6 Socio-Economic, Tourism and Recreation Assessment

6.1 Introduction

6.1.1 Since the submission of the previous application for the Consented Development, there have been no substantial changes to the socio-economic baseline and given that the design and infrastructure of the Consented Development is not changing, there would be no additional socio-economic effects. With the exception of a small increase in operational period employment due to the proposed variation of the operational lifetime, the findings of the previous socio-economic assessment therefore remain valid, and the previous socio-economic chapter is set out in full below, with only brief updates included in relation to planning policy and the variation to the operational life of the Consented Development.

6.1.2 This chapter provides an assessment of the potential socio-economic, tourism and recreation impacts and effects that could occur as a result of the Beaw Field Wind Farm being constructed and operated. This includes the potential adverse effects upon the local tourism economy, business interests and tourism interests, and the potential positive effects on the local economy in terms of income and job creation along with the economic benefit of the proposed community benefit fund related to the Consented Development. This assessment was undertaken by Keddie Consulting Ltd (KCL), an independent economic consultancy, which specialises in the socio-economic assessment and appraisal of energy development projects.

Definition of socio-economic study area

6.1.3 The Socio-Economic Study Area for the assessment is defined as the Shetland Council administrative area, set within the context of Scottish and Shetland 'tourist region' datasets.

Definition of tourism and recreation study area

6.1.4 The Tourism and Recreation Study Area for the assessment (see Figure 6.1) has been defined as a 20km radius (40km in diameter) from the Application Boundary. This distance has been selected as the area within which professional judgement and experience demonstrates that the majority of potential impacts are likely to be experienced. Those facilities or notable points of focus of visitor attraction within this area have been reviewed. Where there is any significant tourism or recreation facilities located just outside the boundary of the 20km Study Area, these have also been included.

Data sources

6.1.5 The assessment includes an extensive review of information sources to establish existing conditions and to identify current tourism and recreation businesses and resources as well as tourism and recreational activities within the two Study Areas. The datasets used in this document are those standard sources of socio-economic and demographic data from standard available datasets, including the 2011 census, NOMIS the Office for National Statistics website, the Shetland Islands Council website, and standard sources of tourist and visitor data found on VisitScotland's website, and other individual research, reports, and surveys referenced throughout this chapter.

6.2 Methodology

Guidance

6.2.1 For social and economic assessment requirements, EU Scoping Guidance of EIA[1] recognises the importance of considering whether a project is likely to affect human or community health and welfare and identifies a number of socio-economic sub-topics for consideration in the assessment including employment and quality of employment, and economic conditions, industry, commerce, recreation, public open space, agriculture, forestry, tourism, and mining and quarrying, amongst others.

6.2.2 Thus, the methodology used here within the context of wider scoping guidance for the socio-economic impact assessment element follows the standard good practice set out in the guidance in Her Majesty's Treasury's 'Green Book for Economic Appraisal and Evaluation[2], and also good practice guidance[3] for economic assessment used by both the Scottish Government and Scottish Enterprise.

6.2.3 In addition, as an interpretation of this guidance for establishing the potential impact on tourism and recreation within an area, the methodology used in this assessment follows good industry practice and the tourism and recreation impact assessment component follows the generally accepted industry standard set out in the recommendations of the 2008[4] 'Economic Impacts of Wind Farms on Scottish Tourism Study' research for the Scottish Government, which called for an assessment of the:

- Number of tourists travelling past en-route elsewhere;
- Impacts on views from tourist accommodation in the area;
- Relative scale of tourism impact – local to national;
- Potential positive impacts; and
- Impacts on outdoor activities in the area.

6.2.4 The methodology also follows the approach and good practice guidance on socio-economic and tourism and recreation impact assessment as referred to in the Onshore Wind Good Practice Wind website[5].

6.2.5 In terms of the sub-elements of tourism and recreation, outdoor access impact assessment is covered by guidance contained within Scottish Natural Heritage's publication 'Environmental Impact Assessment Handbook' (February 2006)[6] Appendix 5. Examples of potential outdoor access impacts are set out in the guidance's Appendix 5 Table 4.

6.2.6 Appendix 5 Table 5 of the guidance, under various project types, highlights that wind farms 'can change perception and amenity of both area and linear facilities through visual and noise impacts, access tracks can interfere with/or facilitate public access, general deterrent/attractor effects.' This impact assessment highlights such impacts and effects where appropriate.

6.2.7 The assessment methodology employed here uses a combination of web-based and desk-based information assessment and analysis. It has been undertaken on the following basis and through the following stages:

- Consultation process;
- Baseline assessment; and
- Impact Assessment.

Assessment of potential effects

Socio-economic

6.2.8 The principal socio-economic assessment criteria relate to the employment effects within the Study Area. These effects are defined in terms of Full-Time Equivalent (FTE) jobs and the Gross Value Added (GVA) generated by those jobs. The assessment has therefore focussed on the following principal economic effect categories:

- Direct economic effects: jobs and GVA that are wholly or largely related to construction, decommissioning, and operation and maintenance of the development;
- Indirect economic effects: jobs and GVA generated in the economy of the Study Area in the chain of suppliers of goods and services to the direct activities;
- Induced economic effects: jobs and GVA created by direct and indirect employees' spending in the Study Area or in the wider economy;
- Wider economic (catalytic) effects (beneficial and adverse): employment and income generated in the economy related to the wider role of the development in influencing economic activities (including wider socio-economic effects below). This will include the effects on inward investment, elsewhere within the construction sector (e.g., as a result of worker supply), and on other sectors of the economy; and
- Potential effects from the construction, operation and decommissioning of the Consented Development are identified, and their significance assessed with regard to the sensitivity of receptors and the magnitude of the effect.

Socio-economic sensitivity

6.2.9 For economic effects (including employment), the availability of labour and skills is critical in accommodating the demands, needs and requirements of the Consented Development. Adequate labour capacity results in a low sensitivity, while limited capacity results in a high sensitivity. Sensitivity criteria are shown below (Table 6.1).

Table 6.1: Socio-economic sensitivity

Magnitude	***Description***
High	There is low / limited availability of labour and skills in the area's workforce (this is dependent on specific project requirements and the degree to which they can be met in the area under consideration). The Development would lead to labour market pressure and distortions (i.e., wage inflation, skills and capacity shortages, importation of labour).
Medium	The receptor has a constrained supply of labour and skills. The Development may lead to labour market pressure and distortions (i.e., wage inflation, skills and capacity shortages, importation of labour).
Low	The receptor has a readily available labour force: some skill deficits. The Development is unlikely to lead to labour market pressure and distortions (i.e., wage inflation, skills and capacity shortages, importation of labour).

Socio-economic magnitude of impact

6.2.10 A level of effect significance has been ascribed based on the information on both the Consented Development's socio-economic outputs and also the baseline structure of the area. In economic terms, the key socio-economic receptors are the participants within the labour force, and the level of occupational skills available in the Study Area.

6.2.11 The magnitude of the effect of potential effects on socio-economic receptors are assessed as defined in Table 6.2.

Table 6.2: Socio-economic magnitude

Magnitude	***Description***
Major	Effects would be observed on an international, national or regional scale; and/or where the number of jobs created or lost in the Study Area would be greater than 250 (based upon EU definition of small and medium enterprises); and/or effects would be of long-term duration (i.e., greater than 5 years). Frequency is not a relevant consideration.
Moderate	Noticeable effects would arise that may be judged to be important at a local scale, either because there are large effects on few receptors or smaller effects on a larger proportion of receptors; and/or where the number of jobs created or lost in the Study Area would be greater than 50, but fewer than 250; and/or effects would be medium-term (i.e., three-five years). Frequency is not a relevant consideration.
Minor	Small scale effects would arise, with a limited number of affected receptors; and/or where the number of jobs created or lost in the Study Area would be greater than 10, but fewer than 50; and/or effects would be short-term (i.e., one-two years). Frequency is not a relevant consideration.
Negligible	Where an effect would not be discernible; and/or where fewer than 10 jobs would be created or lost within the Study Area; and/or effects would be temporary (i.e., experienced for less than one year).
No impact	Where there are no effects, with no jobs created or lost within the Study Area.

Tourism and recreation

6.2.12 For effect assessment purposes the tourism Study Area is defined by a 20km radius from the Application Boundary as significant effects are likely to be restricted to areas of visibility within this area, or where physical severance or interruption of routes might occur during construction, operation, or decommissioning. The catchment is taken to include all settlements within this radius and the intermediate and adjacent areas between settlements, which might be considered to have linked visitor patterns. Also included are facilities, notable points of focus, or visitor attractions located in this catchment. Key tourism or recreation facilities located just outside the boundary of the Study Area have also been included.

6.2.13 Tourism and recreational behaviour will only be detrimentally affected where the effect of the Consented Development either changes the visitor / user pattern – in terms of numbers, and/or where patterns of expenditure may change. In this, opportunities for tourist and visitor expenditure and any potential

variation in expenditure or visitor numbers and its consequent effect upon turnover or employment, are of key importance. This effect assessment highlights such effects and their likelihood of occurrence.

6.2.14 Facilities or notable points of focus in the Study Area have been identified. Based upon the Consented Development's anticipated visibility, comment is provided on the likelihood of the wind farm influencing visitor and tourist attitudes and behaviour towards these visitor facilities and locations.

6.2.15 Recreational behaviour will be affected where a development potentially leads to a change in recreational habits or activities. Factors, which might lead to change in recreational behaviour include loss, closure, or diversion of routes; obstructing access routes; enhancing access; reduction in amenity or intrusion; enhancement in amenity; and changes in setting and context of the recreational resource[7].

6.2.16 The scale of potential effect on recreational users is likely to be a factor in terms of the proximity of the Consented Development, significance of the resource in terms of usage, and the type of resource e.g., a town centre indoor recreational facility compared to a hill top view point, visibility of the Consented Development from the resource at all points, and/or diversion of routes due to the presence of the wind farm.

Tourism and recreation sensitivity

6.2.17 In determining the level of tourism and recreation sensitivity, the status of the receptor or resource is the defining factor. The main factors considered relevant when defining the sensitivity of receptors are outlined in Table 6.3.

Table 6.3: Tourism and recreation sensitivity

Magnitude	***Description***
High	Where the receptor or resource (visitors to activities, resources, attractions or businesses) is defined as being of International or National status and generates high visitor numbers.
Medium	Where the receptor or resource is defined as being of regional status and generates medium visitor numbers.
Low	Where the receptor or resource is defined as being of local status and generates low visitor numbers.

Tourism and recreation magnitude of impact

6.2.18 Magnitude of effect will be gauged by estimating the amount of change on the receptor arising from the scheme. This level of visual effect will be determined through assessment of the Zones of Theoretical Visibility (ZTV) (produced for Chapter 7: Landscape and Visual Impact) and physical disturbance through map analysis. The magnitude of change will be evaluated in line with the criteria set out below (Table 6.4).

Table 6.4: Tourism and recreation impact criteria

Nature of impact	*Definition*
Major impact	Where the extent of impacts on activities, resources, local businesses (defined as >15% on business turnover) or the local population is large in scale or magnitude, and a large number of people or activities will be affected; or where there is an obvious view of the wind farm with potential to cause significant impact.
Moderate impact	Where the extent of impacts on activities, resources, local businesses (defined as 10-15% on business turnover), or the local population is small in scale or magnitude, but a large number of people or activities will be affected; or where the wind farm would be visible from parts of a path or the views towards it would be limited, which could have a possible detrimental effect on users, subject to individual user's preferences. Or alternatively Where the extent of impacts on activities, resources, local businesses (defined as 10-15% on business turnover), or the local population is large in scale or magnitude but only a small number of people or activities will be affected.
Minor impact	Where the extent of impacts on activities, resources, local businesses or the local population is small in scale or magnitude, defined as <10% on business turnover, and will only affect a small number of people or activities; or where wind farms would be unlikely to be visible (as it would be obscured by hills or woodland, etc) or would be at a distance, therefore if there was any impact it would be minor or negligible.
No impact	No impacts are predicted; or the wind farm would not be visible.
Positive impact	Similar categories of impact as negative above but for positive reasons and outcomes.

6.2.19 These measures as set out in Table 6.4 are based upon wide market experience where in tourism related business surveys across Scotland and elsewhere, respondents have generally stated that 15% or >15% reductions in turnover is critical to business sustainability/survival, but 10-14% represents a moderate impact which can be recouped through marketing, cost saving and similar market responses, and <10% is subsumed within general changes in trading conditions.

Effect significance

6.2.20 In line with standard EIA practice, the sensitivity of receptors, as defined in Table 6.1 Socio-economic sensitivity and Table 6.3 tourism and recreation sensitivity are considered against the magnitude of Impact (Table 6.2 and Table 6.4) to determine the significance of effect (Table 6.5).

Table 6.5: Effect significance

		Sensitivity		
		High	***Medium***	***Low***
Magnitude of impact	***Major***	Major significance	Major or moderate significance	Moderate significance
	Moderate	Major or moderate significance	Moderate significance	Minor significance
	Minor	Moderate significance	Minor significance	Minor significance
	Negligible	Not significant	Not significant	Not significant

Requirements for mitigation

6.2.21 Following the assessment of potential effects, and in consultation with statutory consultees as appropriate, professional expertise is used to determine appropriate mitigation.

Assessment of residual effect significance

6.2.22 The predicted residual effects are determined through re-assessment of the potential effects taking into consideration proposed mitigation.

Regulatory and planning policy context

6.2.23 The information below presents a summary of the main policies, Acts, Regulations, and strategy documents most relevant to the socio-economic, tourism and recreation elements of the Consented Development. A comprehensive analysis of planning policy is contained within Chapter 4.

6.2.24 In general, the sources referenced in Table 6.6 outline support for the development of low carbon renewable energy projects across Shetland. These policies are consistent in recognising the need for developments to offer positive economic impacts, the importance of tourism to the area, as well as developments being sympathetic towards the environment. The policies and strategies all refer to good practice development as well as statutory and regulatory issues.

Table 6.6: Socio-economic policy & strategy review

Policy level	*Key acts, regulations & policies*	*Relevance to development*
Scotland	Scottish Government (2014) Scottish Planning Policy	SPP states that planning system should support Scotland's change to a low carbon economy, consistent with national energy targets. It also encourages local development plans to encourage sustainable energy development, however, it also highlights the importance of considering socio-economic issues when considering energy projects.
	Draft National Planning Framework 4	Draft National Planning Framework (NPF) 4 is under preparation and will include all aspects of national planning policy as per the provisions of the Planning (Scotland) Act 2019 and will replace NPF3 once adopted. Draft NPF4 requires that development proposals for renewable energy developments must take into account public access, including impact on long distance walking and cycling routes and scenic routes; and impacts on tourism and recreation.
	Scottish Government (2009) Climate Change (Scotland) Act 2009	The Climate Change (Scotland) Act 2009 introduced statutory targets to reduce carbon emissions by 80% by the year 2020.
	Scottish Government (2010) A Low Carbon Economic Strategy for Scotland: Scotland – A Low Carbon Society	The Scottish Government Economic Strategy identifies the energy sector as a key sector that could potentially offer the opportunity to strengthen Scotland's areas of international comparative advantage. Renewable energy development will also contribute towards commitments aiming to reduce carbon emissions and promote sustainable growth.
The Shetland Islands	Shetland Islands Council (2014) Shetland Local Development Plan	The LDP highlights the areas outstanding capabilities due to the resources available. "*Shetland is well placed to make a positive contribution to these national targets through the development of the outstanding renewable resource available such as wind, wave and tidal."* This is supported by policy RE1 which states "*The Council is committed to delivering renewable energy developments that contribute to the sustainable development of Shetland. Proposals for renewable energy developments will be supported where it can be demonstrated that there are no unacceptable impacts on people (benefits and disbenefits for communities and tourism and recreation interests) the natural and water environment, landscape, historic environment and the built environment and cultural heritage of Shetland*." The fact that tourism and recreation is a key consideration highlights its importance to the area.
	Shetland Island Council (2011) The Shetland Tourism Plan 2011-2014	

Table 6.6: Socio-economic policy & strategy review

Policy level	*Key acts, regulations & policies*	*Relevance to development*
		The LDP outlines that development that meets the Islands needs while not compromising the needs of future generations will be encouraged. This is Particularly relevant to climate change. This is outlined in policy GP1 and is consistent with The Planning etc. (Scotland) Act 2006, which places a duty on planning authorities to contribute to sustainable development while SPP highlights the need to incorporate sustainable development and the tackling of climate change into the development plan process. The LDP also highlights the importance of the area's natural heritage and understands that it plays a significant role in attracting visitors to the Islands. "*The Local Development Plan has a significant role to play in the conservation of natural heritage in Shetland. The natural heritage of Shetland is internationally renowned, and its quality is one of the Islands' principal assets, making Shetland an attractive place to live and visit."* Policies NH1 to NH7 outline the need to protect the natural environment and that development that endangers this will be discouraged. The STP 2011-1014 outlines the Council's ambitions to grow tourism in the area with eight key strands. These are: • Shetland aims to grow its tourism sector. • Shetland will become a year-round destination offering a high-quality product and experience. • Increasing the range of products and services for visitors. • Effective partnerships are vital to develop the sector. • Making the most of our online presence. • Understanding, meeting and exceeding customer expectations to truly deliver satisfaction. • A commitment to excellence in promotion, internally and externally. • To establish an effective monitoring and evaluation mechanism. The Plan also highlights the existing role that tourism currently plays in the economy and that its continued

Table 6.6: Socio-economic policy & strategy review

Policy level	*Key acts, regulations & policies*	*Relevance to development*
		growth can have a lasting economic benefit to the local area.

6.3 Baseline Assessment

Scoping and consultation

6.3.1 The socio-economic and tourism and recreation issues raised by the responses to the Scoping Report are set out in Table 6.7 below.

Table 6.7: Summary of scoping responses

Consultee	*Subject*	*Consultee response*	*Chapter response*
Shetland Islands Council 7th May 2015	Socio-economics Paras 14.1-14.2	The Planning Authority looks forward to assessing a targeted socio-economic survey and report that takes account of the Shetland/Yell specific activities that may be impacted as a result of the development. Many residents who live in close proximity to wind farm developments cite a reduction in property values as a significant concern. We look forward to reviewing the findings of the study and interviews.	The socio-economic survey results are set out in Section 6.4. Property values are not a material consideration in planning law and hence this assessment does not cover the issue.
		The development would not appear to directly affect any formal routes that the Council maintain nor any public rights of way.	Noted
Shetland Islands Council (Outdoor Access Officer) 17th April 2015		Potential significant effects are likely to arise from the introduction of new large, engineered structures. Views of these structures from the surrounding area including from receptors such as residential properties, settlements, public rights of way and other routes with public access and from public open spaces. The potential influence of these structures upon the character of the surrounding landscape and upon the special qualities of designated landscapes and wild land are a concern.	The assessment addresses these issues in section 6.4

Table 6.7: Summary of scoping responses

Consultee	*Subject*	*Consultee response*	*Chapter response*
Shetland Islands Council (Outdoor Access Officer) 7th May 2015	Page 1 and 2 Outdoor access Paras 8.1 to 8.6	The development borders Access Route ARY06. The Catalina Memorial walk and also the Hill of Arisdale (listed as Marilyn to be ticked off) and The Ward of Otterswick, which all attract walkers to the area. Additionally, under the Land Reform (Scotland) Act 2003 the public have a general right to responsible non-motorised access over that hillside.	Noted The assessment addresses these issues in section 6.4
		The report states that Wind Farm infrastructure including access roads, substation and all other components have not been shown yet as they have not been designed in detail. It will be desirable that when access roads and other infrastructure are designed consideration is given to suitable interconnection to enable their use for non-motorised outdoor recreation in the area.	Noted
		The applicant should include within the EIAR an Access Route Plan to show how provision for both formal and informal access in the area has been considered and will be catered for.	Noted
The Scottish Rights of Way and Access Society 14th May 2015	Page 1 and 2	The National Catalogue of Rights of Way does not show any rights of way affected by the Study Area indicated on the applicant's Figure 3 Indicative Wind Turbine Layout. However, as there is no definitive record of rights of way in Scotland, there may be routes that meet the criteria but have not been recorded because they have not yet come to our notice	Noted
		You will no doubt be aware there may now be general access rights over any property under the terms of the Land Reform (Scotland) Act 2003. If the applicant has not already done so, we strongly recommend that they consult the Core Paths Plans, prepared by Shetland Islands Council's access team as part of their duties under this Act. It is our understanding that there are core paths to the immediate south and to the north of the Study Area. The SIC's access officer may also be able to provide further advice regarding public access in and around the application site.	The assessment addresses these issues in section 6.4
		We note that the Scoping Report (p26) identifies views "*from receptors such as … public rights of way and other routes with public access"* as a potentially significant effect arising.	The assessment addresses these issues in section 6.4

Table 6.7: Summary of scoping responses

Consultee	*Subject*	*Consultee response*	*Chapter response*
		From the proposed development. Furthermore, Core Paths and general access rights are acknowledged in section 7.11.16 when appropriate receptors regarding air quality are considered. We thus anticipate that the Environmental Impact Assessment will consider any direct and indirect impacts of the proposed development on core paths and access rights under the Act, as well as on rights of way. We suggest that the applicant pays particular attention to the maintenance of these rights during construction, operation and decommissioning of the proposed wind turbines.	The assessment addresses these issues in section 6.4
		If information about rights of way and other routes over a wider search area is required in order to aid preparation of the Environmental Impact Assessment, the applicant is welcome to get in touch with the Society directly.	The assessment addresses these issues in section 6.4
		As we understand there to be very little guidance regarding the siting of turbines in relation to established paths and rights of way, we would like to draw your attention to the following: Extract from the Welsh Assembly Government's Technical Advice Note on Renewable Energy (TAN 8) Proximity to Highways and Railways 2.25 It is advisable to set back all wind turbines a minimum distance, equivalent to the height of the blade tip, from the edge of any public highway (road or other public right of way) or railway line.	Noted
		Once the proposed turbine layout has been further developed along with details of the site's access requirements, we would be grateful if a copy could be forwarded to the Society in order that we can comment further in due course.	
VisitScotland 21st April 2015	Importance of Scenery to Tourism	The importance of this element to tourism in Scotland cannot be underestimated. The character and visual amenity value of Scotland's landscapes is a key driver of our tourism product: a large majority of visitors to Scotland come because of the landscape, scenery and the wider environment, which supports important visitors activates such as walking, cycling, wildlife watching and visiting historic sites.	The assessment addresses these issues in section 6.4.

Table 6.7: Summary of scoping responses

Consultee	*Subject*	*Consultee response*	*Chapter response*
	Taking Tourism Considera-tions into Account	We would suggest that full consideration is also given to the Scottish Government's 2008 research on the impact of wind farms on tourism. In its report, you can find recommendations for planning authorities, which could help to minimise any negative effects of wind farms on the tourist industry. The report also highlights a request, as part of the planning process, to provide a tourism impact statement as part of the EIA. Planning authorities should also consider the following factors to ensure that any adverse local impacts on tourism are minimised: • The number of tourist travelling past en route elsewhere. • The views from accommodation in the area. • The relative scale of tourism impact i.e., local and national. • The potential positives associated with the development. • The views of tourist organisations i.e., local tourist business of VisitScotland.	The assessment makes use of this approach in section 6.4 as appropriate.
	Conclusions	Given the aforementioned importance of Scottish tourism to the economy, and of Scotland's landscape in attracting visitors to Scotland, VisitScotland would strongly recommend any potential detrimental impact of the proposed development on tourism – whether visually, environmentally and economically – be identified and considered in full. This includes taking decisions over turbine height and number.	The assessment addresses these issues in section 6.4.
		VisitScotland strongly agrees with the advice of the Scottish Government – the importance of tourism impact statements should not be diminished and that for each site considered an independent tourism impact assessment should be carried out. This assessment should be geographically sensitive and should consider the potential impact on any tourism offerings in the vicinity.	The assessment addresses these issues in section 6.4.
		VisitScotland would also urge consideration of the specific concerns raised above relating to the impact may perceived proliferation of developments may have on the local tourism industry, and therefore the local economy.	The assessment addresses these issues in section 6.4.

6.3.2 The socio-economic and tourism and recreation issues raised by the responses to the technical consultation are set out in Table 6.8 below.

Table 6.8: Summary of technical consultee responses

Consultee	***Subject***	***Consultee response***	***Chapter response***
British Horse Society 11th August 2015	Tourism & recreation	The consultation documents have been forwarded to the BHS representative on Shetland for comment. *"Meanwhile as you know Shetland is famous for its equines so, please consider them at all stages of this development."* Guidance for developers and planning authorities was also attached.	Horses and equine issues have been addressed as appropriate in Section 6.4.
Shetland Islands Council – Access Office 12th August 2015	Tourism & recreation	*I can draw your attention to the Core Paths Plan – http://Shetland.gov.uk/developmentplans/corepathplan.asp*.	Core paths are included within the recreation impact assessment in section 6.4
Forestry Commission Scotland 20th August 2015	Socio-economics & tourism	As this area does not appear to involve any areas of trees or woodlands there appears to be no need for FCS comment.	N/A
Sportscotland 21st August 2015	Tourism & recreation	We have the following comments to make on the proposed approach set out in your email and the questions posed to us therein:	
		Sportscotland does not have detailed knowledge of the sporting interests at or in the vicinity of the site in question. However, it is important not to rely solely upon Sportscotland for a view from the sport sector and we therefore advise you to consult with relevant local clubs and sports groups, and with relevant Scottish Governing Bodies of Sport, including Ramblers Scotland, The Mountaineering Council of Scotland, and Scottish Cycling (representing mountain biking). The governing bodies of sport should be able to put you in touch with relevant club interests in the area with whom it would be beneficial to consult. Contact details for SGBs can be found on our website at the following link: http://www.sportscotland.org.uk/sport-a-z.aspx	Each of the governing bodies has been consulted through this assessment.

Table 6.8: Summary of technical consultee responses

Consultee	*Subject*	*Consultee response*	*Chapter response*
		It will be important for the proposal not to have a negative impact on access rights in the area - we would advise that you consult with Shetland Islands' Access Officers to address any potential impacts on access rights, and with the Local Access Forum, as well as with the Council's Sports Development and Outdoor Education staff. The local Scottish Natural Heritage area office may also be able to provide a view on access and recreation in the area.	Each of these bodies has been consulted through this assessment.
		In assessing impacts on sport, it is important to consider impacts during construction, operation, and decommissioning, including the impact of associated infrastructure e.g. temporary access roads required for the development.	The assessment addresses these issues in section 6.4.
		The completed EIA should include details of timeframes for construction works to give a clear indication of how long construction will last. Length of construction time will indicate the significance of impacts on sport interests.	The assessment addresses these issues in section 6.4.
		Appropriate mitigation should be considered where any impacts are identified, as well as any opportunities for planning gain to the benefit of sport and recreation where appropriate.	The assessment addresses these issues in section 6.4.
Shetland Islands Council – Economic Development Services 7th September 2015	Socio-economics & tourism	The socio-economic, tourism and recreation impact assessment method statement for the Beaw Field Wind Farm in Yell appears fit for purpose. Shetland Islands Council Economic Development Service would be happy to contribute to the consultation process and would also be very interested in the results of the research.	N/A
HES 9th September 2015	Socio-economics & tourism	Can confirm we have no comments to make on this. Reference made to section on their website relating to 'Visitor Numbers and Annual Income' as useful on: http://www.historic-scotland.gov.uk/index/about/corporatereports.htm.	Chapter 6 makes use of this data source.
Mountaineering Council of Scotland	Tourism & recreation	No response received	N/A
Ramblers Association Scotland	Tourism & recreation	No response received	N/A
Walking Support	Tourism & recreation	No response received	N/A

Table 6.8: Summary of technical consultee responses

Consultee	*Subject*	*Consultee response*	*Chapter response*
Visit Scotland – Shetland Islands	Tourism & recreation	No response received	N/A
SUSTRANS Scotland	Tourism & recreation	No response received	N/A
Scottish Natural Heritage	Tourism & recreation	No response received	N/A
Scottish Countryside Rangers Association	Tourism & recreation	No response received	N/A
Scottish Cycling Union	Tourism & recreation	No response received	N/A
Cyclists Tourism Club Scotland	Tourism & recreation	No response received	N/A
Scottish Countryside Access Network	Tourism & recreation	No response received	N/A
Scottish Land & Estates	Tourism & recreation	No response received	N/A
Shetland Bird Club	Tourism & recreation	No response received	N/A

Baseline assessment format

6.3.3 The baseline assessment comprises the socio-economic baseline, a baseline assessment of tourism, and a baseline audit of recreational facilities and activities. This is placed in context by an assessment of comparative research on tourism and recreational impacts of wind farm developments elsewhere. The baseline of the Socio-Economic Study Area provides details of key issues, trends and the performance of the Shetland Isles economy relative to Scotland and the UK. This is followed by a baseline assessment of tourism, in terms of:

- Visitor and tourist trends;
- Tourism volume and value;
- Visitor patterns;

- Visitor accommodation occupancy rates;
- Tourism employment; and
- The drivers currently impacting upon the industry both nationally and locally.

6.3.4 This sets the context for the remainder of the appraisal, and against which any impact can be set. The baseline review draws upon standard available VisitScotland, and other tourism related and economic statistic datasets. The tourism activities, patterns, trends, and facilities at a Shetland tourism region level are subject to a baseline audit. The audit covers the aspects, which make up the tourism product in the area, act as a focus or attraction for visitors, and lead to expenditure by tourists and visitors. It is this expenditure which acts as the measurement in terms of economic impact upon the tourist sector in the area. In addition, the impact on recreational users is also assessed. The areas covered include:

- Tourist accommodation – including Bed & Breakfasts (B&Bs) and guest houses, caravanning, hotels, and camping: their business prospects, visitor profile, and potential business impacts and effects (Figure 6.5);
- Visitor attractions, facilities, and destinations including - archaeological sites, cultural facilities, sports, recreation, and leisure facilities: their business prospects, visitor profile, and potential business impacts and effects (Figure 6.1);
- Visitor activities – including walking, fishing, country pursuits, wildlife interests, and sports (Figure 6.1); and
- Visitor and tourist routes – including road access (Figure 6.3), cycling (Figure 6.4), walking, bridleways, and rights of way (Figures 6.2 and 6.3).

6.3.5 A summary of the key factors which impact upon tourism trends and the key drivers influencing the market is provided below.

6.3.6 A review of the key issues and conclusions drawn from comparative research into the impacts and effects of wind farms on tourism and recreational visitors/users was undertaken to provide a comparative assessment of impact from previous experience (see Appendix 6.2). This is drawn from a wide range of research sources across the UK, but mostly from Scottish experience, and also from both the pre-development appraisals of potential impact and post-development actual resulting effects.

Socio-economic baseline

Socio-economic summary

6.3.7 The 2014 population for the Shetland Islands is 23,230; an increase of 0.1% from 23,200 in 2013. The population of the Shetland Islands accounts for 0.4% of the total population of Scotland.

6.3.8 In the Shetland Islands, 16.2% of the population are aged 16 to 29 years. This is smaller than Scotland where 18.3% are aged 16 to 29 years. People aged 60 and over make up 24.6% of Shetland Islands. This is larger than Scotland where 24.0% are aged 60 and over[8].

6.3.9 Since 1988, the Shetland Islands' total population has risen overall. Scotland's population has also risen over this period.

6.3.10 Thus, in summary the Shetland Islands have a relatively stable population, and a higher than average level of economically active working age population and people in employment. Job Seekers Allowance

claimant numbers are much lower in the Shetland Islands than the Scottish average, slightly lower than average levels of qualifications, and levels of earnings, and tourism related employment in the area is higher than the Scottish average.

6.3.11 Detailed socio-economic datasets and tables are provided in Appendix 6.1 Socio-Economic Baseline Tables.

Tourism baseline

Strategic tourism context

6.3.12 The wider UK and Scottish tourism and recreation market is affected by a number of key drivers and factors. At an overall level, tourism and visitor markets and habits, particularly of overseas visitors and tourists, are predominantly influenced by extraneous or macro-economic factors. These factors include weather patterns, levels of real disposable income, geo-political factors such as the fear of terrorist attacks and political instability, as well as fluctuations in exchange rates.

6.3.13 Political events have had, and continue to have, a significant adverse effect on the tourism industry. The combined impacts of the continuing political instability in the Middle East and some parts of Africa and Asia generally have reduced the level of global tourism travel at some point in the past 10 years.

6.3.14 Recently the world economy has also experienced recessionary conditions resulting in fewer high spending tourists visiting Scotland and the rest of the UK. In balancing this, affordability of holiday visits is significant in attracting tourists from abroad. Thus, the strength (or weakness) of sterling against the euro and the dollar in the past has had an important effect on visitor numbers from Europe and the USA. These factors are no less significant at a Scottish and sub-Scottish regional market level.

6.3.15 Finally, the variation in the value of sterling allied to the various factors set out above, has led to an increase in the number of UK residents holidaying in the country and has led to the 'staycation' effect, particularly boosting occupancy rates in the more affordable types of accommodation including B&Bs, camping, caravanning, self-catering and affordable lodge type hotels.

Sub-regional tourism context – volume and value

6.3.16 The following section provides a tourism profile of the Shetland Islands relative to Scotland for visitor and tourist trends, tourism volume and value, visitor patterns, and visitor accommodation occupancy rates.

6.3.17 In 2013 the Shetland Island contributed around 3% of the money spent by UK and overseas visitors in Scotland[9]. This compares with 2% in Orkney and 13.4% in the Highlands, making tourism expenditure considerably lower in the island's regions.

6.3.18 In 2011, tourism-related employment accounted for 7.6% of employment in the Shetland Islands[10]. In the Orkney Islands and the Highlands, the figures were higher at 8.6% and 10.9% respectively.

6.3.19 The VisitScotland Island Visitor Survey for Shetland 2012- 2013 highlighted and noted the following key facts[11]:

- Over £16m spent by visitors to the Islands;

- Overnight business trips make are the most common reason for visits accounting for 35% of visits to the area;
- The most popular activities include short walks, visit beaches and taking in coastal scenery;
- 97% stated that they were very or fairly satisfied with 79% being very satisfied; and
- 94% of holiday visitors to the Islands said they would "champion" Shetland with 71% of visitors felt they would be very likely or fairly likely to visit Shetland in the next 5 years for a holiday or short break.

Visitor attractions

6.3.20 None of the top visitor attractions in the Shetland Islands are close to the Consented Development, with the majority of the top 16 attractions identified in the 2009 Visitor Attraction Monitor[12] falling outside the 20km radius Study Area

6.3.21 Two attractions identified in the Visitor Attraction Monitor are within the 20km radius Study Area. These are The Old Haa, (0.5km) Yell and the Hanseatic Booth, Whalsay (18km). Both receive fairly low visitor numbers, (3,000 per annum) relative to the top visitor attractions in Shetland, which in 2014[13] were Shetland Museum & Archives (84,083), Scalloway Museum (18,126), Jarlshof, Sumburgh (14,751), Shetland Jewellery, Welsdale (9,118), and Tangwick Haa Museum (5,542).

UK trips and expenditure

6.3.22 Between 2009 and 2011 visitor numbers from the UK have remained at the same level in Shetland, however, during this period visitor expenditure has increased by 50%. This could be attributed to the continued improvement of the UK economy.

6.3.23 The Shetland Islands are more dependent on English based visitors than Scotland as a whole. The area has seen a massive swing from Scottish to English visitors since 2009 with an increase of 64% in visitor numbers from England compared with a decrease of 53% in Scottish visitors (Table 6.9). This could be attributed to the trend of 'staycations' or UK holidaymakers opting to remain in the UK since the start of the recession in 2008.

Table 6.9: UK tourist trips to Shetland by country of residence

	Trips			***Expenditure***		
	Shetland (%)	***Scotland (%)***	***Shetland % change 2009-2011***	***Shetland (%)***	***Scotland (%)***	***Shetland % change 2009-2011***
England	80	46	64	94	61	80
Scotland	46	52	-53	6	34	-69
Wales	0	2	-11	0	5	-3
Total(m)	0.040	13.36	0	18	3,018	50

Source: Tourism in Northern Scotland 2009 & 2011

Purpose of trip

6.3.24 Most domestic visits to Shetland in 2011 were of a business nature. This was a considerable change from 2009 when the majority of visits to the Islands were for holiday purposes. This could be attributed to the presence of the oil and gas industry in the Shetland Islands (Table 6.10).

Table 6.10: Purpose of UK visits to Shetland

	Shetland trips 2011 (%)	*Shetland trips 2009 (%)*	*% change 2009-2011*
Holiday	15	52	-34
Visiting family and relatives	0	11	-11
Business	85	38	47

Source: Tourism in Northern Scotland 2009 & 2011

Tourism and recreation audit

6.3.25 An audit of tourist, visitor and recreational facilities was carried out (Appendix 6.3) to gauge the extent of the tourism offer within the 20km Study Area. In assessing the tourist, visitor and recreational facilities within the Study Area, it is those which appear most frequently within tourist or visitor websites, brochures, guidebooks, and other media that are taken to represent the principal tourism resources in the area. This is a standard approach taken as a proxy for tourists or other visitors assessing the potential attraction of an area.

6.3.26 Overall, the Study Area contains numerous tourism and recreation related facilities and activities. Examples include leisure centres, cycling routes, and a number of museums. There are also a number of walking routes including promoted paths, access routes, hill tracks, core paths, and rights of way. The general character of the area is that many of the key assets are concentrated and situated at the edge of the Study Area, or just into adjoining areas.

6.3.27 The appendices provide mapped and tabulated information on the key tourist related assets within the 20km tourism and recreation Study Area and also includes those which are immediately adjacent to the Study Area boundary. The summary below highlights the key elements of the baseline assets.

Settlements

6.3.28 The tourism and recreation Study Area includes a number of island settlements, as set out in table 6.11 and shown on Figure 6.1.

Table 6.11: Settlement areas within 20km Study Area

Island	*Min. distance from Site (km)*	*Max. distance from Site (km)*
Yell	0	20
Fetlar	10	19

North Mainland	5	20
Whalsay	15	20
Out Skerries	18.5	20
Unst	18.5	20

6.3.29 Each of the island areas has a number of small settlements. The nearest settlements to the Site are Burravoe, Yell (approximately 1km), Gossabrough (approximately 1km) and Mid Yell, Yell approximately 8km from the Consented Development.

Transport travel links

6.3.30 Due to the island nature of the Study Area most areas are served by a number of ferry routes. These can be seen in Table 6.12 below and in Figure 6.3. The main roads through the Study Area are the A968 and the A970 with a number of B and C class roads serving the small communities. There are also two airports located within the Study Area; these are Scatsta Airport, North Mainland and Burray Airstrip, Out Skerries.

Table 6.12: Ferry routes within 20km Study Area

Ferry Routes
Bigga, Yell - Tofts, North Mainland
Gutcher, Yell – Belmont, Unst
Gutcher Yell – Hamars Ness, Fetlar
Belmont, Unst – Hamars Ness, Fetlar
Vidlin, North Mainland - Burray, Out Skerries
Vidlin, North Mainland – Symbister, Whalsay (20 days per year)
Flugarth, North Mainland – Symbister, Whalsay
Lerwick, Mainland – Burray, Ot Skerries

6.3.31 The nature of the area is such that visitors looking to travel to destinations to the north or west of Yell would need to travel through the Study Area.

Walking routes

6.3.32 There is a number of walking routes and paths within the area. The tourism Study Area paths, access routes and rights of way are mapped and shown on Figures 6.2 and 6.3 and tabulated in Appendix 6.3.

6.3.33 Scotways has highlighted a number of rights of way within the 20km Study Area. The scoping response from Shetlands Islands Council highlighted two walking routes in close proximity to the Site. These are

access route ARY06 and the Catalina Memorial Walk. In addition, the 'Ward of Otterswick' walk traverses the Site.

Cycling

6.3.34 The main Sustrans cycle route (North Sea Cycle Route/Sustrans Route 1) at its closest point runs approximately 4km to the west of the Site following the route of the A968.

6.3.35 Other key cycle routes, which are promoted on the web are set out in Table 6.13 below and Figure 6.4 and are identified together with their distance to the Consented Development at the closest point.

Table 6.13: Cycling Routes within 20km Study Area

Route name	***Distance (km)***	***Minimum distance from Site (km)***
Mid Yell – Fetlar	51.1	8.5
Mid Yell - North Yell	32	8.5
Mid Yell - South Yell	38.5	0.5
Mid Yell - Baltasound/Norwick	23.5	8.5
Brae - Mid Yell	36	0.5
Vidlin - Mid Yell	46.5	0.5
Baltasound – Fetlar	48	11
Hillswick - Heylor, North Roe & Isbister	42	12
Hillswick - Esha Ness	21.5	21
Brae – Hillswick	17.5	18.5
Vidlin – Whalsay	21.5	17
Vidlin - Luna Ness	17	9
Brae - Sullom, Gunnister & Nibon	24	15
Brae - Muckle Roe	16	18.5
Vidlin – Brae	17.5	15.5
Walls – Vidlin	37	15.5
Walls – Brae	38	18.5
Lerwick – Brae	54.5	18.5
Lerwick – Vidlin	38	15.5

Table 6.13: Cycling Routes within 20km Study Area

Route name	*Distance (km)*	*Minimum distance from Site (km)*
Scalloway – Brae	52	18.5
Scalloway – Vidlin	35.5	15.5

Source: Cycle Shetland

Golf

6.3.36 There is one golf course located within the Study Area. Whalsay golf club is an 18-hole course located at Skaw approximately 16.5km from the Consented Development (Figure 6.1).

Leisure activities

6.3.37 There are a number of leisure centres located at Mid Yell, Yell (8.5km), Whalsay (17.5km), Brae, North Mainland (19km). There are no equestrian centres located within the area. There is also an RSPB nature reserve at Funzie, Fetlar (15km) and a wildlife sanctuary at Hillswick (22km) found just outside the Study Area (Figure 6.1).

Visitor attractions

6.3.38 There are a number of museums and exhibitions are located at various locations throughout the Study Area (Figure 6.1).

Recreation audit summary

6.3.39 The main recreational activities in the Study Area consist of walking and cycling. A number of the routes for these activities run within close proximity of the Consented Development and in two cases through the site. The maps provided in Figures 6.1-6.4 and Appendix 6.3 show the proximity of these routes and other visitor attractions to the Site.

Study area business profile

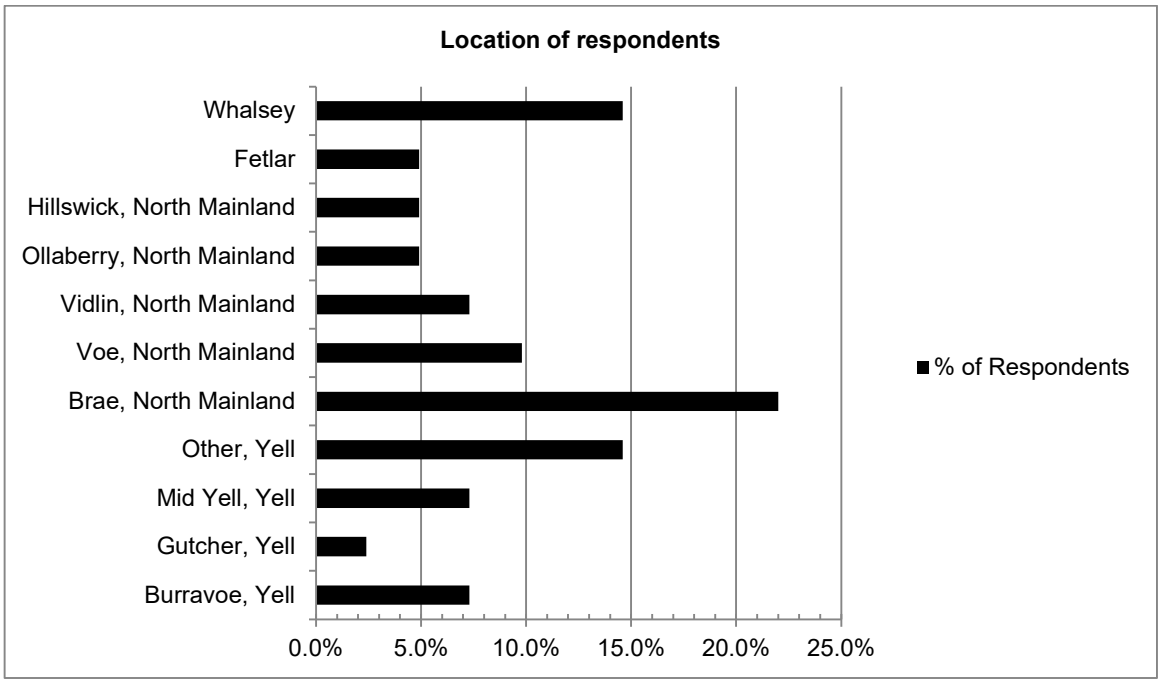
6.3.40 The following is the business profile within the local tourism and recreation Study Area derived from the business survey undertaken for this assessment by Keddie Consulting Ltd during June 2015. Figure 6.5 illustrates the extent of the Study Area and locations of individual businesses.

6.3.41 The survey was carried out on a telephone contact basis of 82 local businesses with 43 responding to the questionnaire, representing a statistically satisfactory 52% response rate. Full details of the survey questions are set out below and a copy of the survey questions is attached in Appendix 4.

Location and distribution of businesses

6.3.42 The majority of business respondents were from Brae (21.95%) the largest village in the Study Area (see Figure 6.5), followed by Whalsay, and respondents from areas of Yell outside the main settlements (both 14.63%). See Chart 6.1.

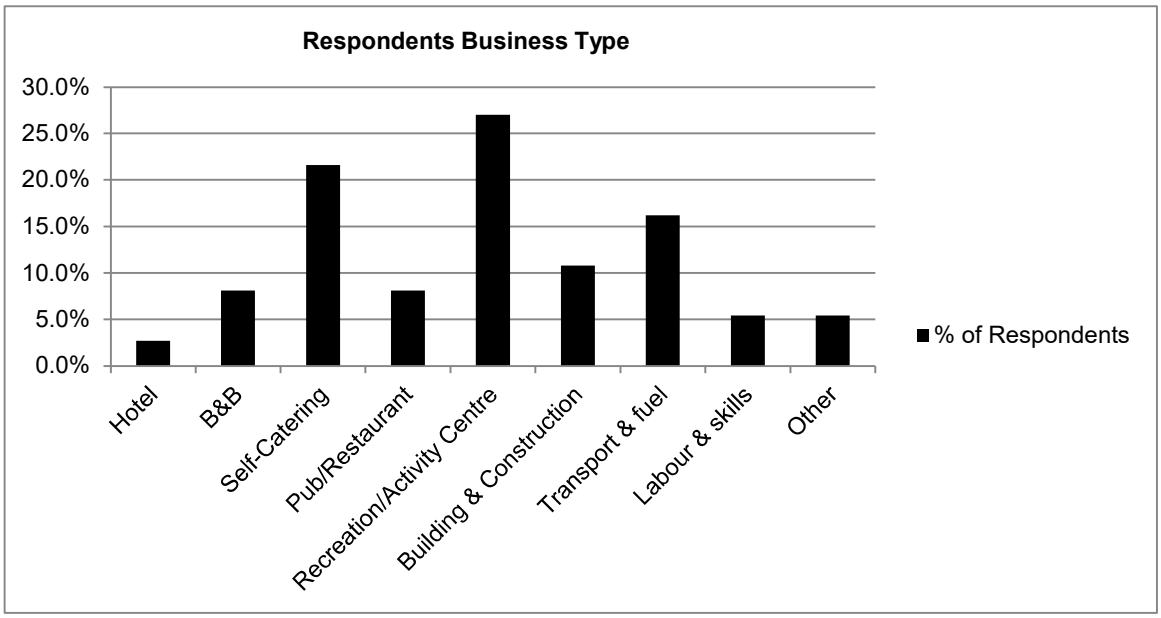
Chart 6.1: Location of respondents of business survey



Type of business

6.3.43 The majority of business respondents were recreational/activity centres (27.03%), self-catering accommodation providers (21.62%), and non-tourism related businesses (32.44%) (Chart 6.2).

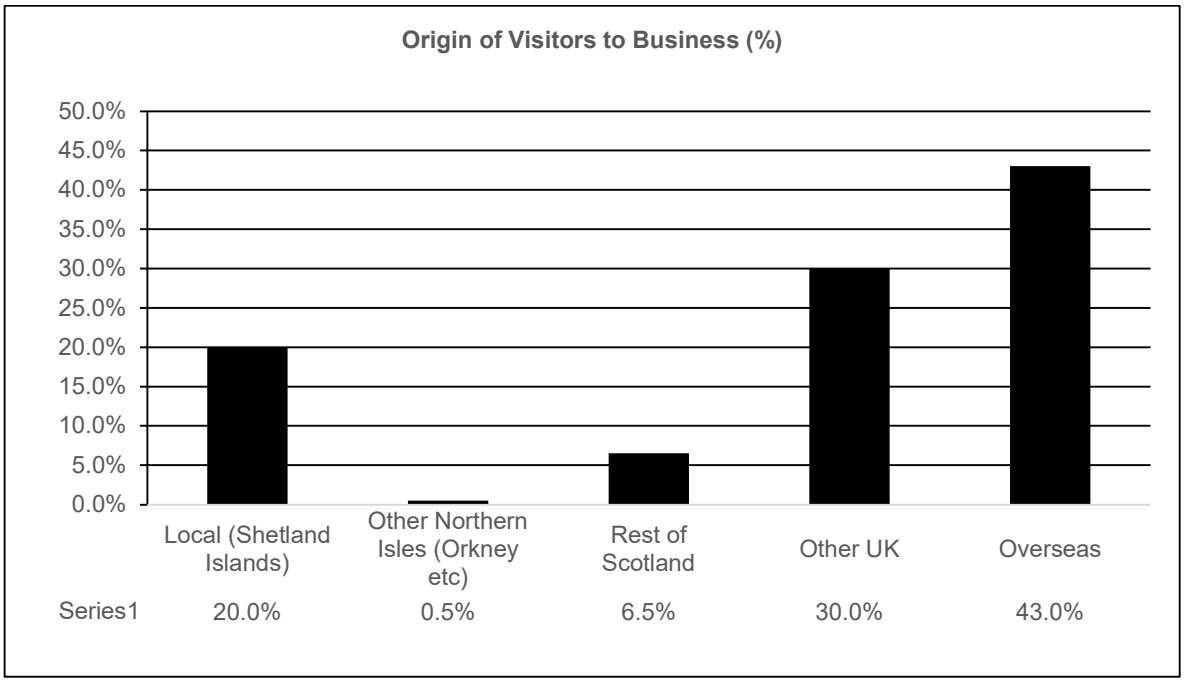
Chart 6.2: Respondents Business Type



Profile of customers – tourism businesses only

6.3.44 The majority of respondents agreed that overseas visitors were the most common (43%), with Scandinavian countries being specifically mentioned. While on average 30% of customers originated from the rest of the UK (England, Wales and Northern Ireland) local trade accounted for 20% of footfall. See Chart 6.3.

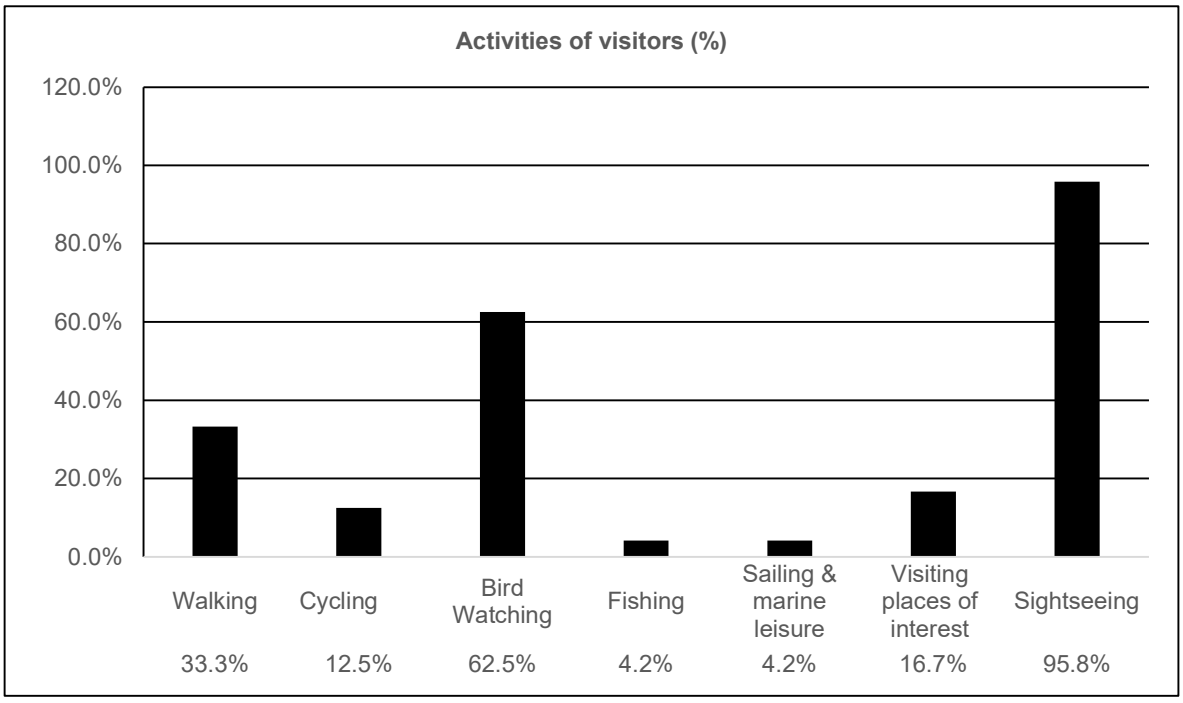
Chart 6.3: Origin of Visitor to the Business



Activities of visitors

6.3.45 The majority of visitors undertook sightseeing (95.8%), birdwatching (62.5%) and walking (33.3%) (Chart 6.4).

Chart 6.4: Activities of visitors



Current business performance

6.3.46 Some 52.6% of businesses consider current business conditions to be good and the other 47.4% regarding these as fair with no respondents regarding current business level to be poor.

Last 3 years business performance

6.3.47 Local businesses have found the trend in the last three years has been relatively stable with the majority (93.8%) experiencing a stable performance over the past three years. Only a small percentage noticed an increase. Most surveyed noted that the reason growth hadn't occurred was that they were currently trading at capacity.

Future business prospects

6.3.48 Similarly, to the last three years, most businesses expected levels of trading to remain at a stable level (87.5%), although a greater number expected to see growth (12.5%) as they had plans to extend their facilities after stronger than expected performance in recent years.

Tourism accommodation occupancy

6.3.49 Accommodation providers indicated that occupancy rates in the peak season ranged from 90-100% with an average value of 98%. During the off-peak season these rates were considerably lower ranging from 10-20% or an average value of 14% with most respondents mentioning off-peak customers were of a business nature. These rates go some way to explaining employment breakdown in the area with only 33% of employees being full time and 77% being part time or seasonal.

Importance of natural environment to business

6.3.50 When asked to consider the importance of the natural environment to the business, 87% of business respondents considered this to be important in attracting customers to their business location, with only 8.7% responding that it was not important. The remainder expressed no view.

Summary of business conditions

6.3.51 The local business sector has a stable local customer base, suggesting that a number of businesses were not totally reliant on tourist custom only. Most visitors to the area are from overseas but also from the rest of the UK. Tourists to the area liked to participate in a number of activities with the most popular being sightseeing, birdwatching, and walking.

6.3.52 The vast majority of business owners reported stable business performance over the past three years with no respondents reporting a decline in trading. This was also reflected in the responses regarding future business prospects with most reporting that they expected business to remain at a stable level, due to operating at capacity, with a small percentage expecting an increase in the future. Therefore, it appears that a number of local tourism-related businesses are performing at a satisfactory level with increased confidence for the future.

6.3.53 Most respondents identified the nature and remoteness of the Shetland Islands to be the main factor in attracting people to the Islands and the main reason business levels have remained so stable. This is highlighted in the fact that the natural environment was considered by most to be important in attracting customers.

6.4 Assessment of impacts

Economic Impact Assessment

6.4.1 This section assesses the potential economic effects from the Consented Development, including the construction, operation and maintenance, and decommissioning phases. An industry standard methodology has been used to calculate the estimated costs and effects based on the level of expenditure per MW typically expended locally, regionally, nationally (UK) and overseas for onshore wind farm development.

6.4.2 The figures quoted below represent best known information as at 2015 in accordance with industry averages[14] and assume a conservative case with a generation capacity of 50MW, and a maximum of 57.8MW.

Construction phase effects

6.4.3 The Applicant would encourage local contractors to tender for construction work wherever possible, to ensure maximum benefit to local communities. Experience from other wind farm projects that the Applicant has constructed has shown that opportunities for local businesses and the employment and training of staff for construction of the Consented Development might include:

- Site Preparation – levelling of the site and clearance of vegetation;
- Civils Balance of Plant – quarrying, aggregates, transport and haulage of components, concrete production delivery and pouring, and laying of roads and other foundations;
- Electrical Infrastructure – substation design, construction and testing, switchgear, cabling, and grid connection;
- Site Management – establishing site compound, plant hire, cleaning, security, waste management, and catering etc;
- Safety, environmental, legal and professional consultants; and
- Project management.

6.4.4 In terms of the construction phase, the principal socio-economic effects would be direct and indirect employment generated as set out below.

Direct employment

6.4.5 Based on wind farm projects of equivalent scale, it is estimated that an equivalent of between 58 and 67 person-years would be required for the duration of the construction period of the project. In terms of converting temporary employment into permanent full-time equivalent jobs (FTEs) it is possible to equate construction activity associated with the Consented Development with permanent full-time jobs. Economic appraisals of development schemes generally estimate that 10 person years of full-time employment is the equivalent of one permanent FTE job. On this basis between 58 and 67 person years equates to approximately 5.8-6.7 FTE jobs.

Indirect employment

6.4.6 For indirect employment, using industry best practice on economic multiplier effects, it is possible to estimate the level of additional job creation that would result from the construction phase. The multiplier

effect (indirect and induced employment) would include additional expenditure on local goods and services. This in turn will have an effect in terms of additional revenue brought into local businesses and potential employment creation that is likely to result from this extra trade and spending on accommodation, food, drink and transport by employees.

6.4.7 In terms of economic effects this has the potential of leading to opportunities for local businesses to capture sub-contractor roles. Expenditure on local goods and services and transportation of materials for construction are included within the multiplier effects (Table 6.14) estimated through the application of a multiplier value of 2.1[15] applied to the 5.8-6.7 FTE direct jobs resulting in the creation of a further 6.4-7.4 FTE indirect and induced construction jobs in the wider economy, representing a total of 12.2-14.1 FTE construction jobs.

Table 6.14: Multiplier effects of the Consented Development construction – direct & indirect jobs

Estimated FTEs	*Regional multiplier*	*Additional indirect local economy FTEs*	*Total estimated net additional employment (FTEs)*
5.8-6.7	2.1	6.4-7.4	12.2-14.1

6.4.8 It is likely that a proportion of the activities such as ground-works, site clearance and preparation, supply of concrete, cabling, transport, port activities and craneage could be procured locally or elsewhere in the Shetlands, generating benefit for the local area and wider economy.

6.4.9 Further effects could result from the importation of labour where required to meet specific skill demand. However, it is considered possible that the majority of any such employees involved in construction could be based locally or take-up temporary accommodation in the North Mainland area. While the effect from the predicted number of employees is assessed as being minor in terms of an EIA scale of significance, the jobs and additional expenditure would be a valuable temporary addition at a local level.

6.4.10 Such activity is particularly positive within the local and wider area economies, which currently experience an above average level of employment in the construction sector and could benefit from an increase in construction sector jobs and could also benefit from the development of new skills through the creation of such local job opportunities.

6.4.11 The additional employment of 12.2 FTE workers in the wider regional economy over the construction phase for the Consented Development is assessed as a minor positive effect.

Operation and maintenance phase effects

6.4.12 The S36C variation application seeks to increase the operational lifetime of the Consented Development from 25 to 40 years. It is estimated that there will be a requirement equivalent to one permanent FTE employee for operation and maintenance throughout that period. During the operational phase staff will be required at various levels and although they would not all be required on a full time basis, the operation of the Consented Development would support jobs within the industry. Staff required would consist of management, administration, turbine technicians, and crew dealing with the on-going maintenance of the access routes, potential habitat improvement and/or management works, and other logistical site issues.

6.4.13 As there is no currently agreed multiplier for wind power generation, the Scottish Government's established Type II multiplier for electricity of 4.2 is applied as a proxy to estimate indirect employment. Using this method direct and indirect employment generated from the operation and maintenance phase is estimated to be 6.7 FTE jobs (1.6 direct FTEs and 5.1 indirect FTEs).

Table 6.15: Multiplier effects of the Consented Development operation & maintenance – direct & indirect jobs

Estimated FTEs	*Regional multiplier*	*Additional indirect local economy FTEs*	*Total estimated net additional employment (FTEs)*
1.6	4.2	5.1	6.7

6.4.14 It is likely within the Shetlands that there is available capacity to absorb the on-going operation and maintenance jobs, which would be created through the Consented Development. Even though the numbers of jobs created would be limited, in a local economy with an above average dependency upon skilled manual jobs, such new employment would be of benefit and is assessed as being of a minor positive effect.

Decommissioning phase effects

6.4.15 No information of the likely cost of decommissioning is currently available, but information on the broad order costs of decommissioning is available from comparative industry evidence. Sources on the cost of decommissioning wind farms tends to focus upon offshore locations due to limited evidence on decommissioning of onshore wind farms to date. However, indicative decommissioning costs are generally estimated to be between 2 – 3% of total costs. Equally indicative costs suggest approximately £27,000 per MW for decommissioning. For the purposes of this assessment the mean level of 2.5% of total construction costs has been adopted. On this basis, decommissioning costs would be between approximately £1.65- £1.91 million. Assuming at least approximately 10% of this expenditure accrued to the local economy, and 20% to the wider Shetlands economy, this would represent a further benefit of between £0.16-£0.19 million locally and £0.33-£0.38 million across the Shetland Islands.

6.4.16 It is estimated that this decommissioning process would take approximately 12 months, with the removal of all above-ground structures and the reinstatement of the site. Approximately £111,000 of construction expenditure is required to support one construction job in the Shetlands. Using this conversion factor of £111,000 per construction job and the equivalent of 10 construction jobs to create 1 FTE job, the £1.65-£1.91 million cost would be likely to involve up to approximately 15-17 temporary construction jobs – 1.5-1.7 FTEs.

Table 6.16: Multiplier effects of the Consented Development decommissioning – direct & indirect jobs

Estimated FTEs	*Regional multiplier*	*Additional indirect local economy FTEs*	*Total estimated net additional employment (FTEs)*
1.5-1.7	2.1	1.7-1.9	3.2-3.6

6.4.17 As in the construction phase, expenditure on local goods and services and transportation of materials for decommissioning will also have multiplier effects on the local and wider economy (Table 6.16). By applying a multiplier similar to that assumed at the construction stage, it is estimated a further 1.7-1.9 FTEs would be created through indirect and induced effects, giving a total of 3.2-3.6 FTE jobs generated through decommissioning.

6.4.18 The employment of 3.2-3.6 FTE jobs over the decommissioning period, which would be created through the Consented Development would be of benefit and is assessed as being of a minor positive effect, and this would be helpful within the local and wider area economies, which are more dependent upon the construction sector than the Scottish average.

Summary

6.4.19 In total, direct and indirect employment created by the Consented Development in the local and wider area economy is set out in Table 6.17 below and amounts to between some 8.3-9.4 FTE direct jobs and a further 11.3-12.5 FTE indirect and induced jobs in the wider regional economy, a total of between 19.6-21.9 FTE net additional employment over the life time of the project.

Table 6.17: Multiplier effects of the Consented Development – direct & indirect jobs

Development Phase	*Estimated direct FTEs*	*Regional multiplier*	*Additional indirect local economy FTEs*	*Total estimated net additional FTEs*
Construction	5.8-6.7	2.1	6.4-7.4	12.2-14.1
Operation & Maintenance	1.6	4.2	5.1	6.7
Decommissioning	1.5-1.7	2.1	1.7-1.9	3.2-3.6
Total	8.9-10.0	n/a	13.2-14.4	22.5-24.4

Wider socio-economic effects

6.4.20 In terms of potential supply chain spin-offs, wind energy development provides opportunities for the involvement of local, regional and Scottish suppliers in a range of activities, including research and development, design, project management, civil engineering, component fabrication/manufacture, installation and maintenance. There is expertise in all of these areas in the wider area, although a full wind energy supply chain covering all aspects of onshore wind development and operation has not yet been developed within the Shetlands of Northern Isles or indeed within Scotland as a whole. Scotland currently houses wind turbine tower and base manufacturing plants in Argyll and Bute, Fife, and in the Highlands respectively.

6.4.21 The key consideration in this context is that with an increasing number of wind farm schemes either operational, under development or having gained consent in Scotland, the commercial viability, and with it job prospects amongst Scottish firms, has improved. Cluster benefits in the industry increase where firms are supported by the spending of other firms within the renewables sector[a]. The net effect

[a] Notable examples include The Humber Renewable Energy Super Cluster Enterprise Zone and Britain's Energy Coast Business Cluster

is to increase business and employment opportunities within Scotland's renewable energy sector, boosting the performance of local and national economies.

6.4.22 In addition, during the construction process there will be opportunities where those employed will develop skills that will be of benefit to the local economy and to local businesses in the longer term. Further, employment generated through the Consented Development will contribute to diversifying the local economy and help support the retention in the area of the working age population.

6.4.23 The effect of the Consented Development is assessed as having a minor positive effect upon the local, regional and Scotland wide renewables supply chain.

Non-domestic business rates revenue

6.4.24 It was estimated that the non-domestic business rates revenue of the Consented Development would be between approximately £7.8-£8.3 million and £9-£9.6 million over the 25-year lifetime of the project, assuming a constant rateable value and rate poundage over that period. Over the proposed variation to a 40 year lifetime these figures would approximately be between £12.5 million and £15.4 million.

Community benefit fund

6.4.25 The Applicant considers wind projects to be local assets and is keen to work with communities over the lifetime of projects. The Applicant is committed to setting up a Community Benefit Fund and engaging with residents about other options such as Shared Ownership.

6.4.26 The Applicant will provide a fixed annual payment of £5,000 per megawatt (MW) of installed capacity, index-linked to account for inflation. This would amount to £250,000 and £289,000 for a scheme of 50MW and 57.8MW, resulting over the lifetime of the project in a total of approximately £10-£11.6 million.

6.4.27 Research in Scotland[16] has also demonstrated that community benefit funding can lead to the creation of local jobs administering the funding package at the equivalent of £54,000 per year per full time equivalent (FTE) job. Hence the community benefit funding package could sustain around a further 7–8.5 FTE jobs over the proposed varied 40-year lifetime of the project.

Tourism and business impact assessment

6.4.28 This analysis provides a summary of the key findings of the survey of local businesses. The survey population consists of all businesses situated within the 20km Study Area. This largely covers the areas of Yell, Fetlar, North Mainland, Whalsay and Unst and permits a more detailed understanding on the likely impacts of the proposed wind farm. These businesses were predominately identified through internet searches and review of tourist brochures and guidebooks.

6.4.29 Each business owner / operator was questioned over the telephone as regards their view on the possible impact of the wind farm, with a minimum of three attempts to contact each business to improve response rates. If it was inconvenient, another time was arranged, or contact made by post or e-mail. A number of respondents considered they had only limited time to provide a full response, so responded to a number of key impact questions only.

Impact of the development on business prospects and Shetlands tourism

6.4.30 The survey sought the respondents' views on the impact the Consented Development would have on business performance.

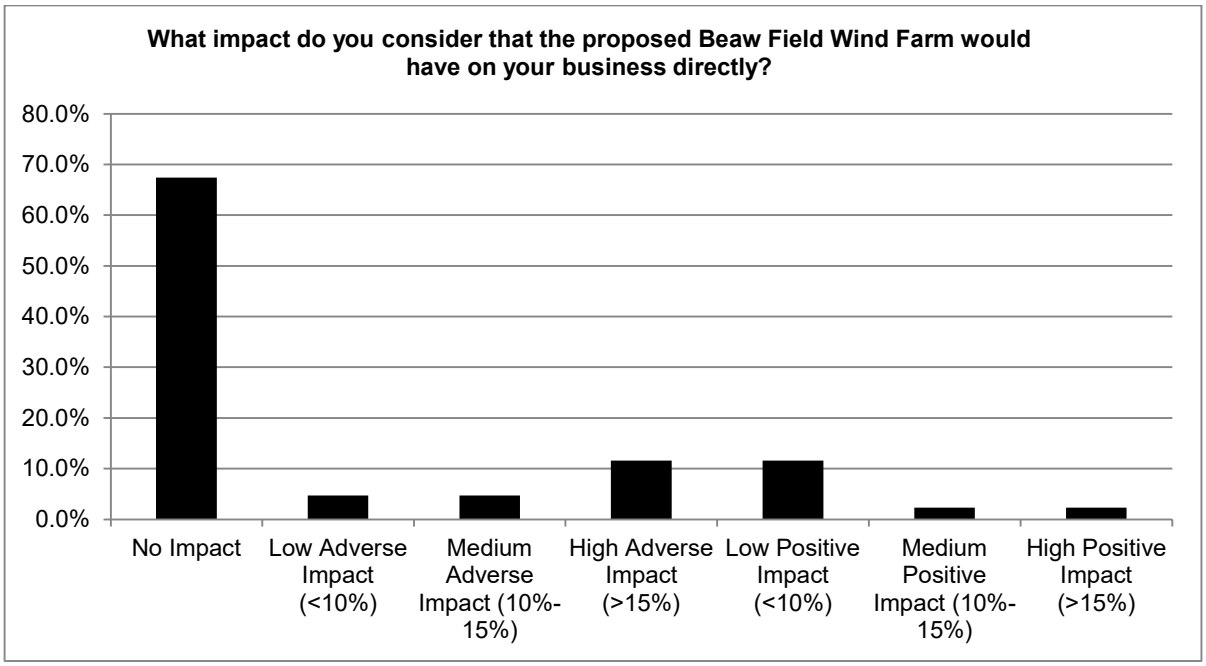
6.4.31 The criteria used for assessing the scale of adverse impact of the Consented Development on both individual business and on the area's economy generally were defined as major negative/positive (taken as >15% on business turnover), moderate negative/positive (taken as 10-14%), and minor negative/positive taken as <10%.

6.4.32 The great majority of respondents (67.4%) considered the Consented Development would have no impact upon their business, and a further 4.7% only a low adverse impact.

6.4.33 11.6% considered there likely to be a high adverse impact and a further 4.7% medium adverse, a total of 16.3% considered to have an adverse and significant impact on their business prospects.

6.4.34 A further 16.2% of respondents considered there to be a likely positive impact, 4.6% of whom are considered to be significant (See Chart 6.5).

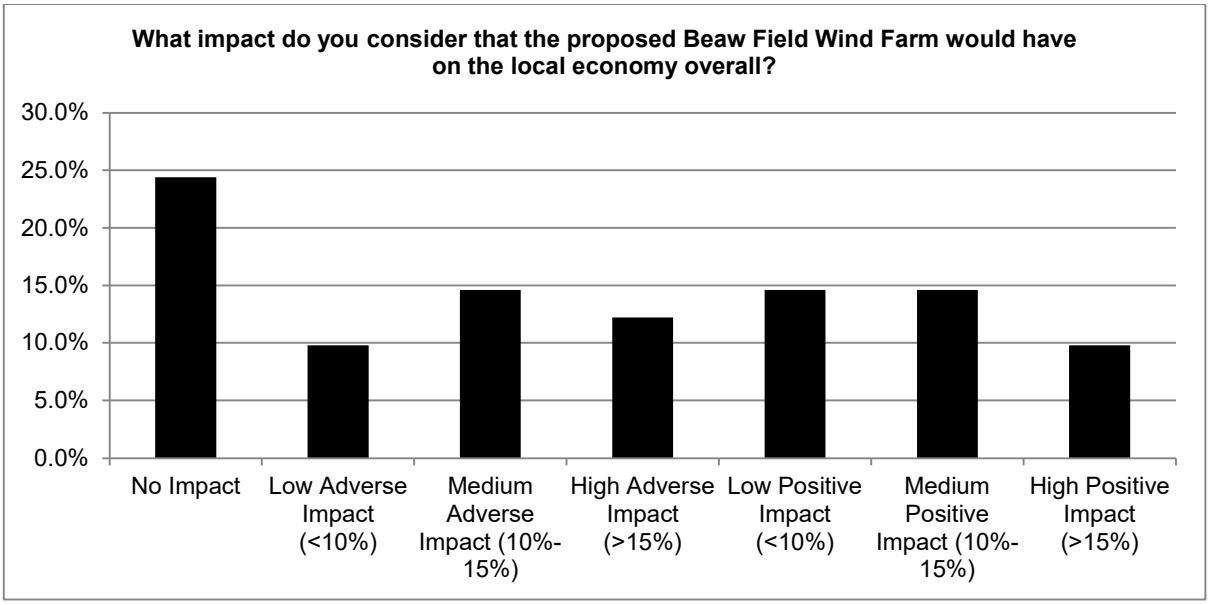
Chart 6.5: Impact upon business



6.4.35 24.4% of business respondents considered it likely that the Consented Development would have no impact on the wider economy or tourism and a further 9.8% only a low adverse impact.

6.4.36 Significant adverse impacts were considered to be likely by 26.8% of respondents (16.2% major and 14.6% moderate), while a number of respondents considered there likely to be a positive impact upon the local economy, with 14.6% low positive, 14.6% medium and 9.8% significant positive (Chart 6.6).

Chart 6.6: Impact on the local economy



6.4.37 The reason given for negative responses included damage to wildlife habitats and scenery in the area leading to fewer tourist numbers, while positive respondents felt that the development could bring jobs and wealth to the area via the Community Benefit Fund.

Assessment of recreation impact

Recreational assets – potential impact analysis

6.4.38 The following section details the potential impact of the Consented Development upon recreational activities in and around the Study Area.

6.4.39 The scale of impact of the Consented Development is considered in respect of factors such as visibility, proximity and level of physical disturbance in relation to the recreational receptor/activity. The popularity and sensitivity of the recreational receptor/activity is also taken into account. A major or moderate impact on recreational users relates to:

- The proximity of the wind farm;
- The visibility of the wind farm from the resource at all points;
- Any diversion due to the wind farm's presence;
- The significance of the resource in terms of usage; and
- The type of resource e.g., an 'in settlement' indoor recreational facility compared to a hill top view point.

6.4.40 In each instance the recreational impact assessment highlights the possible worst case adverse/negative and positive impact that the Consented Development could have on the recreational resources within the Study Area. Major and moderate adverse impacts are considered as significant.

6.4.41 Table 6.18 summarises the tourism and recreation impacts. More detail about tourism and recreation impacts are contained within Appendix 6.3 - Tourism and Recreation Impact Assessment.

Table 6.18: Tourism and recreation receptors impact assessment

Receptor type	*Number of each receptor*	*No/negligible effect*	*Possible minor adverse effect*	*Possible moderate adverse effect*	*Possible major adverse effect*
Settlements	13	6	6	0	1(major/moderate)
Visitor attractions	13	7	5	0	1
Leisure centres	3	2	1	0	0
Golf course	1	0	1	0	0
Wildlife/nature reserves	2	1	1	0	0
Tourist routes	5	2	2	1	0
Ferry routes	8	2	5	1	0
Promoted walking routes	12	6	5	0	1(major/moderate)
Access routes	9	6	1	2	0
Core paths	28	16	10	2	0
Rights of way	10	6	4	0	0
Cycle routes	23	15	4	4	0
Total	127 (100%)	69 (54.3%)	45 (35.4%)	10 (7.9%)	3 (2.4%)

6.4.42 The results presented here should be read in conjunction with Chapter 7 of this EIAR – Landscape and Visual Impact Assessment, whilst noting that the significance of the potential impact being described is an assessment of both the sensitivity of the receptor and the magnitude of change, informed by the ZTV produced for Chapter 7. The potential significant adverse effects in Table 6.18 are identified on that basis, and do not take account of comparative research or the additional evidence and mitigation identified later in this chapter.

6.4.43 The majority of potential effects will be either no effect or negligible (69 and 54.3%), or minor in nature (45 and 35.4%). Only a small number of effects are assessed as moderate (10 and 7.9%), moderate/major (2 and 1.6%), or major (1 and 0.8%) adverse effects associated with the Consented Development.

6.4.44 The adverse effects primarily result from the potential visual impacts of the Consented Development The ZTV analysis is based only on the topography of the land and does not take into account physical or natural aspects such as buildings in the settlements. So in reality the magnitude of change is likely to be lower due to the screening afforded by such buildings.

6.4.45 Details of these potential effects are noted in Table 6.19.

Table 6.19: Description of potential moderate/major adverse effects

Receptor	***Receptor type***	***Start and finish***	***Distance at nearest point to*** Consented ***Development***	***Significance of potential effect***	***Description of effect***
Burravoe	Settlement	n/a	1km	Moderate/Major	Visual – 13+ turbines visible
Bigga,Yell to Tofts, North Mainland	Ferry route	4.0-7.5km	4km	Moderate	Visual – 13+ turbines visible
B9081, Yell	Road	0-8.0km	0km	Moderate	Visual – 13+ turbines visible
Old Haa Museum, Burravoe	Visitor attraction	n/a	0.5km	Major	Visual – 13+ turbines visible
CPPY02, Yell	Core path	1.5-2.5km	1.5km	Moderate	Visual – 13+ turbines visible
CPPY05, Yell	Core path	4.0-6.0km	4.0km	Moderate	Visual – 13+ turbines visible
Ward of Otterswick Walk	Promoted walk	0-2.5km	0.0km	Moderate/Major	Visual – 13+ turbines visible and Physical Interruption
ARY06 - Neapaback Burravoe, Yell	Access route	1.5-2.5km	1.5km	Moderate	Visual – 13+ turbines visible
ARY07 - Ness of Burravoe, Yell/Old Haa and Heoga Ness	Access route	2.5-4.2km	2.5km	Moderate	Visual – 13+ turbines visible from part of route
Sustrans Route 1, North Mainland	Cycling route	7.5-20km	7.5km	Moderate	Visual – 13+ turbines visible from part of route
Mid Yell – South Yell	Cycling route	0-8.0km	0.0km	Moderate	Visual – 13+ turbines visible
Brae - Mid Yell	Cycling route	0-8.0km	0.0km	Moderate	Visual – 13+ turbines visible
Vidlin - Mid Yell	Cycling route	0-8.0km	0.0km	Moderate	Visual – 13+ turbines visible

6.4.46 The effects identified in Table 6.19 only take into account the impact on the visual amenity of the receptor and potential physical disturbance. It has not yet considered the likely tourist or recreational

user's behavioural response to the change in their visual amenity and other mitigating factors. Any effect on these receptors will only be experienced where people change their behaviour in response to the visual alterations to the landscape e.g. by visiting the area more frequently, by no longer visiting the area, or by visiting less frequently.

6.4.47 The potentially significant effects identified are now assessed against any mitigation proposed, comparative research and other mitigating factors to determine the true significance of effect.

6.5 Mitigation measures

Tourism and recreation

6.5.1 Mitigation has been implemented already through appropriate iterations in design as set out in Chapters 4 and 5 of this EIAR. No further mitigation measures are proposed as a result of the analysis above, where identified issues arise only as a result of a change to the visual landscape.

Comparative research on the effects of wind farms

6.5.2 The main issues covered in the comparative research review relate to potential visual impact of the Consented Development and whether or not this would be likely to deter tourism. This sets a comparative research context, against which the results of the tourism and recreation analysis can be viewed.

6.5.3 The review of comparative research as set out in Appendix 6.2 demonstrates that over the last five years, attitudes towards wind farms have not changed significantly. For example, similar results are evident in the 2008 Review of 'The Economic Impacts of Wind Farms in Scottish Tourism' and the 2013 YouGov Scottish Renewables survey results. The proportion of negatively affected respondents remains constant at approximately 25-26%. If anything, support for wind farms - those unaffected by their presence or those who don't know – has remained approximately the same at c.75% of respondents, with those uncertain having declined from 36% to 5%.

6.5.4 The research assists in informing the assessment of the predicted impact of wind farms on tourism and recreation. It strongly indicates that well-located wind farms are unlikely to lead to significant adverse impacts upon tourism or recreation in the area.

6.5.5 Visitors' experience of wind farms is now commonplace, and therefore the supposition that visitors' attitude to windfarms will now be more negative is not sustained by the evidence. Indeed, the most recent Tracker of Public Attitudes into Energy and DECC Policies[17] tracking attitudes towards renewable energy demonstrated over fifteen quarters between March 2012 and November 2015 that those 'strongly opposed' to onshore wind on average represented 3.7% and additionally those 'opposed' to onshore wind were on average 7.5% demonstrating consistency in the public's attitudes towards wind farms.

6.5.6 Given that wind farms and wind turbines are now being used as illustrations in both walking guide books and walking websites in Scotland and elsewhere in the UK, it may be assumed their views are unlikely to be more hostile.

6.5.7 Overall, the results of research carried out to date indicates that the opinions of the population at large are generally supportive of onshore wind farms, with only a small proportion considering that wind farms would have an adverse impact upon tourism and recreation. Hence, it can be concluded from this

comparative research that the visual impact of the Consented Development upon users of the receptors is unlikely to result in significant adverse effects on their experience of the area.

6.6 Residual effects

Socio-economic residual effects

6.6.1 The following sets out the nature and scale of residual effects likely to be experienced by the local and wider Shetlands economy as a result of the Consented Development, and includes those for the construction phase, operational lifetime, and decommissioning phase.

Adverse

6.6.2 No adverse socio-economic effects are identified through the assessment.

Minor Positive

6.6.3 The following minor positive socio-economic effects are identified in the assessment:

6.6.4 The capital expenditure during the construction phase of at least £3.1 million in the local Shetlands economy, £10.1 million in the wider Scottish economy, and a further £2.1 million elsewhere in the UK, of a total of approximately £64 million. The resulting expenditure and direct and indirect employment generation would have a positive beneficial effect upon the local economy.

6.6.5 The temporary creation of between 5.8-6.7 FTE direct jobs during development and construction, with a further 6.4-7.4 FTE jobs through the multiplier, or a total of 12.2-14.1 FTE construction jobs during the construction process.

6.6.6 The expenditure during the proposed varied 40 year operational period of at least £27.0 million in the local Shetlands economy, £19.2 million in the wider Scottish economy, and a further £8.6 million elsewhere in the UK. The resulting expenditure and direct and indirect employment generation would have a positive effect upon the local economy.

6.6.7 The creation of 1.6 FTE direct jobs created during the proposed varied 40 year operational period, with a further 5.1 FTE indirect jobs created through the multiplier, a total of 6.7 FTE jobs.

6.6.8 The temporary creation of 1.5-1.7 FTE direct jobs with a further 1-7-1.9 FTE jobs through the multiplier, or a total of 3.2-3.6 FTE jobs during the decommissioning phase.

6.6.9 The non-domestic business rates revenue generated would be between approximately £12.5-£15.4 million over the proposed varied 40 year lifetime of the project, assuming a constant rateable value and rate poundage over that period, and is assessed as being of minor benefit locally, and of negligible significance nationally.

6.6.10 The estimated value of at least a minimum of £10 million and £11.6 million Community Fund over the proposed varied 40 year lifetime of the project will have the potential to bring benefits to local residents and also improve local community facilities. Potentially this community benefit funding could sustain a further minimum of 7-8.5 FTE jobs in the local community.

Socio-economic magnitude

6.6.11 Socio-economic magnitude is defined and assessed in accordance with Table 6.2. It is estimated that between

6.6.12 22.5-24.4 net additional FTE jobs would be created by the Consented Development along with the other associated benefits mentioned above. The magnitude of effect is assessed as being minor positive.

Tourism and recreation residual effects

Tourism and business effects

6.6.13 In terms of tourism, 24.4% of business respondents to the business survey considered it likely that the Consented Development would have no impact on the wider economy or tourism and a further 9.8% only a low adverse impact.

6.6.14 Significant adverse impacts were considered to be likely by 26.8% of respondents (16.2% major and 14.6% moderate), while a number of respondents considered there likely to be a beneficial impact upon the local economy, with 14.6% low beneficial, 14.6% medium, and 9.8% significant beneficial.

6.6.15 However, the comparative research into the post-development evaluation of 'real world' effects of wind farm development on tourism business has demonstrated that <3% of affected businesses are likely to experience a significant adverse effect upon their levels of trade. Hence, the level of anticipated or predicted adverse impacts as set out in the business survey (possibly able to be referred to as a 'fear factor') are not considered to be likely to occur, in the light of any past project experience.

6.6.16 Thus, the residual effects on tourism and business across the Study Area are assessed as being likely overall to be minor and not significant.

Recreational effects

6.6.17 In terms of residual recreational effects, those recreational impacts assessed as being moderate, moderate/major, and major adverse predominately result from the potential visual impacts of the Consented Development.

6.6.18 However, the comparative evidence base indicates that visitor behaviour will not be significantly adversely affected by the visual presence of the Consented Development, and that the potential negative behavioural response to such developments i.e., visitors staying away, will not materialise. Hence, these residual recreational effects are assessed as likely to be minor and not significant.

6.6.19 Users of the Ward of Otterswick Walk will be required to be temporarily stopped from using the path during some of the construction works on its current alignment. However, the track incorporating any realignment required incorporating the access tracks to the wind turbines (see Chapter 7 Landscape and Visual Impact for details of path realignment), will then be reopened post-construction, so any residual effects in terms of physical disruption will be temporary and is assessed as not being significant.

[1] European Commission (2001): Guidance on EIA Scoping - http://ec.europa.eu/environment/archives/eia/eia-guidelines/g-scoping-full-text.pdf

[2] 'The Green Book Appraisal and Evaluation in Central Government', HM Treasury (2003) http://www.hmtreasury.gov.uk/d/green_book_complete.pdf

[3] Scottish Enterprise (2008): Additionality& Economic Impact Assessment Guidance Note - A Summary Guide to Assessing the Additional Benefit, or Additionality, of an Economic Development Project or Programmehttp://www.scottish-enterprise.com/~/media/SE/Resources/Documents/ABC/additionality-and-economic-impactassessment-guidance.ashx

[4] The economic impacts of wind farms on Scottish tourism, a report for the Scottish Government (2008)http://www.scotland.gov.uk/Publications/2008/03/07113554/0

[5] http://www.project-gpwind.eu/index.php?option=com_content&view=article&id=60&Itemid=199#read-the-goodpractices-about-this-specific-recommendation

[6] 'Handbook on Environmental Impact Assessment' Appendix 5 Outdoor Access Impact Assessment, SNH (February 2006) - http://www.snh.org.uk/publications/on-line/heritagemanagement/EIA/appendix5.shtml

[7] SNH (2013): 'A Handbook on Environmental Impact Assessment' (Appendix 5)

[8] National Records for Scotland, Shetland Islands Council Area - Demographic factsheet http://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/shetland-islands-factsheet.pdf

[9] Visit Scotland: Tourism in Scotland's Regions 2013 http://www.visitscotland.org/pdf/Tourism%20in%20Scotland's%20Regions%202013.pdf

[10] Tourism in Northern Scotland (2011). Figure is a percentage of economically active population. http://www.visitscotland.org/pdf/Tourism%20in%20Northern%20Scotland%202011.pdf

[11] Shetland Visitor Survey Factsheet 2012-2013 http://www.visitscotland.org/pdf/Shetland%20factsheet%20FINAL.pdf

[12] Visit Scotland Visitor Attraction Monitor (2009): http://www.visitscotland.org/pdf/visitorattraction-monitor2009.pdf

[13] Tourism in Scotland's Regions 2014: Visitscotland (September 2015) http://www.visitscotland.org/pdf/Tourism%20in%20Scotland's%20Regions%202014%20FINAL.pdf

[14] http://www.renewableuk.com/en/publications/index.cfm/BiGGAR

[15] Source: Type II Employment Multiplier (2011) IOC.50 Industry Group - Construction

[16]http://www.scotborders.gov.uk/downloads/file/6532/scottish_borders_wind_energy_economic_impact_study

[17] DECC Public attitudes tracking survey: wave 15 (November 2015) - https://www.gov.uk/government/statistics/public-attitudes-tracking-survey-wave-15