

# Buckie Harbour and Onshore Wind Economic Report

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A report to

**VATTENFALL** 

December 2024





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# 1.

## Executive Summary

The redevelopment of Buckie Harbour to support onshore wind turbine deliveries would provide significant short and long-term benefits to the Moray economy.

Onshore wind activity at Buckie Harbour is currently constrained because the port does not meet the berthing criteria for the vessels that are used for onshore wind turbine component shipping and deliveries. In addition, there is limited availability of a suitable laydown area.

Whilst Moray Council's Buckie Harbour masterplan considers the opportunities from offshore wind, there also exist significant opportunities from onshore wind development across the region. As such, Vattenfall's Aultmore Wind Farm commissioned BiGGAR Economics to assess the net economic benefits of the onshore wind industry utilising Buckie Harbour for its future pipeline.

A redevelopment of Buckie Harbour to support onshore wind activity would strongly align with policy, including the requirements for maximising net economic benefits in the fourth National Planning Framework (NPF4) and the Onshore Wind Sector Deal.

This investment in port infrastructure would enable Vattenfall to significantly increase the local benefits from its proposed Aultmore Wind Farm, should the project be consented and Buckie Harbour utilised for turbine deliveries. It would be expected to result in an *additional* 16 years of employment in Moray and a *further* £2.4 million Gross Value Added (GVA) being supported by Aultmore Wind Farm.

Buckie Harbour's strategic geographical position means it could also support the wider delivery of projects across the Moray, Aberdeenshire and Highland region. Based on potential regional development to 2050 of at least 10 gigawatts (GW) and the repowering of 2.8GW, port-related contracts could support £299.8 million GVA and 1,705 years of employment across the region. Under a more ambitious scenario involving the deployment of 12.9GW of onshore wind, impacts could be even larger at £389.1 million GVA and 2,214 years of employment.

By enabling access to larger vessels, Buckie Harbour could also strengthen its role as a multi-use port. As well as onshore and offshore wind, enhanced infrastructure could position the harbour as a cruise ship destination and support Speyside whisky distilleries, strengthening supply chains and boosting tourism and manufacturing.

Overall, the creation of local jobs from a redevelopment of Buckie Harbour supportive of the onshore wind sector would contribute to a just transition for Moray. The project would facilitate the delivery of onshore wind projects and help decarbonise the Scottish economy, doing so by creating new employment opportunities. These would support the retention and attraction of people in the area, a priority for Moray's economic aspirations.

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## 2. Introduction

Vattenfall has commissioned BiGGAR Economics to assess the potential impact of redeveloping Buckie Harbour in the context of maximising net economic benefits from the proposed Aultmore Wind Farm.

### 2.1 Background

Buckie Harbour is a long-established mixed economy port on the Moray coast of Scotland. In addition to supporting fishing and cargo operations, the port is well positioned to serve as a base for the operations of offshore wind projects built over the next decade as part of the ScotWind leasing round. This is underscored by the fact that in 2021 Moray West Offshore Wind Farm (Ocean Winds) selected Buckie Harbour as its long-term operations and maintenance (O&M) base and the onshore hub from which offshore facilities will be managed throughout the project's operational life.

**Figure 2-1 Buckie Harbour's Strategic Location**



Following the development of an initial masterplan in 2015, Moray Council has recently developed a new masterplan for Buckie Harbour, which has been subject to



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consultations with port users and stakeholders. The masterplan and a subsequent feasibility study set out two main areas for development:

- West Harbour Extension, involving the creation of a new harbour basin, operational quayside, road infrastructure upgrades and a laydown hardstanding area; and
- re-ordering of Basin 4, which requires a new quay wall creating additional laydown space, with a new pier structure and further land reclamation.

The West Harbour Extension could provide support not only to the activities of the offshore wind sector, but also to those of onshore wind developers. This is because the main constraints to Buckie Harbour's use as a port for onshore wind projects are that the port does not meet the berthing criteria for the vessels used for onshore wind turbine deliveries and a lack of suitable laydown area.

## 2.2 Study Aims and Content

Vattenfall has an established track record of maximising the local economic impacts from its onshore wind farms. In exploring enhancement opportunities for the proposed Aultmore Wind Farm, a redeveloped Buckie Harbour has been identified as a potential port for the delivery of wind turbine components. Subsequently, Vattenfall has held discussions with Moray Council on the timescales for port redevelopment and the preferred options for its implementation. By providing evidence on the benefits that the onshore wind industry could deliver by utilising Buckie Harbour, this study aims to:

- set out the case for including onshore wind infrastructure criteria in the redevelopment plans for Buckie Harbour; and
- demonstrate how Vattenfall is seeking to maximise the net economic impacts from its proposed Aultmore Wind Farm.

### 2.2.1 Report Structure

The remainder of this study is structured as follows:

- **Chapter 3** presents the scale of expected growth of onshore wind in the region;
- **Chapter 4** provides a strategic context with local and national policy priorities;
- **Chapter 5** presents evidence on the economic impact from using a local port;
- **Chapter 6** considers the additional economic benefits from using Buckie Harbour during Aultmore Wind Farm's construction;
- **Chapter 7** explores the potential longer term economic benefits from port development;
- **Chapter 8** presents the wider benefits from Buckie Harbour capturing onshore wind activity from across the region;
- **Chapter 9** considers the wider economic consequences of redevelopment of Buckie Harbour for the region; and
- **Chapter 10** summarises the implications from this study.



# 3. Scale of Expected Growth in Onshore Wind

The growing onshore wind sector across Moray, Aberdeenshire and Highland is expected to more than double by 2030.

## 3.1 Current and Expected Onshore Wind Capacity

### 3.1.1 Current Capacity and Activity to 2030

Given its strategic geographical position, a redevelopment of Buckie Harbour to support onshore wind activity could facilitate projects across Moray, Aberdeenshire and Highland. To understand the scale of the opportunity from onshore wind development in this region, the analysis has considered data from the Renewable Energy Planning Database<sup>1</sup>. Given typical project timescales, the projects currently in the database are considered as being deliverable by 2030.

Scotland has over 14GW of projects in the development pipeline (Table 3-1). If all projects were delivered, this would increase capacity from over 9GW, to almost 24GW, in excess of the 2030 target of 20GW in the Onshore Wind Sector Deal<sup>2</sup>.

Within Scotland, the Highland region is set to experience the largest growth across local authorities, with 3,339 megawatts (MW) in the pipeline. Moray has 942MW in the pipeline and Aberdeenshire has 405MW, giving a total of 4,686MW across the three local authorities, a third of Scotland’s onshore wind pipeline.

**Table 3-1 Regional Distribution of Onshore Wind Projects: Current and Future**

Region	Current Operational Capacity (MW)	Capacity of Pipeline Projects (MW)
Moray	501	942
Aberdeenshire	484	405
Highland	2,017	3,339
Moray, Aberdeenshire & Highland	3,002	4,686
Scotland	9,290	14,482

Source: UK Government (2024), Renewable Energy Planning Database

<sup>1</sup> Department for Energy Security & Net Zero (2024), Renewable Energy Planning Database, Version: October 2024 (Q3).

<sup>2</sup> Scottish Government (2023) Onshore Wind Sector Deal.



### 3.1.2 Moray: Current Activity and Project Pipeline

There are ten onshore wind farms operational in Moray (Table 3-2).

**Table 3-2 Operational Onshore Wind Farms in Moray**

Name of Development	Capacity (MW)	Year Operational
Rothes Wind (Cairn Uish)	50.6	2004
Paul's Hill and Extension	65	2006
Hill of Towie (Drummuir)	48	2012
Myreton Crossroads	1.6	2013
Rothes Wind Farm (Extension) (II)	41.4	2013
Berry Burn	66.7	2014
Netherton of Windyhills	4.6	2014
Edintore	18	2016
Hill of Glaschyle	27.6	2016
Dorenell	177	2018

Source: UK Government (2024), Renewable Energy Planning Database

There are also 11 onshore wind farms currently in the pipeline for Moray (Table 3-3).

**Table 3-3 Future Pipeline of Onshore Wind Farms in Moray**

Name of Development	Capacity (MW)	Status
Aultmore (redesign)	105.6	Application Submitted
Clashindarroch Extension	145.2	Application Submitted
Kellas	55.2	Application Submitted
Pauls Hill 2	28.0	Awaiting Construction
Berry Burn Wind Farm (extension)	37.8	Awaiting Construction
Craig Watch	72.6	Application Submitted
Lurg Hill	15.0	Awaiting Construction
Rothes III	132.0	Awaiting Construction
Clash Gour	225.0	Awaiting Construction
Garbet	46.2	Awaiting Construction
Teindland Wind Farm	79.2	Post Second Consultation

Source: UK Government (2024), Renewable Energy Planning Database

### 3.1.3 Activity to 2050

There is less certainty around what future capacity may be beyond 2030. To model the expansion in activity to 2050, the analysis considered two scenarios for Scotland



derived from analysis by Scottish Enterprise<sup>3</sup>. Regional distribution for 2050 is estimated by applying the current regional capacity ratios, assuming similar geographic distribution patterns continue. Overall, between 2030 and 2050 activity across Moray, Highland and Aberdeenshire may increase by between 2,300MW and 5,200MW.

**Table 3-4 Onshore Wind Capacity to 2050 (GW)**

Region	Current	2030	Business as Usual 2050	Strong Ambition 2050
Moray	500	1,400	1,800	2,400
Aberdeenshire	484	900	1,200	1,500
Highland	2,017	5,400	7,000	9,000
Moray, Aberdeenshire & Highland	3,000	7,700	10,000	12,900
Scotland	9,200	20,000*	25,900**	33,500**

Sources: UK Government (2024), Renewable Energy Planning Database; \*Scottish Government (2023), Onshore Wind Sector Deal, \*\*Scottish Enterprise (2024), Economic Impact Scenarios for Scotland’s Energy Transition. Please note, numbers have been rounded up and may not add to total.

### 3.2 Repowering

The operational life span of a typical wind farm is around 30 years. After this time, for a site to continue generating electricity, it usually needs to be repowered. This process involves technology replacements, infrastructure upgrades, site optimisation and a new planning application. To estimate the scale of opportunity presented by repowering onshore wind farms, current operational sites reaching the end of their operations were identified.

Table 3-5 overleaf sets out the overall capacity that will require repowering by 2030 and 2050. It is expected most repowering will take place beyond 2030, as more sites reach the end of their operational life. While across the region only 26MW would require repowering by 2030, by 2050 the figure will increase to 2,798MW, including 501MW in Moray.

Repowering activities in the next few decades will increase demand for port facilities, including at Buckie Harbour, if the port is redeveloped to accommodate onshore wind turbine deliveries.

<sup>3</sup> Scottish Enterprise (2024), Economic Impact Scenarios for Scotland’s Energy Transition





**Table 3-5 Regional Repowering Capacity: Current Status and Future Projections, 2030-2050 (MW)**

Region	Current Capacity	Repowering Capacity to 2030	Repowering Capacity to 2050
Moray	501	0	501
Aberdeenshire	484	0	482
Highland	2,017	26	1,815
Moray, Aberdeenshire & Highland	3,002	26	2,798
Scotland	9,290	109	8,163

Source: UK Government (2024), Renewable Energy Planning Database



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## 4.

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# Strategic Context

Buckie Harbour's use as a port for onshore wind projects aligns well with Scotland's planning framework, the Onshore Wind Sector Deal and the need for a just transition across Moray.

## 4.1 Scotland's National Planning Framework 4

Scotland's fourth National Planning Framework (NPF4)<sup>4</sup> sets the principles and priorities underpinning national developments and planning. Through a series of spatial principles, the framework aims to support sustainable places, liveable places and productive places.

With regards to renewable energy developments, Policy 11(c) introduces a requirement whereby: "Development proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities".

The redevelopment of Buckie Harbour to support onshore wind development would contribute to maximising the net economic benefits from the proposed Aultmore Wind Farm. In the short-term, it would increase the local employment and supply chain opportunities from this project. The port redevelopment would also have a lasting positive impact by simplifying the logistics of onshore wind development in the region and supporting economic activity in Moray, as the port becomes an onshore wind hub.

## 4.2 Onshore Wind Sector Deal

The Onshore Wind Sector Deal<sup>5</sup>, published in September 2023, establishes a series of commitments between the Scottish Government and the onshore wind industry to achieve net-zero targets. This partnership aims to deliver 20GW of onshore wind capacity by 2030, whilst maximising the economic benefits for Scotland.

Within the section on Supply Chain, Skills and Circular Economy, the Deal considers port infrastructure development for the onshore wind sector. It articulates a priority for collaborative action to support onshore wind and ports and to "understand the specific infrastructure requirements for ports to support onshore wind, and any circularity-related opportunities (within the context of emerging Strategic Investment

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<sup>4</sup> Scottish Government (2023), National Planning Framework 4.

<sup>5</sup> Scottish Government (2023) Onshore Wind Sector Deal.



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Model (SIM) projects)", highlighting the importance of port development and access for successful onshore wind deployment.

The proposed redevelopment of Buckie Harbour to accommodate the needs of onshore wind projects would go beyond the Deal's objective of understanding specific infrastructure requirements for ports to support onshore wind – and provides a timely case study for how this commitment can be achieved.

Buckie Harbour's redevelopment would also support the deployment of onshore wind projects across the region, which would be instrumental in meeting the Scottish Government's onshore wind target of 20GW of installed capacity by 2030.

### 4.3 Just Transition

Scotland's Just Transition<sup>6</sup> strategy provides a comprehensive framework for aligning economic growth with the critical path to net-zero emissions. This approach seeks to ensure the transition to a green economy is not only environmentally sustainable, but also socially equitable. By prioritising fair work, meaningful community engagement, and targeted investments, the strategy seeks to address potential economic inequalities and manage workforce challenges that may arise during industrial transformation.

The proposed redevelopment of Buckie Harbour to accommodate the delivery of onshore wind turbines closely aligns with the need for a just transition. This infrastructure project would support the decarbonisation of Scotland's economy by facilitating the deployment of onshore wind in the region and creating employment opportunities in Moray. In doing so, it would also support local jobs in an area that is underperforming the Scottish economy and facilitate the region's move towards a more sustainable model of development.

### 4.4 Summary of Strategic Fit

Vattenfall's support for harbour redevelopment at Buckie to account for the needs of the onshore wind sector is motivated by its desire to maximise the local supply chain and community wealth building contribution of the proposed Aultmore Wind Farm, as part of its commitment to maximise net economic benefits from onshore wind, in line with Policy 11c) of NPF4.

This port redevelopment would also support the commitments made in the Onshore Wind Sector Deal. Furthermore, the use of a local port would enhance the economic benefits and opportunities for Moray arising from onshore wind projects within the area and across the wider region. This will contribute towards ensuring socio-economic and wider benefits from the energy transition are maximised, which is key towards supporting a just transition for Moray.

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<sup>6</sup> Scottish Government (2021), Just Transition - A Fairer, Greener Scotland.



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## 5. Local Ports: Case Study

Vattenfall's use of local Port of Ayr for its South Kyle Wind Farm demonstrated that delivering turbine components to a local port significantly increased the local economic benefit to the region.

### 5.1 Maximising Economic Benefits: South Kyle

During construction, onshore wind turbine components are shipped to a viable port as close as possible to the wind farm site. This approach makes sense from a logistical perspective and can also deliver benefits for the local economy.

South Kyle Wind Farm, on the border between East Ayrshire and Dumfries and Galloway, became operational in June 2023. It was developed, constructed and is now operated by Vattenfall and owned by Schrodgers UK Wind. It consists of 50 turbines, with a total installed capacity of 240MW.

South Kyle utilised the local Port of Ayr for turbine deliveries as well as King George V docks in Glasgow. The involvement of the local Port of Ayr significantly helped maximise the inward investment to the region from the project.

In addition, Vattenfall's approach of working closely with local contractors on its onshore wind farm projects helped to further involve the local supply chain and maximise the economic benefits. For instance, the developer collaborated with Tier 1 suppliers to lower barriers for entry into the onshore wind market and engaged with local communities to fill any employment gaps associated with the construction phase of development.

In line with these initiatives, in 2021 Vattenfall commissioned BiGGAR Economics to carry out a suppliers' analysis. The study considered the economic impact that the construction and development of South Kyle Wind Farm had on the local and Scottish economies. It found that the project spent:

- £93.4 million in Scotland;
- including £44 million in South West Scotland.

This delivered an economic impact of £33.8 million GVA and 560 years of employment in South West Scotland and £79.0 million GVA and 1,290 years of employment across Scotland.

At its peak, project activity supported 270 jobs in South West Scotland and a total 720 jobs across Scotland.

**Figure 5-1 Maximising the Benefits from Onshore Wind: The South Kyle Case Study**



Source: BiGGAR Economics Analysis

In addition to showcasing Vattenfall’s broader commitment to maximising local economic benefits, the construction of South Kyle Wind Farm highlights the important role that local ports play in driving local supply chain content.

## 5.2 Lessons from South Kyle: The Role of Ports

There are several ways port activity from onshore wind realises local economic benefits. The primary stream of activity comes from the spending on ports, including port fees, and the number of workers required to prepare the turbine components for road transport. Similarly, there are indirect benefits including from any materials sourced from local suppliers. Finally, those involved in works at the port further stimulate the local economy by spending their salaries, including across local retail and hospitality businesses.

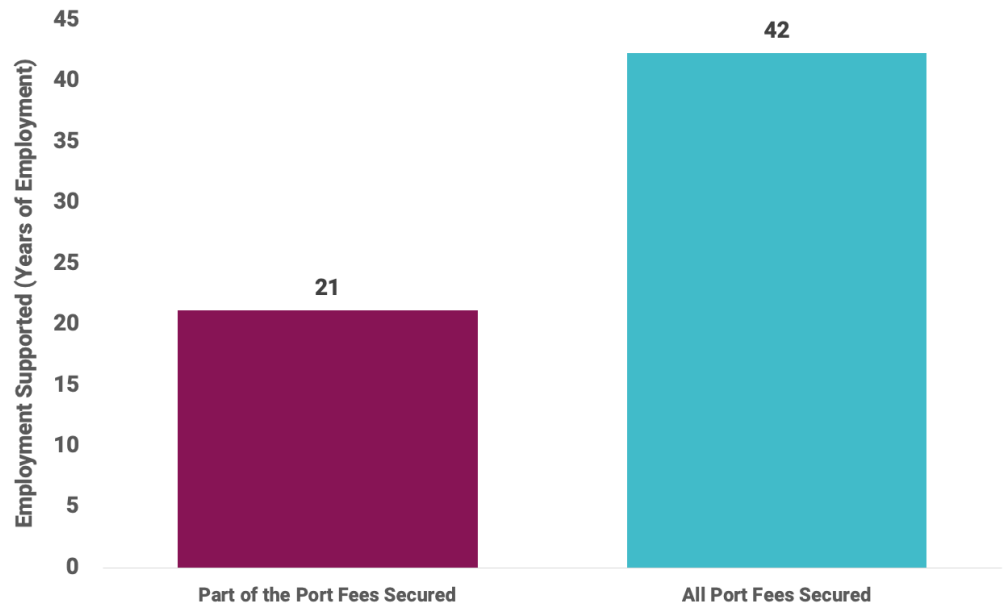
Once accounting for all this activity, the analysis of suppliers spending from South Kyle found that:

- activity at the Port of Ayr supported a total 21 years of employment, including 15 direct years of employment, and £3.1 million GVA, including £2.2million direct GVA; and
- total port activity in Scotland supported 46 years of employment, including 30 direct years of employment, and £6.9 million GVA, including £4.4 million direct GVA.

Use of the Port of Ayr meant an additional 21 years of employment were supported in South West Scotland. The local area could have secured 42 years of employment, had all port activity been possible at the Port of Ayr (Figure 5-2).



**Figure 5-2 Employment Secured at the Port of Ayr**



Source: BiGGAR Economics Analysis

Overall, the difference to the total local employment supported by South Kyle’s port decisions was as follows:

- activity at the Port of Ayr contributed 3% of total jobs secured in South West Scotland during development and construction; and
- use of the Port Ayr as the only port supporting the project could have resulted in 10% of total local jobs being supported by port activity.

A redevelopment of Buckie Harbour mindful of the requirements for onshore wind turbine deliveries, would allow Moray to capture additional activity from onshore wind projects across the region. The scale of these benefits could be significant, taking account of the cumulative activity across the series of onshore wind developments that are expected.



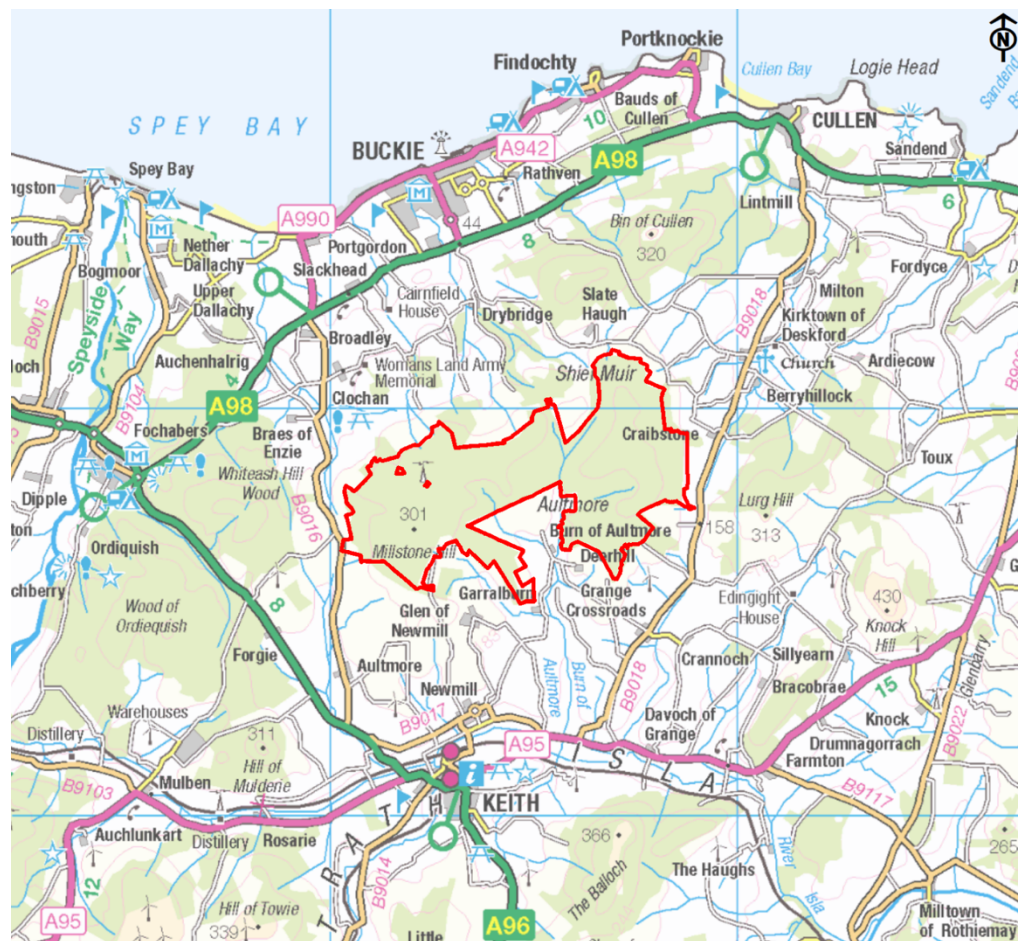
## 6. Additional Economic Benefits from Aultmore Wind Farm

The availability of suitable port infrastructure at Buckie Harbour could significantly increase the local economic benefit from Aultmore Wind Farm.

### 6.1 Aultmore Wind Farm

Vattenfall's Aultmore Wind Farm is located approximately 6km north of Keith and 7km south of Buckie. The wind farm is expected to feature a total installed capacity of 105.6MW from 16 turbines.

Figure 6-1 Aultmore Wind Farm: Site Location



Source: Vattenfall

In March 2024, Vattenfall submitted a Section 36 application to the Scottish Government's Energy Consents Unit (ECU) which included an Environmental Impact



Assessment (EIA). The EIA included an assessment of the project’s effects on socio-economics, tourism and recreation.

The EIA assessment estimated that the development and construction of Aultmore Wind Farm would cost £168.9 million and could generate a net economic impact of:

- £5.8 million GVA and 85 years of employment in Moray;
- £19.9 million GVA and 281 years of employment in Scotland; and
- £45.5 million GVA and 642 years of employment across the UK.

**Table 6-1 Economic Impact from Aultmore Wind Farm**

	Net GVA (£m)	Net GVA per annum (£m)	Net Employment total	Net Employment per annum
Moray	5.8	3.8	85	57
Scotland	19.9	13.3	281	188
UK	45.5	30.3	642	428

Source: Aultmore Wind Farm Redesign EIA Report (2024), Chapter 13: Socio-economics, Tourism and Recreation.

In addition to supporting economic activity through project spending, Vattenfall is committed to the delivery of wider benefits.

If consented, the project would deliver a community benefit fund of £528,000 each year or around £18.4 million in community benefits over the wind farm’s 35-year life – in line with the Scottish Government’s prevailing guidance on community benefit of £5,000 per MW of installed capacity. This funding is expected to support local communities living in proximity to Aultmore Wind Farm.

Additionally, it is expected that the project would contribute over £1.3 million a year in business rates or £45.5 million over the operational life of the wind farm, which would support the provision of public services across Moray.

## 6.2 Potential Impact from Use of Buckie Harbour

As Buckie Harbour currently does not have the required capacity to accommodate onshore wind turbine deliveries, the EIA for Aultmore Wind Farm did not assess the economic benefits of utilising Buckie Harbour.

However, if Buckie Harbour was developed with suitable berthing capability to accommodate onshore wind turbine deliveries this would allow Buckie Harbour to secure associated port-related contracts. Based on the evidence available from South Kyle, it was possible to estimate the level of port spending on a per MW and per turbine basis from an onshore wind development. Accounting for the generating





capacity and turbine size of Aultmore Wind Farm, it was estimated a total of £2.0 million could be spent on port-related contracts.

Further, it was estimated the additional spending from port fees could result in an additional 16 years of employment supported within Moray, as well as an additional £2.4 million GVA. Overall, the inclusion of port activity could increase the local employment from the project by 19% and total GVA by 41%, as shown in the table below.

These impacts include the benefits associated with the port itself, indirect benefits associated with suppliers to the port and benefits to the local economy from employees spending in the local economy.

**Table 6-2 Economic Impact of Aultmore Wind Farm, including Buckie Harbour**

	Without port use	Port Additional impact	Total including port	% Change in Impact
GVA (£m)	5.8	2.4	8.2	+41%
Employment (years of employment)	85	16	101	+19%

Source: BiGGAR Economics Analysis



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## 7. Longer Term Economic Benefits

A redevelopment of Buckie Harbour could result in longer term economic benefits by supporting the pipeline of projects across Moray, Aberdeenshire and Highland.

### 7.1 Port Benefits from Future Onshore Wind Activity

Repowering of existing sites and the growth in onshore wind's capacity across the region would result in an increase in the components to be shipped. This opportunity would not be limited to Moray-based projects since the trunk road network means Buckie Harbour could be a suitable port location for onshore wind developments further afield, including in Aberdeenshire and Highland (particularly if the planned Nairn bypass road is completed).

#### 7.1.1 Methodology

The analysis of long-term economic benefits to the onshore wind sector from Buckie Harbour's redevelopment draws on the South Kyle case study. In particular, it uses inflation-adjusted ratios of port spending per MW from South Kyle to estimate potential port fee revenue for projects across Moray, Aberdeenshire and Highland.

The economic impact assessment then applies multipliers derived from the supply chain and broader activity that port spending at South Kyle supported across the local area. The use of ratios and multipliers provide estimates of potential Gross Value Added (GVA) and employment impacts from the port activity associated with an expansion in onshore wind across the region.

#### 7.1.2 Future Economic Impact on Port Spending, GVA and Jobs by Region

Based on the methodology set out above, it was estimated that over the period to 2030 projects across Moray, Highland and Aberdeenshire may spend a total £118.5 million in port fees.

Projects built between 2030 and 2050 may require between an additional £57.7 million and £132.1 million, depending on the scenario considered.

Cumulative port fees from developments up to 2050 could be between £176.3 million and £250.7 million.



While Buckie Harbour's location means it cannot serve all Highland onshore wind farms, it is strategically positioned to support developments in eastern Highland. Consequently, the estimates provided here reflect an upper bound.

**Table 7-1 Estimated Spending by Period (£m)**

	Moray	Aberdeenshire	Highland	Total
Future pipeline to 2030	22.2	10.4	85.9	118.5
Business as Usual 2050	10.3	6.7	40.7	57.7
<b>2030 Pipeline + Business as Usual 2050</b>	<b>32.5</b>	<b>17.1</b>	<b>126.6</b>	<b>176.3</b>
'Strong Ambition' 2050	23.7	15.4	93.0	132.1
<b>2030 Pipeline + Strong Ambition 2050</b>	<b>45.9</b>	<b>25.8</b>	<b>179.0</b>	<b>250.7</b>

Source: BIGGAR Economics Analysis

Based on the GVA and employment multipliers from South Kyle, it was possible to estimate the GVA and jobs that could be supported by port fees at a local level. Overall, it was estimated that projects across the region could support:

- up to 2030, a total £143 million GVA (including £99 million direct GVA) and 812 years of employment (including 556 direct years of employment);
- between 2030 and 2050 ('Business as Usual'), a total £70 million GVA (including £48 million direct GVA) and 395 years of employment (including 280 direct years of employment); and
- between 2030 and 2050 ('Strong Ambition'), a total £159 million GVA (including £110 million direct GVA) and 905 years of employment (including 640 direct years of employment).

The total cumulative impact to 2050 was estimated as:

- a total £212 million GVA (including £147 million direct GVA) and 1,207 years of employment (including 854 direct years of employment) under the 'Business as Usual' scenario; and
- a total £302 million GVA (including £210 million direct GVA) and 1,717 years of employment (including 1,215 direct years of employment), under the 'Strong Ambition' scenario.



**Table 7-2 Regional Employment Impact per MW (Direct and Total Jobs)**

	Moray	Aberdeenshire	Highland	Total
<b>Direct Years of Employment</b>				
Future pipeline to 2030	108	50	416	575
Business as Usual 2050	50	33	197	280
<b>2030 Pipeline + Business as Usual 2050</b>	<b>158</b>	<b>83</b>	<b>613</b>	<b>854</b>
'Strong Ambition' 2050	115	75	451	640
<b>2030 Pipeline + Strong Ambition 2050</b>	<b>222</b>	<b>125</b>	<b>867</b>	<b>1,215</b>
<b>Total Years of Employment</b>				
Future pipeline to 2030	152	71	589	812
Business as Usual 2050	71	46	278	395
<b>2030 Pipeline + Business as Usual 2050</b>	<b>223</b>	<b>118</b>	<b>867</b>	<b>1,207</b>
'Strong Ambition' 2050	162	105	637	905
<b>2030 Pipeline + Strong Ambition 2050</b>	<b>314</b>	<b>177</b>	<b>1,226</b>	<b>1,717</b>

Source: BiGGAR Economics Analysis



**Table 7-3 Regional Estimations for Direct and Total GVA (£ million)**

	Moray	Aberdeenshire	Highland	Total
<b>Direct GVA (£ million)</b>				
Future pipeline to 2030	19	9	72	99
Business as Usual 2050	9	6	34	48
<b>2030 Pipeline + Business as Usual 2050</b>	<b>27</b>	<b>14</b>	<b>106</b>	<b>147</b>
'Strong Ambition' 2050	20	13	78	110
<b>2030 Pipeline + Strong Ambition 2050</b>	<b>38</b>	<b>22</b>	<b>150</b>	<b>210</b>
<b>Total GVA (£ million)</b>				
Future pipeline to 2030	27	13	103	143
Business as Usual 2050	12	8	49	70
<b>2030 Pipeline + Business as Usual 2050</b>	<b>39</b>	<b>21</b>	<b>152</b>	<b>212</b>
'Strong Ambition' 2050	29	19	112	159
<b>2030 Pipeline + Strong Ambition 2050</b>	<b>55</b>	<b>31</b>	<b>215</b>	<b>302</b>

Source: BIGGAR Economics Analysis. Note: Totals do not sum due to rounding.

## 7.2 Repowering

As set out in section 3.2, over the period to 2050 there will also be the need to re-power existing operational projects. Overall, it is estimated the repowering of projects to 2050 could result in an additional total GVA of £86.7 million and 493 years of employment.

**Table 7-4 Repowering Activity**

	Moray	Aberdeenshire	Highland	Total
<b>Impact to 2050</b>				
Direct GVA (£m)	10.8	10.4	39.1	60.2
Total GVA (£m)	15.5	14.9	56.2	86.7
Direct Years of Employment	62	60	226	349
Total Years of Employment	88	85	320	493

Source: BIGGAR Economics Analysis



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## 7.3 Summary of Longer Term Benefits

In accounting for repowering and projects in the pipeline to 2050, it was estimated total port spending on projects across Moray, Highland and Aberdeenshire could support:

- £299.8 million GVA and 1,705 years of employment under the 'Business as Usual' scenario; and
- £389.3 million GVA and 2,214 years of employment under the 'Strong Ambition' scenario.

**Table 7-5 Regional Impact to 2050 (Moray, Aberdeenshire and Highland)**

	'Business as Usual' – 2050	'Strong Ambition' - 2050
Total GVA (£m)	299.8	389.3
Total Years of Employment	1,705	2,214

Source: BiGGAR Economics Analysis



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## 8.

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# Wider Benefits

Beyond onshore wind, increased multifunctional port capabilities at Buckie Harbour can deliver enhanced economic benefits across various sectors in Moray.

The strategic redevelopment of Buckie Harbour represents a significant opportunity to transform local infrastructure, supporting multiple economic sectors and regional development. By reimagining the port's capabilities, this initiative has the potential to create synergies across diverse industries - from renewable energy in onshore and offshore wind logistics to maritime training, whisky production support and tourism. The proposed upgrades could position Buckie as a multifunctional port, driving economic resilience, skills development, and sustainable growth for Moray.

## 8.1 Whisky Industry

The Speyside whisky industry is a cornerstone of Moray's economy, with the region hosting a third of Scotland's distilleries (51 out of 151). The sector generates significant economic activity, contributing to tourism, agriculture, manufacturing, and export revenues. The whisky industry supports a total of 41,000 permanent jobs<sup>7</sup>, with Moray supporting around 5,000 jobs<sup>8</sup>. Moray distilleries are heavily reliant on locally produced malt and barley which are processed in local facilities.

In 2022, Buckie Harbour's importance to the sector was underscored by its import profile, with 56 ships delivering 86,446 tonnes of malt and barley - representing 71% of total imports<sup>9</sup>. This volume not only represents a continuing upward trend but has also surpassed pre-Covid-19 levels, demonstrating the sector's strong recovery following the pandemic's disruptions.

Buckie Harbour is an important infrastructure component in the whisky industry supply chain. Its strategic geographical position allows for efficient logistics, facilitating the transport of raw materials and finished products. The harbour's proximity to malt production facilities and distilleries positions it as an enabler for the whisky sector's logistical operations. The redevelopment of Buckie Harbour could further amplify this strategic advantage, potentially improving cargo handling capabilities, supporting increased trade capacity, and attracting additional investment. Such developments would not only reinforce Moray's reputation as a

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<sup>7</sup> Scotch Whisky Association (2024), Scotch Whisky's Economic Impact 2022.

<sup>8</sup> Northern Scot (2024), "Report shows one in nine Moray jobs tied to whisky production". Available at: <https://www.northern-scot.co.uk/news/report-shows-one-in-nine-moray-jobs-tied-to-whisky-production-339097/>

<sup>9</sup> Moray Council (2024), Buckie Harbour Masterplan November 2024, Draft for Consultation.



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premier whisky production hub but also create valuable economic opportunities for the local community.

## 8.2 Cruise Ships and Local Tourism

Currently, Buckie Harbour is a multi-functional port with activity across fishing, cargo and offshore wind, but its redevelopment could unlock potential for cruise tourism. By upgrading facilities to accommodate small to medium-sized cruise ships and enhance passenger amenities, the harbour could attract more visitors seeking to explore Moray's coastline and cultural offerings. Such an initiative aligns with ongoing efforts to revitalise local harbours in Scotland to promote sustainable economic growth through tourism.

Moray Council's Buckie Harbour Masterplan includes a focus on tourism as a key driver for local jobs. Buckie Harbour is ideally situated to offer a variety of charter vessel activities for recreational angling, as the Moray Firth is renowned for its rich marine biodiversity, making it an attractive destination for fishing enthusiasts. Dolphin and bird watching are also potential drivers of marine tourism. Guided coastline and wildlife tours could cater to eco-tourism and nature enthusiasts, promoting sustainable interaction with the environment.

Promoting tourism through Buckie Harbour aligns with Moray's broader economic development by diversifying revenue sources and creating employment opportunities in hospitality, recreation, and transport. It also supports Scotland's focus on sustainable tourism, enhancing visitor experiences while preserving the natural and cultural heritage of the region.

Local tourist attractions like the Malt Whisky Trail, which is the world's only whisky trail and includes iconic Speyside distilleries in Moray provide unique experiences for whisky enthusiasts.

Buckie Harbour's strategic location along Scotland's coastline presents an unrealised opportunity to contribute to Moray's tourism economy. North and north east Scotland cruise markets are currently dominated by Invergordon and Aberdeen, with Invergordon hosting 115 cruise vessels and approximately 200,000 passengers in 2022, contributing around £18 million<sup>10</sup> to the Highland economy, equivalent to £90 spend per passenger. Buckie Harbour has a distinct potential as an alternative port for smaller and medium-sized cruise vessels.

For Buckie Harbour to be a viable port for cruise vessels feasibility studies need to be undertaken to confirm suitability for dredging with structural reinforcements and additional passenger service zones incorporated in the redevelopment. Such a development would enable Moray to capture a share of the cruise market, creating tourism experiences that showcase the region's rich cultural and natural heritage.

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<sup>10</sup> Cruise Scotland (2022)

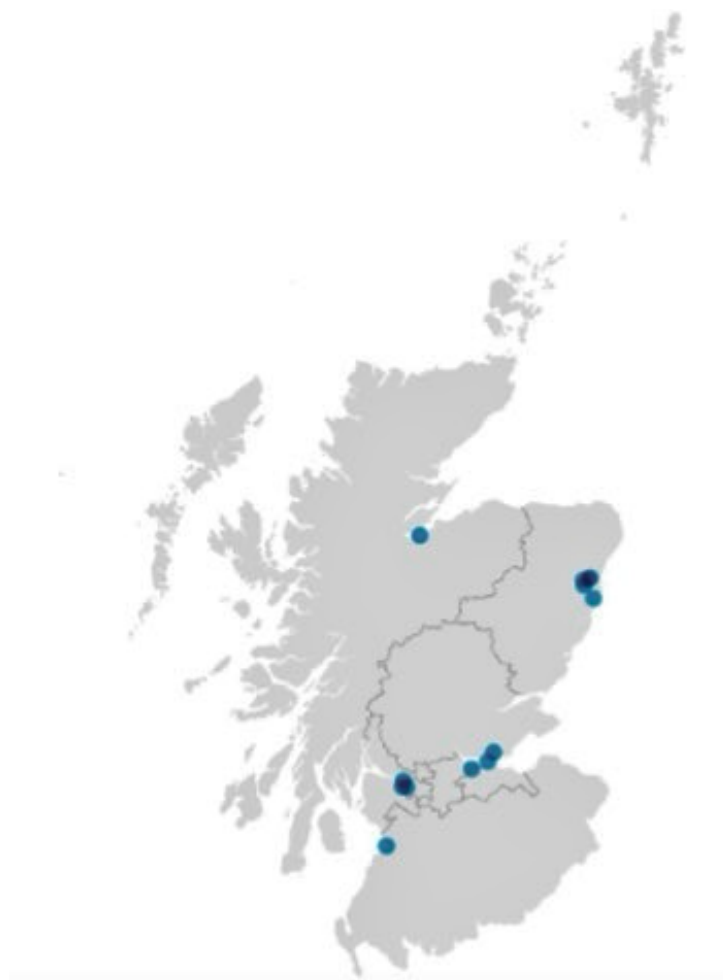


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## 8.3 GWO Training

Buckie Harbour’s Masterplan also considers the opportunity for provision of Global Wind Organisation (GWO) training. This certification ensures that professionals possess the critical skills to work safely and effectively in wind energy, with programs covering essential topics such as first aid, fire awareness, manual handling, working at heights, and sea survival. By incorporating GWO training facilities, the harbour could address the growing need for industry-standard training in the Moray Firth area. Local training provisions would create an opportunity for the port to maximise the opportunities associated with onshore and offshore wind projects.

**Figure 8-1 GWO Training Provision**



Source: Global Wind Organisation (2023), Find a GWO Training Provider available at: <https://www.globalwindsafety.org/trainingproviders/findtrainingprovider>

A GWO training hub at Buckie Harbour could serve local offshore and onshore wind projects, supporting workforce development and operational efficiency.



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## 9. Wider Economic Benefits

The proposed redevelopment of Buckie Harbour presents an opportunity to generate wider economic benefits for Moray by contributing to economic diversification and alignment with regional economic development goals.

Over the period to 2043, Moray's population is expected to fall from 94,670<sup>11</sup> to 92,970<sup>12</sup>, with an increasing share of the population over 65 years of age. This demographic issue underscores the need for strategies that attract and retain the working-age population. The proposed redevelopment of Buckie Harbour could address these challenges by diversifying the local economy, particularly through targeted investments in offshore and onshore renewable energy, marine services and tourism.

These sectors are expected to generate significant job opportunities, not only boosting employment but also enhancing the appeal of the region to younger workers. By creating a vibrant economic hub at Buckie Harbour, Moray can foster the conditions necessary for sustainable growth, improving the region's long-term demographic and economic outlook.

### 9.1 Moray Local Development Plan

The Moray Local Development Plan<sup>13</sup> (MLDP) was formally adopted in 2020. The Plan highlights sustainable economic growth, placemaking, and infrastructure improvement as key primary policies. The plan specifically supports the diversification and redevelopment of harbours, including Buckie Harbour, to sustain their operations and adapt to evolving economic needs. It notes the potential for Buckie Harbour to integrate retail, residential, or tourism-related developments.

Redeveloping Buckie Harbour aligns directly with these priorities by promoting economic diversification and infrastructure enhancements. The harbour's redevelopment could support renewable energy projects, including onshore wind, fostering sustainable economic growth and job creation.

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<sup>11</sup> National Records of Scotland (2024), Mid-2023 Population Estimates Scotland

<sup>12</sup> National Records of Scotland (2020), Population Projections for Scottish Areas (2018-based)

<sup>13</sup> Moray Council (2020), Moray Local Development Plan



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## 9.2 Moray Growth Deal

The Moray Growth Deal<sup>14</sup> represents a significant collaborative investment initiative, with both the UK and Scottish Governments each committing £32.5 million, complemented by £35.8 million from partners, totalling over £100 million in combined investment. This strategic partnership aims to unlock private sector investment exceeding £200 million and create more than 450 new jobs across different sectors over the next 10-15 years. A key objective of the Deal is to capitalise on Scotland's leadership in renewable energy, with Moray's strategic position near the Moray Firth's offshore wind developments making it an ideal location for both onshore and offshore wind support operations.

The proposed redevelopment of Buckie Harbour directly aligns with these objectives, offering potential to become a hub for maritime logistics, renewable energy operations, and related supply chain activities. This alignment extends beyond infrastructure development to support the Deal's fundamental vision of creating an attractive environment for young professionals and families, offering rewarding career opportunities, while maintaining an exceptional quality of life in a well-connected, culturally rich setting.

## 9.3 Moray Economic Strategy

The Moray Economic Strategy 2022–2032<sup>15</sup> outlines four key strategic outcomes, including prioritising the attraction, retention, and return of talent. The strategy emphasises the importance of building a skilled and sustainable workforce to support Moray's growth. In doing so, it aims to create more skilled, higher-paid jobs that can drive net in-migration, specifically targeting the 16-29 age range.

The strategy also considers advantages and challenges associated with Moray's socio-economic characteristics. Moray has a high level of manufacturing employment, accounting for 18% of jobs in the area compared to just 8% in Scotland. However, the region has a lower share of its population (39%) aged 16-49 than in Scotland (43%). The main barrier to employment was identified as a lack of local opportunities. On this basis, training and employment opportunities for young people who already live in Moray, will be a key part in achieving population retention.

The proposed redevelopment of Buckie Harbour can directly support these strategic goals by generating skilled employment opportunities. By creating jobs in maritime logistics, renewable energy, and supporting industries, the harbour redevelopment can help address the current demographic challenge of a lower proportion of working-age population. Additionally, the potential for cruise tourism and associated hospitality roles can provide additional pathways for young people, potentially

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<sup>14</sup> Scottish Government, UK Government and Moray Council (2021), Moray Growth Deal

<sup>15</sup> Moray Economic Partnership (2022), Moray Economic Strategy 2022, Towards Future Prosperity and Inclusive Growth.



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reversing the trend of population outmigration and creating a more diverse, resilient local economy.

## 9.4 Summary

While being home to extensive natural resources and a strong manufacturing tradition, especially in the whisky industry, Moray is currently facing significant demographic challenges. With a projected fall in its population and an ageing demographic profile, it is key for the region to retain its young people and attract newcomers.

Within this challenging context, the redevelopment of Buckie Harbour has the potential to support Moray's economic development across a range of sectors. Be it through activity in renewables, cargo transport or cruise tourism, a redeveloped Buckie Harbour will create good jobs that are key for the retention and attraction of young people to the region. In this way, this investment proposal aligns with the region's economic development priorities and will complement investment flowing into Moray from other sources, such as the Moray Growth Deal.



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# 10.

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## Conclusion

Timely and considered redevelopment of Buckie Harbour would enable a higher level of local activity from the growing onshore wind sector in the short and longer term.

An opportunity exists for Buckie Harbour to become a strategic port hub for the delivery of onshore wind turbine components for projects across Moray as well as Aberdeenshire and Highland (particularly if the planned Nairn bypass road is completed).

For this to happen, current infrastructure limitations, including restrictions on vessel width, length, and water depth – in addition to a limited laydown area, need to be addressed.

The redevelopment of Buckie Harbour could also unlock considerable economic opportunities by providing the infrastructure required for other important local industries including cargo shipping and cruise ships.

In summary, the timely opportunities from the onshore wind sector, including Vattenfall's proposed Aultmore Wind Farm, positions the redevelopment of Buckie Harbour as a significant infrastructure project which would support a just transition across Moray and maximise the economic benefits to the region.

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