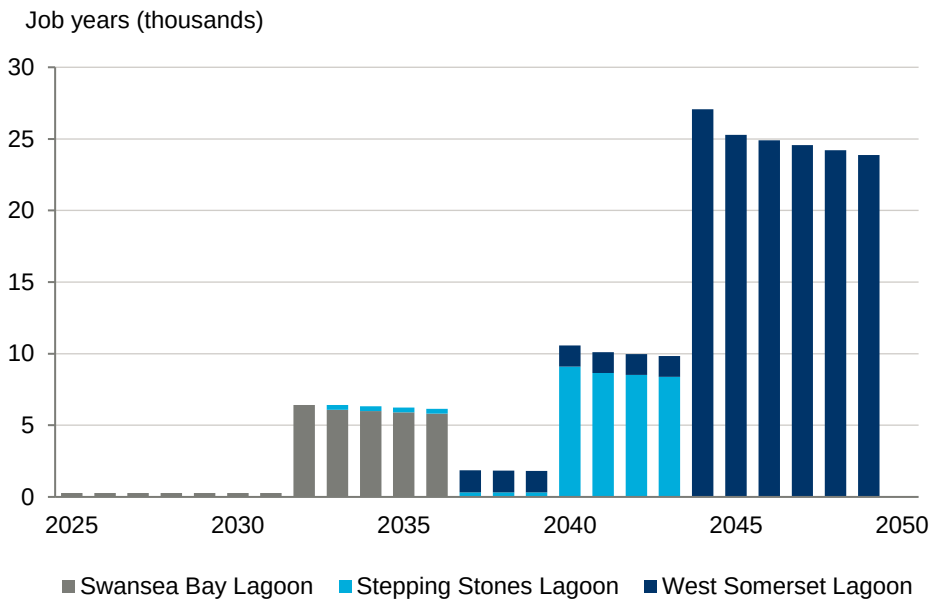
3.3 A POSSIBLE FUTURE: A SEQUENTIAL LAGOON SCENARIO

To give an indication of how tidal range energy capability could grow in the coming decades in the Severn Estuary, we modelled a scenario where lagoons are built sequentially. This is a purely hypothetical scenario but is designed to show how capacity, and economic impact, could plausibly develop over time.

In this scenario the smallest of our selected projects, the Swansea Bay Tidal Lagoon is built first with the design phase commencing in 2025. Once construction begins on the Swansea Bay Lagoon the Stepping Stones Lagoon begins its design phase, and the West Somerset Lagoon begins its design phase when the Swansea Bay Lagoon is operational. The results show that employment in tidal lagoon construction could scale from a relatively small number of 270 job years supported in the design phase of the Swansea Bay Lagoon, to a peak of more than 27,000 job years supported

during the second year of the construction phase of the West Somerset Lagoon.

Fig. 15. Sequential lagoon scenario, employment impact, UK



Source: Oxford Economics

This scenario is modelled with fixed costs for the sequential lagoons **and therefore does not take into account possible cost savings over time**. As the first project is developed firms will begin to adapt to fulfil the supply chain for construction; changing their practices to meet the specific needs of a tidal range project. New companies would likely also be founded locally to fulfil the new demand, and established companies from elsewhere in the UK or abroad may look to increase their presence in the Western Gateway. Supply chain links and business relationships established during an initial project would endure for subsequent projects. Lessons would be learned from the first project and practices altered in subsequent projects. As the projects grow larger over time, so will the firms which supply them, allowing economies of scale to be realised. These factors together could create efficiency benefits for future projects, plausibly allowing the cost of the later projects to decrease. These cost savings will be most pronounced if there is a clear timeline of projects, allowing firms to look to the future for further business when scaling their operations.

There is also an aspiration that tidal industries could build a specialism to serve the domestic market initially, with a view to exporting components further down the line. This is of course dependant on international demand, and the support of industrial strategy for tidal range energy from UK central government.[12] Any domestic capability which is built up in turbine manufacturing could also serve the UK market in the future when the turbines of tidal range projects are replaced at the end of their lifespan.

[12] Tidal Lagoon Power, Ours to Own, 2016

However, there is also a possibility that if in the future multiple projects are being constructed simultaneously rather than sequentially, **projects could compete with one another for scarce construction materials in the supply chain, driving up costs**. This would not be limited to tidal range projects, but any other large-scale civil engineering projects constructed in the future. Other green industries, such as floating offshore wind, may also compete for other limited resources which would be required for the construction of tidal energy projects, such as the quayside capacity required at ports in the Severn Estuary for the construction of water projects.

Beyond these factors there is always a degree of uncertainty around the cost of large-scale civil engineering projects, and there have historically been large discrepancies between estimated and actual costs. With the first tidal range energy project we must also be aware that it is an unprecedented project in an environment where the supply chain is untested.

Costs are ultimately the variable which most alter the scale of the final economic impact, therefore throughout our work we have drawn on external sources to limit the possibility of overstating or understating the economic impacts through inaccurate costs due to unpredictable external factors. It is important to note that once the first tidal range project has been completed the number of unknowns will decrease, and the economic modelling accuracy for further projects would increase.

Full results

	Cumulative GVA (£m, constant prices)	Cumulative job years, thousands	Average annual design phase job years, thousands	Average annual construction phase job years, thousands	Annual operational GVA (£m, constant prices)	Operational jobs
Swansea Bay Lagoon						
Western Gateway & Somerset	860 (720 to 1,010)	18 (15 to 22)	0.14 (0.14 to 0.15)	3.44 (2.79 to 4.1)	9.6	110
South West & Wales	1,000 (840 to 1,160)	22 (18 to 26)	0.17 (0.16 to 0.17)	4.1 (3.33 to 4.86)	10.8	130
UK	1,630 (1,430 to 1,840)	30 (26 to 34)	0.23 (0.23 to 0.24)	5.69 (4.87 to 6.52)	17	190
Stepping Stones Lagoon						
Western Gateway & Somerset	1,110 (920 to 1,290)	24 (19 to 28)	0.18 (0.18 to 0.19)	5.55 (4.5 to 6.61)	12.3	140
South West & Wales	1,280 (1,080 to 1,490)	28 (23 to 33)	0.21 (0.21 to 0.22)	6.61 (5.37 to 7.84)	13.8	160
UK	2,090 (1,830 to 2,360)	39 (34 to 44)	0.3 (.29 to .31)	9.17 (7.85 to 10.51)	21.7	240
West Somerset Lagoon					.	
Western Gateway & Somerset	5,140 (4,280 to 5,990)	109 (89 to 128)	0.85 (0.83 to 0.87)	16.98 (13.75 to 20.22)	57.4	660
South West & Wales	5,950 (5,000 to 6,900)	129 (106 to 152)	0.99 (0.97 to 1.02)	20.2 (16.44 to 23.98)	64.2	770
UK	9,710 (8,490 to 10,930)	179 (155 to 204)	1.4 (1.37 to 1.42)	28.05 (24.01 to 32.11)	101.1	1,110
Cardiff Lagoon						
Western Gateway & Somerset	6,470 (5,410 to 7,530)	131 (108 to 155)	1.02 (0.99 to 1.04)	15.41 (12.52 to 18.32)	67	760
South West & Wales	7,490 (6,320 to 8,670)	156 (129 to 183)	1.19 (1.16 to 1.22)	18.32 (14.95 to 21.69)	74.9	890
UK	12,270 (10,780 to 13,780)	218 (189 to 248)	1.68 (1.64 to 1.71)	25.64 (22.03 to 29.26)	117.9	1,300
Shoots Barrage						
Western Gateway & Somerset	4,200 (3,570 to 4,840)	79 (66 to 92)	0.35 (0.34 to 0.36)	15.19 (12.58 to 17.81)	37	420
South West & Wales	4,890 (4,190 to 5,600)	93 (78 to 108)	0.41 (0.4 to 0.42)	17.96 (14.95 to 20.99)	41.4	490
UK	7,930 (7,050 to 8,820)	132 (116 to 149)	0.58 (0.57 to 0.59)	25.52 (22.26 to 28.8)	65.1	720
Cardiff to Weston Barrage						
Western Gateway & Somerset	19,110 (16,290 to 21,940)	344 (288 to 401)	1.71 (1.67 to 1.75)	36.75 (30.5 to 43.03)	180.9	2,070
South West & Wales	22,250 (19,110 to 25,420)	407 (341 to 472)	1.99 (1.94 to 2.03)	43.42 (36.2 to 50.67)	202.4	2,410
UK	36,110 (32,190 to 40,080)	582 (511 to 654)	2.84 (2.79 to 2.89)	62.17 (54.35 to 70.05)	318.6	3,500

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