BiGGAR Economics

Bodinglee Wind Farm Socio-Economic Report

A report to

BANKS Renewables
development with care

12th June 2023

BiGGAR Economics

Contents

1. Executive Summary

Scotland has made an ambitious commitment to net zero by 2045, which is central to the Government's vision for the country. This transformation will require an increase in renewable energy generation to replace other forms of generation and to facilitate the decarbonisation and electrification of the economy.

The Proposed Development would directly contribute to the transition to a net zero economy as well as increasing Scotland's productivity. It would meet economic policy tests set out in National Planning Framework 4, specifically policy 11c, by maximising net economic impact. It would support jobs directly and in the supply chain in South Lanarkshire, where the developer is based, and generate impacts in the community through its community benefit fund.

It was estimated that during development and construction phase, which is expected to cost £397.4 million, the Proposed Development could generate:

- £14.7 million Gross Value Added (GVA) and 207 years of employment in South Lanarkshire;
- £96.2 million GVA and 1,277 years of employment in Scotland; and
- £168.3 million GVA and 2,468 years of employment in the UK.

During development and construction, the main opportunities for local suppliers would be related to balance of plant contracts, including plant hire, civil engineering and construction, fencing, forestry and trades activities, including electricals, joinery and metal fabrication.

On average in each year of its 40-year operational life, the Proposed Development is expected to generate:

- £2.0 million GVA and 22 jobs in South Lanarkshire;
- £6.2 million GVA and 55 jobs in Scotland; and
- £7.3 million GVA and 72 jobs in the UK.

In total, over both the development, construction and operation phases of Bodinglee Wind Farm, it was estimated that it could contribute:

- £96.3 million GVA in South Lanarkshire;
- £346.6 million GVA in Scotland; and
- £461.0 million GVA in the UK.

The Proposed Development could also generate up to £1.3 million in community benefit funding for the local community each year. In the first five years, part of this fund will be ring-fenced to focus on developing the skills of local people improving their job prospects, including in areas related wind farm construction.

Additionally, the Proposed Development will contribute to public finances through the payment of non-domestic rates, which could amount to £2.6 million each year. This will support the funding of local public services in the context of challenging public sector finances.

The Proposed Development would make a significant contribution to delivering Scotland's strategic climate change commitments, contributing 259 MW of the proposed 20 GW target, and deliver a range of economic and community benefits.

2. Introduction

BiGGAR Economics was commissioned by Banks Renewables to assess the potential economic impact associated with the proposed Bodinglee Wind Farm.

2.1 Background

Bodinglee Wind Farm (the Proposed Development) is a proposed onshore wind farm located in South Lanarkshire. The Proposed Development will be comprised of 37 turbines, each with a generating capacity of 7 MW, resulting in a total installed capacity of 259 MW. In addition, it will include a 424 MWh battery with an output of 106 MW.

BiGGAR Economics was also commissioned by Banks Renewables to estimate the economic impact associated with spending on the operational Kype Muir Wind Farm and Middle Muir Wind Farm, both of which are located in South Lanarkshire. This allowed developer specific data to be used in estimating the expected impact of the Proposed Development.

2.2 Report Structure

The report is structured as follows:

- section 3 places the development in the context of national and regional economic strategies;
- section 4 provides a socio-economic context; and
- section 5 considers the economic impact from the Proposed Development.

3. Strategic Context

This section sets out the national, regional and local context and how the Proposed Development would support strategic aims.

3.1 National Strategic Context

3.1.1 National Performance Framework

The National Performance Framework[1] sits at the top of the policy hierarchy in Scotland, with all other policies and strategies designed to meet its purpose and outcomes.

The purpose of the National Performance Framework is:

"To focus on creating a more successful country with opportunities for all of Scotland to flourish through increased wellbeing, and sustainable and inclusive economic growth."

The National Performance Framework explicitly includes 'increased well-being' as part of its purpose and combines measurement of how well Scotland is doing in economic terms with a broader range of well-being measures. The National Performance Framework is designed to give a more rounded view of economic performance and progress towards achieving sustainable and inclusive economic growth and well-being across Scotland and aims to:

- create a more successful country;
- give opportunities to all people living in Scotland;
- increase the well-being of people living in Scotland;
- create sustainable and inclusive growth; and
- reduce inequalities and give equal importance to economic, environmental and social progress.

The National Performance Framework sets out 11 outcomes, underpinned by 81 indicators, that combine to give a better picture of how the country is progressing towards these goals. As well as GDP and employment measures, the National Performance Framework's outcomes reflect the desired fabric of communities and culture, education, the environment, health and well-being and measures to help

[1] Scottish Government, Scotland's National Performance Framework.

tackle poverty. It is these indicators on which the Scottish Government focuses its activities and spending to help meet the national outcomes.

The 11 national outcomes are that people:

- children and young people: grow up loved, safe and respected so that they realise their full potential;
- communities: live in communities that are inclusive, empowered, resilient and safe;
- culture: are creative and their vibrant and diverse cultures are expressed and enjoyed widely;
- economy: have a globally competitive, entrepreneurial, inclusive and sustainable economy;
- education: are well educated, skilled and able to contribute to society;
- environment: value, enjoy, protect and enhance their environment;
- fair work and business: have thriving and innovative businesses, with quality jobs and fair work for everyone;
- health: are healthy and active;
- human rights: respect, protect and fulfil human rights and live free from discrimination;
- international: are open, connected and make a positive contribution internationally; and
- poverty: tackle poverty by sharing opportunities, wealth and power more equally.

3.1.2 Scotland's National Strategy for Economic Transformation

In March 2022, the Scottish Government released the National Strategy for Economic Transformation[2], which set out its ambition for Scotland's economy over the next 10 years. The Scottish Government's vision is to create a wellbeing economy where society thrives across economic, social and environment dimensions, which delivers prosperity for all Scotland's people and places. Of particular importance is the ambition to be greener, with a just transition to net zero, a nature-positive economy and a rebuilding of natural capital.

A key longer term key challenge identified in the strategy is to address deep-seated regional inequality, which includes in rural and island areas that face problems such as a falling labour supply, poorer access to infrastructure and housing. The transition to net zero presents a further challenge of delivering positive employment, revenue and community benefits.

To deliver its vision and address the economy's challenges, five programmes of action have been identified (with a sixth priority of creating a culture of delivery), including:

- establishing Scotland as a world-class entrepreneurial nation;
- strengthening Scotland's position in new markets and industries, generating new, well-paid jobs from a just transition to net zero;

[2] Scottish Government (2022), National Strategy for Economic Transformation

- making Scotland's businesses, industries, regions, communities and public services more productive and innovative;
- ensuring that people have the skills they need to meet the demands of the economy, and that employers invest in their skilled employees;
- reorienting the economy towards wellbeing and fair work.

The strategy notes that Scotland has substantial energy potential, with a quarter of Europe's wind potential, and that it has developed a growing green industrial base. This provides a strong foundation for securing new market opportunities arising from the transition to net zero, for example in the hydrogen economy and in the decarbonisation of heating systems, where Scotland may be able to secure first-mover advantage, and will need continuing investment and support. Renewable energy also has a role to play in supporting productive businesses and regions across Scotland.

3.1.3 National Planning Framework 4

The Scottish Government's National Planning Framework 4[3] is Scotland's national spatial strategy, setting out the principles to be applied to planning decisions, regional priorities and national developments.

One of the six spatial principles to be applied is a just transition that ensures the transition to net zero is fair and inclusive, as is rural revitalisation, supporting sustainable development in rural areas. Applying these and other principles is intended to support the planning and delivery of sustainable places, where emissions reduce and biodiversity is restored and better connected.

As part of the policy 11a all forms renewable technologies, including onshore wind and energy storage, will be supported. This is subject to several tests outlined in policy 11, including under 11c, that developments 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'.

3.1.4 Local Energy Policy Statement

The Scottish Government's latest statement on Local Energy Policy[4] highlights the role of localised energy solutions as part of a green recovery to the Covid-19 pandemic and towards a net-zero and decarbonised economy. The strategy is interlinked with other strategic documents in a concerted effort to increase energy efficiency, reduce emissions and eradicate fuel poverty.

The statement identifies the wide range of stakeholders involved in local energy and sets out the following key principles:

- people: engaging with stakeholders from the outset and supporting the different ways each of these will want to be involved;

[3] Scottish Government (2023), National Policy Framework 4.
[4] Scottish Government (2021), Local Energy Policy Statement.

- places: local energy projects should reflect the features of the local area and work in collaboration with others;
- network and infrastructure: consider the existing energy infrastructure in the area and secure high level and high quality of supply to all;
- pathway to commercialisation: create projects that are commercially viable, can be replicated in the future and support net zero emissions; and
- opportunity: projects should create high value jobs and support the wider industry and its workforce.

3.2 Regional Strategies

3.2.1 South Lanarkshire Economic Strategy 2013 – 2023

The South Lanarkshire Economic Strategy 2013 – 2023[5] published by South Lanarkshire Council outlines the framework to support actions which will generate improvements in South Lanarkshire's economy. The strategy is centred around three key development themes including:

- business development and growth;
- physical infrastructure and place; and
- skills, learning and employability.

As part of the theme of business development and growth, the council emphasises their aim to increase the region's share of GVA generated in Scotland. It also highlights the goal of reducing unemployment in South Lanarkshire by supporting the creation of skills and training and improving employment opportunities. The transition to a low carbon economy can create local opportunities, building on the region's strong skills base in engineering and related sectors and the potential for expansion into renewable technologies.

3.3 Summary of Strategic Context

The Proposed Development would directly contribute to the themes within the National Performance Framework surrounding the economy, business and the environment, as well as the transition to a net zero economy by 2045 and increasing Scotland's productivity.

The Proposed Development is expected to support employment directly in South Lanarkshire, where the developer is based, and through initiatives such as Connect2Renewables, which aims to boost local content in the supply chain and is an established initiative involving local communities, the local council and Banks Renewables. It will also generate impacts in the community through its community benefit fund. On this basis, it would meet the tests of National Planning Framework 4, specifically policy 11c, by maximising net economic impact.

[5] South Lanarkshire Council (2013), South Lanarkshire Economic Strategy 2013 - 2023

Regional strategies highlight the opportunities that renewable energy projects present in establishing a more sustainable economy and supporting the generation of employment in the region.

4. Socio-Economic Context

This section considers the socio-economic context of the Proposed Development, including population structure, economic activity, skills and relative deprivation.

4.1 Study Areas

The socio-economic baseline sets the Proposed Development and its potential for economic benefits within existing socio-economic conditions. This section considers three study areas:

- South Lanarkshire;
- Scotland; and
- the UK.

4.2 Demographics

4.2.1 Population Estimates

In 2021, the total population in South Lanarkshire was 320,800, accounting for 5.9% of the population of Scotland as a whole (5,466,000).

As shown in Table 4-1, the share of the population of South Lanarkshire aged 65 and over was 19.8% in 2021, higher than the average proportion accounted for by this demographic in both Scotland (19.3%) and the UK (18.7%).

The working age population, aged 16-64, accounted for 62.9% of the population of South Lanarkshire, lower than average compared to Scotland (63.9%) and higher than the UK (62.4%).

Table 4-1 Population Estimates, 2021

	South Lanarkshire	Scotland	UK*
Total	**320,800**	**5,466,000**	**67,081,200**
0-15	17.3%	16.8%	18.9%
16-64	62.9%	63.9%	62.4%
65+	19.8%	19.3%	18.7%

Source: National Records of Scotland (2022), Mid-2021 population estimates Scotland. * ONS (2022), Population estimates – local authority based by single year of age.

4.2.2 Population Projections

Population projections for Scotland and each of its local authorities predict that between 2018 and 2043 the population of South Lanarkshire will increase by 2.8%, from 319,020 to 328,001. This is a faster expected growth rate than Scotland as a whole, where the population is expected to grow by 2.5%, but lower than the expected growth in the UK population over this time period (9.0%).

Over this time period, the proportion of the population of South Lanarkshire aged 65 and over is expected to increase to 26.3% by 2043, above the average of both Scotland (24.9%) and the UK as a whole (24.0%) by this year.

The share of the South Lanarkshire population accounted for by people of working age is expected to fall from 63.5% to 58.2% between 2018 and 2043. It is expected that the share accounted for by this demographic will be lower than in Scotland (60.3%) and across the UK (59.0%).

Table 4-2 Population Projections, 2018-2043

	South Lanarkshire		Scotland		UK*	
	2018	**2043**	**2018**	**2043**	**2018**	**2043**
Total	319,020	328,001	5,438,100	5,574,819	66,437,568	72,419,993
0-15	17.3%	15.5%	16.9%	14.8%	19.0%	17.0%
16-64	63.5%	58.2%	64.2%	60.3%	62.7%	59.0%
65+	19.2%	26.3%	18.9%	24.9%	18.3%	24.0%

Source: National Records of Scotland (2022), Population Projections 2018-2043. *ONS (2020), 2018-based Population Projections.

4.3 Industrial Structure

The human health and social work activities sector is the largest employer in the South Lanarkshire, with 17.9% of all those employed working in this industry. It plays a relatively more important role in employment compared to its significance in Scotland (15.3%) and the UK (13.3%).

Employment in the construction sector is equivalent to 8.1% of jobs in the area, higher than the proportion of jobs accounted for by the sector in both Scotland (6.0%) and the UK (5.0%). Manufacturing also accounts for a higher-than-average share of employment in South Lanarkshire, accounting for 8.9% of jobs in the local authority compared to 6.8% in Scotland and 7.4% in the UK.

Employment in professional, scientific and technical services is lower in South Lanarkshire (4.9%) than the Scottish average (6.4%) and the average across the UK (8.9%).

Table 4-3 Industrial Structure, 2021

	South Lanarkshire	Scotland	UK
Human health and social work activities	17.9%	15.3%	13.3%
Wholesale and retail trade	16.3%	14.1%	14.4%
Manufacturing	8.9%	6.8%	7.4%
Construction	8.1%	6.0%	5.0%
Education	7.3%	8.3%	8.5%
Administrative and support services	7.3%	7.7%	8.7%
Accommodation and food services	6.5%	7.5%	7.5%
Public administration and defence	5.7%	6.3%	4.5%
Professional, scientific, technical	4.9%	6.4%	8.9%
Transportation and storage	3.7%	4.1%	5.1%
Arts, entertainment and recreation	2.4%	2.4%	2.3%
Agriculture, forestry and fishing	2.0%	3.4%	1.5%
Other service activities	1.8%	1.8%	2.0%
Financial and insurance activities	1.6%	2.9%	3.5%
Real estate activities	1.4%	1.5%	1.9%
Electricity, gas, steam, air conditioning	1.4%	0.7%	0.4%
Information and communication	1.4%	3.0%	4.3%
Water supply; sewerage, waste	0.8%	0.8%	0.7%
Mining and quarrying	0.1%	0.9%	0.1%
Total Employment	**122,625**	**2,616,000**	**31,360,000**

Source: Office for National Statistics (2022), Business Register and Employment Survey (BRES) 2021.

4.4 Economic Activity

In 2021, South Lanarkshire had an economic activity rate of 79.8%, above the average of both Scotland (76.5%) and the UK as a whole (78.5%). The unemployment

rate in South Lanarkshire (2.2%) was below average compared to Scotland (3.5%) and the UK (4.2%).

As shown in Table 4-4, the median annual gross income for those residing in South Lanarkshire (£28,164), is higher than the Scottish average of £27,698, as well as the average across the UK (£27,901).

Table 4-4 Economic Activity Rates, 2021

	South Lanarkshire	Scotland	UK
Economically Active (%)	79.8%	76.5%	78.5%
Unemployment Rate (%)	2.2%	3.5%	4.2%
Median Annual Gross Wage (resident analysis)	£28,164	£27,698	£27,901

Source: ONS (2021), Annual Population Survey Oct 2020-Sep 2021 and Annual Survey of Hours and Earnings – resident analysis 2020.

4.5 Scottish Index of Multiple Deprivation

The Scottish Index of Multiple Deprivation (SIMD) is a relative measure of deprivation which ranks small areas of Scotland across seven dimensions: income, employment, education, health, access to services, crime and housing. These areas can be ranked based on which quintile (fifth of the distribution) they belong to, with a small area in the first quintile being in the 20% most deprived areas in Scotland.

There are 431 small areas in South Lanarkshire, 20.4% of which are ranked as being in the 20% most deprived areas in Scotland. A further 24.8% were ranked in the second quintile, meaning 44.8% of areas in South Lanarkshire were ranked in the 40% most deprived areas in Scotland. Of the small areas in South Lanarkshire, 34.8% were ranked in the 40% least deprived areas of Scotland, suggesting the local authority has relatively slightly higher levels of deprivation compared to Scotland as a whole, though there are areas of relative affluence.

Table 4-5 Scottish Index of Multiple Deprivation by Quintile, 2020

	South Lanarkshire
1 (most deprived quintile)	20.4%
2	24.8%
3	20.0%
4	17.9%
5 (least deprived quintile)	16.9%

Source: Scottish Government (2020), Scottish Index of Multiple Deprivation 2020.

4.6 Summary of Socio-Economic Context

The working age population of South Lanarkshire is broadly in line with that of Scotland and the UK. However, population projections suggest that the share accounted for by this demographic will fall below average over the next 20 years, with the proportion of the population aged 65 or above expected to increase more in South Lanarkshire compared to Scotland and the UK as a whole. The local authority area has relatively higher levels of deprivation when compared to Scotland as a whole.

Both the construction sector and manufacturing sector, which may benefit from contracts relating to the Proposed Development, are well-represented in South Lanarkshire.

5. Economic Impact

This section estimates the economic impact that could be generated by the Proposed Development

5.1 Economic Impact Methodology

5.1.1 Modelling the Economic Impact of Onshore Wind Farm Developments

The approach followed in estimating the economic impact from onshore wind developments is based on industry best-practice., and was used in a study. undertaken in 2015 by BiGGAR Economics on behalf of RenewableUK[6].

Assumptions about spending and economic impact in each area were informed by analysis undertaken by BiGGAR Economics on the development, construction and operation of the 88.4 MW Kype Muir Wind Farm and the 51 MW Middle Muir Wind Farm. These were developed by Banks Renewables and became operational in 2019 and 2018 respectively.

Using this analysis, it was possible to estimate total expenditure and economic impact per MW for each stage of development, construction and operation, which was then applied to the Proposed Development.

5.1.2 Sources of Economic Impact

The assessment will consider the following sources of economic impact:

- direct impacts: the economic value generated through the contracts associated with the Proposed Development;
- indirect impacts: the impact from the spending of contractors within their supply chains; and
- induced impacts: the impact from the spending of those workers carrying out contracts for the Proposed Development and on behalf of its contractors.

5.1.3 Measures of Economic impact

Economic impacts are reported with respects to the following measures:

- Gross Value Added (GVA): a commonly used measure of economic output, which captures the contribution made by an organisation to national economic activity. This is usually estimated as the difference between an organisation's turnover and its non-staff operational expenditure; and
- Employment: this is expressed as years of employment for temporary contracts and as annual jobs for operations and maintenance contracts. Years of employment are used to report the short-term employment that is supported by

[6] RenewableUK (2015), Onshore Wind: Economic Impacts in 2014.

the Proposed Development. As an example, a job that lasts for 18 months would support 1.5 years of employment.

5.1.4 Study Areas

Economic impacts were estimated with respects to the following study areas:

- South Lanarkshire;
- Scotland; and
- the UK.

5.2 Development and Construction

5.2.1 Expenditure

Based on the analysis of Kype Muir and Middle Muir Wind Farms and a development with 37 turbines and a total generating capacity of 259 MW, it was estimated that the wind farm development and construction expenditure could be up to £258.1 million.

This information has also been used to estimate the categories of spend, suggesting that the largest categories are expected to be the turbines (£143.6 million) followed by grid connection (£49.4 million) and the balance of plant (£48.1 million). Development and design contracts include expenditure associated with Banks Renewables direct development[7].

In addition to the wind farm component, the Proposed Development will include a battery, with a capacity of 424 MWh and an output of 106 MW. Based on a report prepared for Banks Renewables by Lichfield, it was estimated that the battery would cost £139.3 million. On this basis, it was assumed that the total capital expenditure would be £397.4 million.

Table 5-1 Development and Construction by Contract Type

	% Capex	Value (£m)
Development and Design	4.3%	17.1
Balance of Plant	12.1%	48.1
Grid Connection	12.4%	49.4
Turbines	36.1%	143.6
Battery	35.1%	139.3
Total	**100%**	**397.4**

Source: BiGGAR Economics Analysis of case study evidence from previously constructed wind farms. Analysis by Lichfield. Note: Totals may not sum due to rounding.

[7] This was based on 4 staff employed full-time for 4 years.

To estimate the economic impacts from the development and construction of the Proposed Development, it was necessary to make assumptions on the ability of businesses within each study area to carry out contracts.

Based on available evidence from similar developments within South Lanarkshire and previous onshore wind projects developed by Banks Renewables, it was estimated that around 6% of the Proposed Development's contracts could be carried out by businesses in South Lanarkshire, with a value of £25.8 million.

It is expected that Scottish businesses could secure 35% of development and construction spending, with a value of £140.5 million and the UK could complete contracts worth £165.4 million, equivalent to 42% of development and construction spending.

The largest opportunity for Scottish businesses would be in contracts associated with balance of plant, which could be worth £47.0 million. Balance of plant contracts would also be the largest opportunity for businesses in South Lanarkshire, worth up to £16.0 million.

Table 5-2 Development and Construction Expenditure by Study Area

	South Lanarkshire		Scotland		UK	
	%	£m	%	£m	%	£m
Development and Design	15%	2.5	70%	11.9	99%	16.9
Balance of Plant	33%	16.0	98%	47.0	100%	48.1
Grid Connection	5%	2.5	94%	46.2	100%	49.4
Turbines	2%	2.3	16%	22.6	18%	25.4
Battery	2%	2.6	9%	12.9	18%	25.7
Total	**6%**	**26.4**	**35%**	**140.5**	**42%**	**165.4**

Source: BiGGAR Economics Analysis. Note: Totals may not sum due to rounding.

5.2.2 Economic Impact

Having estimated the size of the contracts that could benefit each of the study areas, it was possible to consider the GVA and short-term employment that these could support. Each contract category was split into its component contracts and assigned to an industrial sector. Direct GVA was then estimated by applying the relevant turnover to GVA ratio from the UK Annual Business Survey (ABS)[8].

It was estimated that the development and construction of the Proposed Development could generate £10.4 million direct GVA in South Lanarkshire, £51.2 million direct GVA in Scotland and £61.6 million direct GVA in the UK.

[8] Office for National Statistics (2020), Annual Business Survey 2018 - Revised.

Table 5-3 Development and Construction, Direct GVA by Study Area (£m)

	South Lanarkshire	Scotland	UK
Development and Design	1.4	6.6	9.2
Balance of Plant	6.0	17.5	17.9
Grid Connection	0.6	11.1	11.9
Turbines	1.3	10.7	11.9
Battery	1.1	5.4	10.7
Total	**10.4**	**51.2**	**61.6**

Source: BiGGAR Economics Analysis. Note: Totals may not sum due to rounding.

It was possible to estimate the number of direct jobs supported by spending in development and construction contracts by dividing the expenditure in each contract by the turnover per job ratio for the relevant sector. In this way, it was estimated that the development of the Proposed Development could generate 155 direct years of employment in South Lanarkshire, 702 direct years of employment in Scotland and 870 direct years of employment across the UK.

Table 5-4 Development and Construction, Direct Employment by Study Area and Contract Type (Years of Employment)

	South Lanarkshire	Scotland	UK
Development and Design	24	95	134
Balance of Plant	88	257	263
Grid Connection	4	69	74
Turbines	20	179	195
Battery	20	101	203
Total	**155**	**702**	**870**

Source: BiGGAR Economics Analysis. Note: Totals may not sum due to rounding.

Expenditure in development and construction contracts is also expected to generate 'knock-on' effects across the economy. In particular, it will be associated with further rounds of expenditure along the supply chain and with the spending of the wages and salaries of those involved in the development and construction of the Proposed Development. These are referred to as 'indirect' and 'induced' impacts.

To estimate indirect and induced impacts, it was necessary to apply the relevant Type 1 and Type 2 GVA and employment multipliers from the Scottish Government Input-Output Tables[9] to direct GVA and direct employment. Since the multipliers refer

[9]Scottish Government (2020), Supply, Use and Input-Output Tables.

to sectoral interactions occurring at the level of the Scottish economy, it was necessary to adjust them when considering impacts taking place in South Lanarkshire.

Adding up direct, indirect and induced impacts, it was estimated that the development and construction of the Proposed Development could generate £14.7 million GVA and 207 years of employment in South Lanarkshire, £96.2 million GVA and 1,277 years of employment in Scotland and £168.3 million GVA and 2,468 years of employment in the UK

Table 5-5 Economic Impact of Development and Construction Spending

	South Lanarkshire	Scotland	UK
GVA (£m)	14.7	96.2	168.3
Years of Employment	207	1,277	2,468

Source: BiGGAR Economics Analysis.

5.2.3 Opportunities in South Lanarkshire

There are a number of local opportunities associated with the construction of onshore wind projects such as Bodinglee Wind Farm. In particular, there will be opportunities related to balance of plant contracts, including:

- provision of stone and aggregate;
- plant hire;
- civil engineering;
- road/bridge surfacing works;
- fencing;
- tree surgery and forestry;
- drainage;
- cleaning;
- and other trades activities (plumbing, metal fabrication, electricals, joinery, painting and scaffolding).

Banks Renewables also has a presence in Hamilton, South Lanarkshire, where a share of the development work is being undertaken resulting in higher economic impact than is typical.

In addition, local accommodation providers will benefit from increased occupancy, including during the off-season.

5.3 Operations and Maintenance

5.3.1 Expenditure

There will be a continuing economic impact associated with the operation and maintenance of the Proposed Development. As with development and construction, the first step in estimating the economic impact was to consider the total expenditure required for its operation each year.

Based on the number of turbines and the Proposed Development's capacity, the previous analysis of spending associated with Kype Muir Wind Farm and Middle Muir Farm and an estimate of the operational impact of the battery based on the report by Lichfields, it was estimated that the annual cost of operations and maintenance (Opex) could be around £11.0 million.

It was further assumed that businesses in South Lanarkshire could benefit from £3.4 million in operations and maintenance contracts (31% of Opex) each year, annual expenditure on Scottish contractors could be up to £8.4 million (77% of Opex), and annual expenditure on UK contractors could be up to £9.7 million (89% of Opex).

Table 5-6 Operations and Maintenance Expenditure by Study Area (£m)

	South Lanarkshire	Scotland	UK	Total
Annual Turnover	3.4	8.4	9.7	11.0
Lifetime	**134.8**	**335.8**	**388.3**	**439.9**
Turnover (%)	31%	77&	89%	-

Source: BiGGAR Economics Analysis.

5.3.2 Economic Impact

The total turnover generated in each study area was then divided by the turnover to GVA and turnover per job ratios of the sectors expected to carry out operations and maintenance contracts. In this way, it was estimated that the Proposed Development could generate £1.7 million direct GVA and 20 direct jobs in South Lanarkshire, £4.1 million direct GVA and 35 direct jobs in Scotland, and £4.8 million direct GVA and 46 direct jobs across the UK.

Table 5-7 Direct Economic Impact of Operational Spending

	South Lanarkshire	Scotland	UK
GVA (£m)	1.7	4.1	4.8
Direct O&M Jobs	20	35	46

Source: BiGGAR Economics Analysis.

As with the development and construction of the Proposed Development, it was necessary to estimate the indirect and induced impacts associated with operations

and maintenance contracts by applying the relevant GVA and employment multipliers.

Adding up direct, indirect and induced impacts, it was estimated that during its annual operations and maintenance, the Proposed Development could generate £2.0 million GVA and 22 jobs in South Lanarkshire, £6.2 million GVA and 55 jobs in Scotland and £7.3 million GVA and 72 jobs in the UK.

Table 5-8 Annual Economic Impact of Operational Spending

	South Lanarkshire	Scotland	UK
GVA (£m)	2.0	6.2	7.3
Lifetime GVA (£m)	**81.6**	**250.4**	**292.7**
Total O&M Jobs	22	55	72

Source: BiGGAR Economics Analysis.

5.3.3 Opportunities in South Lanarkshire

The main economic opportunities for South Lanarkshire during the operational phase of the wind farm are likely to be related to rents paid to the local landowner, enabling them to diversify and expand their business, as well as land and civils maintenance, for example maintaining roads. Habitat management is another opportunity, involving developing the land and increasing its conservation quality. There may also be opportunities to provide turbine maintenance services.

Jobs supported in the operation and maintenance of onshore wind tend to be in sectors that have relatively high levels of productivity and staff costs, such as the repair and installation of machinery, electric power generation, transmission and distribution and the rental sector[10]. This suggests that these are well-paid, high quality jobs.

5.4 Community Benefits

Community benefits, an annual payment that is made by the developer to communities in the proximity of a wind farm development, have become a common practice to support local ambitions and needs. While they do not constitute a material consideration at the planning stage, commitment to a comprehensive package of community benefits has a role in fostering a good relationship between the developer and the community hosting the development.

To provide a framework on how to deliver community benefits, in 2019 the Scottish Government released its 'Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments',[11] which updated previous guidance

[10] Office for National Statistics (2022), UK Annual Business Survey 2020

[11] Scottish Government (2019), Scottish Government Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments.

issued in 2015. The Scottish Government recommends onshore wind developers to deliver community benefit funding worth £5,000 per MW of installed capacity. The document also encourages developers to engage in holistic ways to maximise benefits locally, going beyond a purely monetary approach.

A level of funding associated with the Proposed Development which is consistent with Scottish Government guidance could result in local communities receiving each year up to £1.3 million in community benefit funding. In addition, the Developer is offering a 1% gifted share of the development to the community, with an option to buy up to 9% at the market rate. If this isn't taken up then the Developer will offer an enhanced £ per MW equivalent to the value of the 1% gifted share offer. This could support local aims and projects, as well as generate economic impacts.

Discussions with the community will take place to identify local priorities and areas where this funding could have the greatest benefit. Banks Renewables has experience in this area, having previously administered community benefit funding related to Kype Muir and Middle Muir Wind Farms in surrounding towns and villages such as Abington, Douglas, Coalburn, Crawfordjohn, and Roberton.

In the first five years, part of this funding will be ring-fenced for an employment and training initiative in partnership with South Lanarkshire Council. This aims to increase the employability of local residents and reduce unemployment and deprivation, which is higher than elsewhere in Scotland.

Other areas that may secure funding include environment improvements. For example, the community benefit funding associated with Middle Muir Wind Farm supported habitat improvements at the Red Moss Bog near Douglas.

5.5 Non-Domestic Rates

In addition, the Proposed Development will be liable for non-domestic rates, the payment of which will contribute to public sector finances. Based on discussions with developers, it was assumed that the non-domestic rates paid would be £10,000 per MW. This may be subject to change, as there is limited information available on non-domestic rates paid by wind farms operating without subsidies.

Based on a capacity of 259 MW, the contribution would be £2.6 million. Over 40 years, the contribution would be £103.6 million. As an illustration of the level of impact this could support, the average revenue per employee at South Lanarkshire Council is around £63,700[12], and therefore non-domestic rates paid by the Proposed Development could support 41 jobs at the Council[13].

[12] South Lanarkshire Council (2022), Financial Information: Council Budget 2022/2023

[13] In practice, South Lanarkshire Council may not receive all of this income

5.6 Total Economic Impact

The total expenditure associated with Bodinglee Wind Farm, including during the construction and operational phases, is expected to be £837.4 million. Of this:

- £160.6 million (19%) is expected to be secured in South Lanarkshire;
- £476.3 million (57%) is expected to be secured in Scotland; and
- £553.8 million (66%) is expected to be secured in the UK.

As can be seen in Table 5.9, the main opportunity for the local authority is in operations and maintenance.

Table 5.9 Total Expenditure: Turnover by Study Area (£m)

	South Lanarkshire	Scotland	UK	Total
CAPEX	25.8	140.5	165.4	397.4
OPEX	134.8	335.8	388.3	439.9
TOTEX	**160.6**	**476.3**	**553.8**	**837.4**
Total (%)	19%	57%	66%	-

Source: BiGGAR Economics Calculations. Note, totals may not sum due to rounding.

Over the lifetime of the wind farm, total expenditure associated with these contracts is expected to support:

- £96.3 million GVA in South Lanarkshire;
- £346.6 million GVA in Scotland; and
- £461.0 million GVA in the UK.

Table 5.10 Total Expenditure: Economic Impact, GVA (£m)

	South Lanarkshire	Scotland	UK
CAPEX	14.7	96.2	168.3
OPEX	81.6	250.4	292.7
TOTEX	**96.3**	**346.6**	**461.0**

Source: BiGGAR Economics Calculations. Note, totals may not sum due to rounding.

6. Conclusions

The Proposed Development would contribute to the Scottish Government's strategic objectives and deliver economic growth in South Lanarkshire.

Scotland has made an ambitious commitment to net zero by 2045, which is central to the Government's vision for the country. This transformation will require an increase in renewable energy generation to replace other forms of generation and to facilitate the decarbonisation and electrification of the economy.

The Proposed Development is expected to support employment directly in South Lanarkshire, where the developer is based, and through initiatives such as Connect2Renewables, which aims to boost local content in the supply chain. It will also generate benefits in the community through its community benefit fund. On this basis, it would meet the tests of National Planning Framework 4, specifically policy 11c, by maximising net economic impact.

Regional strategies highlight the opportunities from establishing a more sustainable economy and supporting the generation of employment in the region. This is important in South Lanarkshire, which has areas of deprivation and is expected to have a declining working age population, while also having the capacity to benefit from contracts related to the development and construction of the Proposed Development.

It was estimated that during development and construction phase, which is expected to cost £397.4 million, the Proposed Development could generate:

- £14.7 million Gross Value Added (GVA) and 207 years of employment in South Lanarkshire;
- £96.2 million GVA and 1,277 years of employment in Scotland; and
- £168.3 million GVA and 2,468 years of employment in the UK.

During development and construction, the main opportunities for local suppliers would be related to balance of plant contracts, including plant hire, civil engineering and construction, fencing, forestry and trades activities, including electricals, joinery and metal fabrication.

On average in each year of its 40-year operational life, the Proposed Development is expected to generate:

- £2.0 million GVA and 22 jobs in South Lanarkshire;
- £6.2 million GVA and 55 jobs in Scotland; and
- £7.3 million GVA and 72 jobs in the UK.

In total, over both the development, construction and operation phases of Bodinglee Wind Farm, it was estimated that it could contribute:

- £96.3 million GVA in South Lanarkshire;
- £346.6 million GVA in Scotland; and
- £461.0 million GVA in the UK.

The Proposed Development could also generate up to £1.3 million in community benefit funding for the local community each year. In the first five years, part of this fund will be ring-fenced to focus on developing the skills of local people improving their job prospects, including in areas related wind farm construction.

Additionally, the Proposed Development could contribute to public finances through the payment of non-domestic rates, which could amount to £2.6 million each year. This will support the funding of local public services in the context of challenging public sector finances.

The Proposed Development could make a significant contribution to delivering Scotland's strategic goals to meet climate change commitments and deliver a range of economic and community benefits regionally and nationally.

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