Agenda Item

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Shetland Islands Council

Harbour Board **8 October 2014**

Scalloway and Sullom Voe Masterplans	
PH-24-14F	
Executive Manager, Ports & Harbours Operations	**Infrastructure Services Department**

1.0 Summary

1.1 The purpose of this report is to advise the Board on the completion of the Scalloway and Sullom Voe Masterplans and introduce a presentation by Julian Farrar of Ironside Farrar on the content of the two plans.

2.0 Decision Required

2.1 That the Harbour Board RESOLVE to note the contents of both Masterplans and instruct Officers to investigate and present future reports on the proposals for implementation of the Masterplans which the Harbour Board may wish to see pursued.

3.0 Detail

3.1 Ironside Farrar were commissioned by Shetland Islands Council and Highlands and Islands Enterprise to prepare Development Masterplan's for Scalloway and Sullom Voe.

3.2 The objective of the Masterplans is to set a framework to guide strategic investment that balances current needs with future opportunity. The impetus being on a clear business case that delivers additional benefit to the Shetland economy.

3.3 The Development Masterplans seek to maximise opportunity for the period 2015 – 2030 within the context of policy and regulatory framework.

3.4 These Development Masterplans have been prepared in close consultation with stakeholders and supported by market research into future needs.

4.0 Implications

Strategic

4.1 Delivery On Corporate Priorities – The actions in this report will contribute to the outcomes in the Council's Corporate Plan 2013/17 of:

"Helping build a healthy economy and strong communities"

"To be able to provide high-quality and cost-effective services to people and communities in Shetland, our organisation has to be run properly"

"We are determined that we will be run to the very highest standards"

4.2 Community /Stakeholder Issues – Community and stakeholders have an interest in ensuring that the port operation is managed and operated safely and in accordance with legislation and industry best practice, and deliver a return to Reserves from the Harbour Account.

4.3 Policy And/Or Delegated Authority – The Scheme of Administration and Delegations states that the role and authority of the Harbour Board is:

4.3.1 Strategic oversight and direction in all aspects of the operation of the Council's harbour undertaking in accordance with overall Council policy and the requirements of the Port Marine Safety Code; and

4.3.2 Act as Duty Holder required by the Port Marine Safety Code and ensure that the necessary management and operational mechanisms are in place to fulfill that function; and

4.3.3 To consider all development proposals and changes of service level within the harbour undertaking, including dues and charges, and make appropriate recommendations to the Council.

4.4 Risk Management – Failure to comply with the requirements of the PMSC could lead to regulatory action.

4.4 Equalities, Health And Human Rights – None.

4.5 Environmental – None.

Resources

4.6 Financial

4.6.1 50% share of the cost of preparation of the two Masterplans is £53,275, which has been funded from the Harbour Account. The remaining 50% has been funded by Highlands and Islands Enterprise.

4.6.2 Any future reports to pursue development options requiring capital investment will require to be considered under the Council's Gateway Process for prioritisation.

4.7 Legal – None.

4.8 Human Resources – None.

4.9 Assets And Property – None.

5.0 Conclusion

5.1 This report is an introduction the Development Masterplans for Scalloway and Sullom Voe and a presentation of these plans by Ironside Farrar to the Harbour Board.

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30 September 2014

List of Appendices
Appendix 1 Scalloway Harbour Development Masterplan – Ironside Farrar
Appendix 2 Sullom Voe Development Masterplan – Ironside Farrar

Background documents:
None

Scalloway Harbour
Development Masterplan


Welcome to
SCALLOWAY
Ancient Capital of
Shetland

Contents

Executive Summary

Introduction

Ironside Farrar have been commissioned by Shetland Islands Council and Highlands and Islands Enterprise to prepare a Development Masterplan for Scalloway Harbour. Scalloway is one of the key port facilities in Shetland along with Lerwick and Sullom Voe. The harbour offers significant competitive advantages, having a long history in terms of the fishing sector with more recent growth in aquaculture, freight logistics and the oil and gas sectors.

The objective of the Masterplan is to set a framework to guide strategic investment that balances current needs with future opportunity. The impetus for investment needs to be based on a clear business base addressing specific commercial opportunities that will ensure that Scalloway delivers net additionality to the Shetland economy. This will be based on a strategy that recognises the multi functional context of the port and seeks a forward looking strategy based on customer and market need.

The Development Masterplan for Scalloway will seek to maximise opportunities for the period 2015 - 2030 within the context of key policy and regulatory frameworks. The Development Masterplan has been prepared in close consultation with stakeholders and supported by market research into future needs; the key objective being a clear understanding of commercial opportunities and to identify the required interventions to capitalise on such. The Development Masterplan and associated Action Plan identifies market need and essential investment priorities to sustain a 21st Century Port.

Context

Located on the west coast of Shetland, 6 miles from Lerwick, Scalloway has a population of approximately 1200 people. Characterised by a relatively diverse economy, the harbour area is the location of the majority of the business activity and is a fundamental asset in terms of business activity along the west coast generally. In addition, the North Atlantic Fisheries College is located in Scalloway as well as a number of amenities including three marinas.

The Shetland economy is supported by robust fishing, aquaculture, tourism, agriculture, knitware and the oil and gas industries. Lerwick is the main centre with ferry connections to the mainland, while Sumburgh airport offers flights to Aberdeen, Glasgow, Edinburgh and Inverness. Scalloway Harbour should not be analysed in economic isolation but must be assessed in relation to the Shetland Islands as a whole and specifically to other port and harbour facilities i.e. Lerwick and Sullom Voe.

Site Description

Scalloway Harbour is operated and owned by Shetland Island Council as Harbour Authority. There are a variety of users on the port on a 50,000m2 site. The range of users include aquaculture businesses, net services, warehousing sheds, marine supplies as well as a key base for the fishing fleet.

Marine access is characterised by a number of berths ranging from 60m on the West Quay to 133 m on the south east facing Commercial Quay. Maximum water depth is currently at 7.0m CD while the approach channel has been recently dredged to 8.7m CD. It is considered that current depth levels at quay may restrict access for the larger Oil Supply Vessels market which can require greater draft and under keel clearance.

Further infrastructure considerations include road access, where there may be issues of safety and constraints at bends, as well as adquete logistics specifically in relation to water capacity and fuel bunkering. In addition the harbour is served by pilot vessels and facilities for repairs, chandlery and waste facilities.

Market Assessment and Sector Opportunity

The market assessment identifies significant opportunities for Scalloway to grow as Shetland's second port supporting the Shetland economy and ensuring operators and customers have the facilities and marine access and port capacity to meet future need. Scalloway needs to focus and grow its core business areas developing and extending its customer base, based on the quality of service support, facilities and infrastructure whilst


NAUTICA

diversifying into new areas of opportunity. The market assessment highlights fishing/ aquaculture sector, port freight /logistics, additional servicing for O&G (specifically West of Shetland basin), renewable energy and marine tourism as key sectors.

It is an important element of the strategy to ensure growth is sustainable and avoids the unnecessary displacement of economic activity from other facilities and delivers additionality and strong commercial returns sustaining port operations and investment.

Consultation with business interests highlighted the potential to attract new business to the port through a targeted marketing and promotional effort. The facilities, services and benefits of Scalloway need to be more strongly marketed across the key sectors / customer base with a positive message for growth and quality of service.

Strategic Opportunity

For Scalloway there is opportunity for growth and the key industry sectors for consideration that should inform a future development/ investment strategy will be:

- **Tier 1 Sectors**
  - Fishing and Aquaculture
  - Oil & Gas servicing & support
  - General Port Cargo & Logistics
- **Tier 2 Sectors**
  - Marine Renewables
  - Marine Tourism and Leisure

In 2025 Scalloway will be a market facing and dynamic multi user port, with a retained and robust fishing and aquaculture sector. Increased investment and expansion of aquaculture businesses on the harbour will capitalise on Scalloway's high services standards in close proximity to fish farms in the west of Shetland. This sector will be further supported by a refurbished and more efficient fish market facility.

Scalloway, operating in partnership with other Shetland ports, provides a customer service shore base for oil and gas servicing sector and support particularly in terms of support vessels operating in the West of Shetland. Continued deployment and testing of marine renewable energy test projects will increase operations and maintenance activity. In addition, the harbour area will aid the development of Scalloway as a tourism hub supported by quality marine tourism and leisure facilities.

Development Plan & Economic Assessment

Development options have been identified for Scalloway Harbour on the basis of informing a best fit option for future investment. The options range from a "Do Nothing Scenario" to three differing investment scenarios based on increasing floorspace and marine access improvements.

Each of the options has been assessed in terms of economic benefits to the local economy, in terms of GVA contribution and the likely employment generated. Based on an assessment of the options in terms of market growth and potential benefits a preferred option has been identified that takes forward key priority actions.

Action Plan

A key set of priority actions has been developed based on an investment course as identified in the preferred option. Priority projects have been identified and the preferred option recommends interventions, for example, in a west quay extension to gain greater depth, fish market upgrading, joint venture warehousing improvements and the necessary bunkering for fuel and water supplies.

The Action Plan is formulated to identify key investment priorities to ensure that Scalloway Harbour is a market facing commercially driven port, that adds economic benefits to the Shetland economy.

Highland Fortress at Scalloway, September 2013

Introduction 01

1.1 Introduction

Shetland Islands Council and Highlands and Islands Enterprise have commissioned Ironside Farrar to prepare a Development Masterplan for Scalloway Harbour. The key objective of the Development Masterplan is to identify a development strategy which will provide for sustainable growth and allow Scalloway to capitalise on future opportunities to the benefit of the Shetland and Scottish economy. The outputs of the Development Masterplan will be to identify an investment strategy aligned with priority actions for the development of Scalloway Harbour over the next two decades.

Scalloway is one of the key port and harbour areas in Shetland, and is a key facility within Shetland Island Council's (SIC) portfolio of ports and harbours, which includes Sullom Voe, Symbister and Cullivoe.

Scalloway offers significant port operational advantages in terms of its west of Shetland location and there exists considerable opportunity in key business growth areas, associated specifically with the fishing and aquaculture, general port and cargo logistics and oil field servicing sectors.

This Development Masterplan assesses the opportunities to promote sustainable development of the site and take advantage of Scalloway's site assets and strategic position and location. Key to this is the assessment of market sector opportunity and ensuring compatible and complimentary development with wider port and harbour assets across Shetland. The identification of development options and associated priority actions seeks to ensure that Scalloway provides a market facing, commercially attractive location for business activity and has the required capabilities, and capacity to capitalise on emerging national and international opportunities in the fishing, aquaculture, port logistics and oil and gas servicing sectors.

1.2 Background

Scalloway is Shetland's second largest settlement (pop. 1200) and historically the former capital of Shetland. The village frames Clift Sound wrapping around the Bay from the Castle to the College.

Scalloway, has a long history as an important fishing port in Shetland, particularly in terms of a base for fishing activity in the exposed west of Shetland and North Atlantic. The harbour area's geography provides a sheltered port, close proximity to fishing grounds with established supporting infrastructure including a chilled fish market; fish processing; ice facility; warehousing; and supply chain and service support available on site. Historically the site has been important for fish processing.

In more recent times marine traffic has become more diverse including users associated with the aquaculture, freight logistics and the oil and gas sectors. This has diversified the type of users within the port, which also includes, most recently, an accommodation barge. A more diversified port facility has emerged with levels of market interest that suggest that the potential for future growth exists if appropriate infrastructure capacity could be enhanced at a realistic cost. These wider opportunities reflects demand and growth across the port sector in Shetland with the Port of Lerwick making major investments in extending capacity and developing a diverse range of specialist support services.

The last major development to Scalloway's quay and harbour facilities was undertaken in the early 90's (fully completed in 1992) to meet the need for larger vessels and enhanced service support. This included the extension of Blacksness Pier and reclamation of land area around the fish market and the construction of a modern fish market facility. Dredging of the access seaway was completed in Spring 2012 and provides for safe pilotage for vessels up to 8.7m CD draft.

Bibby Challenge, Floating Accommodation Barge, Scalloway

1.3 Scalloway Harbour Development Plan

The Scalloway Harbour Development Masterplan sets a framework to guide strategic investment that balances current needs with future opportunities associated with key business and growth sectors. In this regard, Scalloway is assessed as part of the wider economy, specifically in relation to other strategic harbours and ports i.e. Sullom Voe and Lerwick Port in Shetland, Kirkwall and Hatston in Orkney, and Scrabster on the Scottish mainland.

Scalloway by virtue of its geographic location and quality of sheltered harbour is a strategic asset. It supports commercial activity, perhaps most critically in the fishing and aquaculture sectors that would otherwise incur cost penalties with the potential to impact on the viability of the sector in the west of Shetland.

The impetus for investment needs to be based on a foundation of a clear business case addressing specific commercial opportunities where Scalloway can exploit a distinct, commercially competitive advantage relative to other local port facilities in a manner that delivers net additionality to the Shetland economy. The broad strategy within the Harbour Development Masterplan gives recognition to the scale and multi-functional context of the port and seeks to identify a balanced forward looking strategy based on customer and market need.

Scalloway's offer needs to be distinctive, extend choice and provide a strong and marketable responsive proposition. Scalloway in this way can develop in a manner complimentary to other ports and develop as a port of choice for operators offering high service standards and clear commercial advantage to port customers and tenants over alternative sites and locations.

The Development Masterplan for Scalloway sets out a strategy that will seek to maximise opportunities for the period 2015 – 2030 and beyond. This will be achieved by identifying options for development for Scalloway Harbour and the immediate surrounding area, within the context of key policy and regulatory frameworks specifically the Shetland Marine Spatial Plan, as well as relevant development plans and national strategies.

The plan has been prepared in close consultation with stakeholders (i.e. industry and business sectors, local community groups, HIE, SIC, SFA, DECC, and Scottish Government) and supported by market sector research into future needs.

The objective of the process is to develop a clear strategic understanding of the opportunities for Scalloway and set out the interventions necessary to provide a sustainable growth model capable of making a significant contribution to the Shetland economy. The development strategy and associated action plan identifies market need and essential investment priorities to sustain a 21st Century port.

North Atlantic Fisheries College, Scalloway

Context Review | 02

2.1 Scalloway Context

The former capital of Shetland, Scalloway, is located on the Atlantic coast of the Mainland, 6 miles west of Lerwick. With a population of approximately 1200, it is considered an area of scenic beauty with a sheltered harbour, and a rich built heritage, comprising of 21 listed buildings including Scalloway Castle (Category A) which is also a Scheduled Ancient Monument.

Scalloway, has a relatively diverse economy in a Shetland context, however the fishing industry accounts for a significant share. Blacksness Pier, operated by the Shetland Island Council Harbour Board, is where a substantial amount of the business and industry in Scalloway is located. Local stakeholders and port users have advised that Scalloway is an essential port facility that is fundamental to sustaining business activity on the west coast of Shetland. These stakeholders and existing port users can further develop to create new employment opportunities and generate new business growth.

University of the Highlands and Islands' North Atlantic Fisheries College (NAFC) is located in Scalloway while there are retail elements located on the Main Street. There is also a series of community facilities including swimming pool, Frazer Park and East Voe and Port Arthur Marinas. Scalloway Junior High School offers primary, secondary and nursery education and further education is available at the NAFC.

The NAFCs' prime focus is to support the maritime industries in Shetland, and provide a variety of courses, applied research and development as well as bespoke training for the marine industries and expert consultancy.

2.2 Shetland Context

The population of Shetland was approximately 23,000 in 2011 dispersed around 16 inhabited islands. The key sectors of the economy include fishing, aquaculture and agriculture, knitwear, oil, tourism and the creative industries. Lerwick is the main centre, however, other settlements are considered as key centres in local plan policy, including Scalloway. Key transport connections include ferry services to the mainland, as well as regional flights to Aberdeen, Glasgow, Edinburgh, and Inverness. The Shetland economy topped £1 billion in 2010/11 an increase of 27% since 2003.

Scalloway Harbour should not be analysed in economic isolation but must be assessed in relation to the Shetland Isles as a whole, and more specifically in relation to both Lerwick Port (with daily ro/ro ferry links to Kirkwall in Orkney and Aberdeen) and Sullom Voe Harbour. These ports and harbours collectively form essential infrastructure supporting the economy of Shetland and the need to recognise this context is imperative to the evaluation of future opportunities for Scalloway set out in this report.

The Port of Lerwick is Shetland's primary port and plays a key role in the Shetland economy. The Lerwick Port Authority (LPA) has established a major investment plan for development as a multi-user port with strong specialism's in oil sector servicing; oil and gas decommissioning; freight including ro-ro/lo-lo facilities; fishing (pelagic/ white fish/aquaculture) including a proposed new fish market and marine leisure facilities. Investments in port assets since the 1960's has exceeded £74 million. New facilities will be delivered through to 2020 making Lerwick the premier port in the North Sea / North Atlantic Scottish territorial waters.

2.3 National Planning Framework

The National Planning Framework 2 (NPF2) 2009 is the Scottish Government's Policy for the long term development of Scotland's towns, cities and the countryside. This will be replaced by the NPF 3 which is currently at Main Issues Report Stage. The MIR has identified a series of objectives that will seek to make Scotland a:

- A Low Carbon Place
- A Natural Place to Invest
- A Successful and Sustainable Place
- A Connected Place

Within these objectives there is a strong emphasis on tourism and renewable energy as key sectors as well as the key role of ports.

2.4 Scottish Planning Policy

Scottish Planning Policy (SPP) – sets out the Scottish government's planning policy guidance on a wide range of topic areas, including transport, protection of the environment, climate change, minerals, landscape and natural heritage.

2.5 National Transport Strategy 2006

Ports have been identified as a key sector in terms of economic health in the NTS 2006, specifically in the areas of cargo movement, the ferry industry and tourism i.e. cruise liner, leisure craft.

This is reaffirmed in the National Strategic Project Review, particularly in the context of supporting international connections and in terms of cohesiveness for remoter communities. It identifies the importance of 'Lifeline' ports serving the Island communities (carrying both freight and passengers).

2.6 Shetland Marine Spatial Plan 2013

The Shetland Marine Spatial Plan was prepared to ensure that use of the resources of the marine and coastal environment off Shetland is sustainable. It has 3 key objectives:

- **SOC (Society):** Ensure a high quality, fully functioning marine and coastal ecosystem through sustainable use for the health, cultural benefit and prosperity of local communities;

- **ENV (Environment):** Protect and enhance Shetland's marine waters and coastal environment, in particular where there are locally, nationally or internationally important biodiversity and geodiversity features, whilst taking account of natural changes; and

- **ECON (Economic):** Promote sustainable marine development and identify in consultation with marine stakeholders the differing priorities for sustainable use (for example fishing, aquaculture, recreation & tourism, marine renewables and nature conservation)

It identifies the importance of the marine and coastal environment to the Shetland Economy, which is estimated to support 3,102 jobs, over 144 businesses and £302 million turnover annually. The key sectors identified are:

- Oil Supply Services
- Fish Catching
- Aquaculture
- Tourism
- Oil and Terminal
- Fish processing
- Marine Engineering
- Sea Transport
- Ports and Harbours

2.7 Shetland Structure Plan 2001-2015

Approved by Scottish Ministers in 2001, the Shetland Structure Plan establishes a land use planning framework for Shetland until 2015. The Structure Plan has 4 key aims:

- To maximise the competitiveness of the Shetland economy
- To protect and promote the vitality and viability of existing settlements
- To protect and enhance the natural and built environment
- To promote social inclusion

The Plan recognises the important role that ports, harbours, ferry terminals and bridges have to the economy and the daily life of Shetland. It promotes policies for the safeguarding of these assets from inappropriate development that will limit their potential.

2.8 Shetland Local Plan (Emerging)

The current statutory land use plan is the Shetland Local Plan 2004; however this is currently being updated. The Shetland Local Plan (Emerging Plan) strategic vision for Shetland has identified Scalloway as An Area of Best Fit (AoBF).

AoBF provide a focus for growth within and adjacent to the largest community in each locality and the larger Shetland isles. Shetland Island Council Planning Services highlighted the positive support of the Development Plan for sustainable economic growth and the recognition of Scalloway as an important economic activity area. The Development Plan with the standard planning caveats relative to the scale, merit, environmental impact and need for development would support new investment in the Harbour area.

2.9 Socio Economic Baseline

A detailed socio-economic baseline analysis has been prepared to inform the development appraisal. The full review is provided at Appendix A – this section provides an overview.

There are some reporting restrictions on disclosing data at the Scalloway level i.e. where very small numbers could lead to identification of individuals. We are therefore only able to report data values for Scalloway for some topic areas – where this is the case we have presented analysis of the scale of change rather than the quantified value.

In considering the socio-economic profile and past trends, data has been presented for three comparator areas: Shetland, HIE area and Scotland, along with historic trend analysis. The HIE area is made up of the six Local Authority areas of Argyll & Bute, Eilean Siar, Highland, Moray, Orkney and Shetland. Trend series data varies by topic area dependent on the availability of comparable historic data e.g. the Business Register and Employment Survey (BRES) was introduced in 2008 replacing Annual Business Inquiry (ABI) and uses different definitions making retrospective analysis beyond 2008 problematic.

Population

Over the past 10 years the population of Scalloway has declined by 8% (-70 people), which is set against positive growth trends for the comparator areas – increases of 2% in Shetland, 3% in HIE and 4% across Scotland. However, there has been development of around 70 housing units over the last decade on the edge of the village, just outside of the Scalloway datazone meaning that the drop in population is likely overstated. Scalloway has a similar population make-up to the comparator areas, but with slightly less children and slightly more working age adults.

Future population projections are not available at the Scalloway level but based on historic trends and future growth for the wider Shetland area. We would not project likely positive growth without some form of intervention or development. For the comparator areas Shetland is forecast to see 1% increase over the next 25 years, set against much bigger increases for both HIE and Scotland, at 7% and 10% respectively

Scalloway Port and Harbour—variety of users

Business Base

Business base data is not available for Scalloway after 2008. Between 2003 and 2008 there was a -26% decline in the number of businesses in Scalloway (albeit from a small starting point), compared with declines of -1% in Shetland, -10% for HIE and -8% across Scotland.

More recent data is available for the three comparator areas. Between 2009 and 2013 there was a 6% increase in the number of businesses in Shetland, compared with 1% increase at both the HIE and Scotland levels.

In 2013 there were 1,685 businesses in Shetland, an increase of 6% from the 2009 base of 1,585. The key business sectors in Shetland in 2013 were 'agriculture, forestry and fishing' (32%), 'construction' (9%), 'retail' (7%), 'professional, scientific and technical' (7%) and 'production' (6%) which each recorded over 100 businesses.

Between 2009 and 2013 the major changes in the Shetland business base were in three sectors which together generated 18% increase – 'agriculture, forestry and fishing*', 'professional, scientific and technical' and 'health'.

*Whilst noting there is no forestry industry in Shetland

Employment and Unemployment

The employment profile for Scalloway shows decline over the past four years, with the loss of over 150 jobs (-24%) between 2009 and 2012, compared with lower reductions in Shetland (-12%), HIE (-4%) and Scotland (-4%). The key sectors reporting decline over this period in Scalloway were 'manufacturing', 'wholesale' and 'education'.

A change in data sources for employment in 2008 does not allow consistent analysis before this date, but overall Scalloway has had a significant reduction in employment over the past decade with the loss of approximately 400 jobs between 2003 and 2012. There may be an anomaly in this data however as there are 300 jobs classified as 'hospital activities' and 100 jobs classified as 'other human health activities' in Scalloway in 2003 that disappear in subsequent years. An internet search has found no record of a hospital in Scalloway or any other health care facilities other than Scalloway health centre, which employs a small number of staff. If we remove this from the analysis, employment has remained relatively stable in Scalloway since 2003.

This trend in Scalloway is again in contrast with the more positive trends for the comparator areas with 12% increase in Shetland, 8% increase in HIE and 6% increase across Scotland. It is also likely that the Shetland data considerably underestimates the total number of jobs as those working in the offshore Oil & Gas industry in Shetland's coastal waters will typically be registered from their company's Head or Regional base, most likely Aberdeen.

Unemployment has consistently been below the regional and national profiles for both Scalloway and Shetland – both in absolute number and in percentage terms, at typically around half to one-third of the Scottish average. In 2013 the claimant count rate in Scalloway and Shetland is 1.2% and 0.9% respectively, significantly below the HIE and Scotland area averages of 2.1% and 3.5%.

Youth unemployment and over 50's unemployment is also lower in Shetland. 2013 Claimant count rates in Shetland are 1.3% for under 25s and 0.8% for over 50's with equivalent rates of 2.8% and 1.5% in the HIE area and 4.4% and 1.9% in Scotland.

Port Arthur Marina, Scalloway

Site History & Description 03

3.1 Introduction

Scalloway Harbour is owned and operated by Shetland Islands Council as Harbour Authority. Lying east of the bight of the Point of the Pund, the harbour is normally open in all weathers. Scalloway Harbour is an important port in a Shetland and Scottish context, particularly in relation to fishing. It is a unique harbour insofar as there is a large variety of users and activities in what is essentially a small footprint (circa 50,000 m^2).

It is considered that the harbour is generally in good condition, with the exception of the west pier, which is in need of refurbishment to address issues regarding its structural soundness. The harbour area is largely tidy and organised within the context of significant users operating on site on a relatively small footprint area. The port area itself benefits from its location in a sheltered harbour where there is not significant variation in tidal swells (approx 0.5m). It is considered that Scalloway is the most important multi user port in the West of Shetland.

3.2 Site Areas and Tenants

The harbour area covers an area of 50,000m^2 (5 hectares), and as of 2012, there were nine organisations/ businesses operating within the Harbour Area. These are included in table 3.1

Tenant	Lease Plots	Function
Scottish Sea Farms	L22/72 (inc. Yard Adjacent)	Aquaculture processing business
	L22/57	Area for unloading Fish (Sublet to SIC Harbour Office)
LHD Ltd	L22/73	Fuel Tank Site
	L22/39	Fish market Extension
	L22/20	Box Storage Compound
	L22/13	Site for Ice making
Northern Lighthouse Board	L22/71	Old Harbour Office
OnePeterson	L22/58	Area for fuel bunkering
SLAP Property (Petrofac & Skretting)	L22/53	Site for Transit Sheds Currently leased by Petrofac and Skretting
Victor Laurenson & Pts	L22/22	Box Washing Shed/ Net washing and storage
Net Services Limited	L22/22	Box Washing Plant
	L22/21	Box Storage Compound
	L22/66	Area for Net Servicing
OSRL BP, SIC	Storage Shed	Storage
QA Fish	Not in SIC Ownership	Aquaculture

Figure 3.1: Scalloway Harbour Tenants

Scottish Sea Farms

Scottish Sea Farms currently lease a number of plots on Blacksness Pier (L22/72 including yard adjacent, and L22/57, which is currently sublet to the SIC Harbour Office). The total number of workers employed by SSF is circa 65 people.

Scottish Sea Farms are one of the most significant aquaculture operators in Scotland, with operations at Argyll, Orkney and Shetland. There are approximately 380 people employed in total with 36 sites in 6 distinct farming zones. SSF are the biggest private organisation within the harbour in terms of size and facility. Processing operations in Scalloway run at 120t capacity per day, with facilities including wellboat live chilling and swim ashore facility and pre-rigor processing capability. Essentially, they operate two main facilities in Scalloway:

- Fish Processing Plant – For preparation of dispatched lots to the market
- Marine Services Plant – Facility provides technical and mechanical support for boats, and a large storage facility for cages, nets and food etc.

LHD Ltd

LHD Ltd. currently lease plots on Blacksness Pier (L22/13, L22/20, L22/39, L22/73). LHD Ltd deal with a large number of marine supplies and an ice factory facility, on the east side of the pier, which was installed to accommodate the increased salmon farming industry and the new large fishing vessels operating west of Shetland.

This facility is open daily from Monday to Friday and also operates a call-out system for out of hours deliveries. The activities of LHD Ltd are geared towards satisfying the ice demand for the harbour and surrounding premises of Scalloway and environs. The operations are strongly intertwined to local fishing activity.

Net Services Ltd.
Net Services Ltd currently leases plots L22/21, L22/22 and L22/26 on Blacksness Pier. Net Services (Shetland) Ltd was formed in 1999. The company is a major supplier of net servicing for most of the fish farm market in Shetland. Main operations include the complete construction of nets and the maintenance of used fish nets. They have two facilities on the harbour including a net sewing facility and a net washing facility.

QA Fish
QA Fish operate from the north side of the harbour area, and deal with fish processing and packaging for the UK and international markets.

Victor Laurenson & Pts
This group is affiliated to the Shetland Fisherman's Association and lease plots L22/22 in conjunction with Net Services Ltd as a Box Washing Shed which is essentially a store for equipment for operational requirements of the fleet.

SLAP Property
Shetland Leasing and Property Developments Ltd have a lease on property L22/53 and use it as a site for Transit Sheds. SLAP is a commercial company wholly owned by Shetland Charitable Trust. SLAP has a £23 million portfolio of over thirty commercial properties. The sheds are leased out to two tenants:

Skretting is the UK and Ireland's largest aquaculture feeds producer and leads the market with innovative feeds and feeding expertise with a key market being the fish farms based in Shetland. The company has a large storage facility for fish food.

Petrofac (short term lease for the Total project) is one of the world's leading oilfield service companies. They deal with the engineering, procurement, supply, construction and commissioning contracts and have a presence in Shetland, including transit shed in Scalloway.

SIC Harbour Office

Harbour Office is located on the Southern Section of Blacksness Pier and sublet the lease from Scottish Sea Farms Ltd on L22/53. Currently 4 people are employed in the building.

Scalloway Harbour office is the main authority of the harbour; being responsible for the operation and traffic control of the harbour, as well as controlling a number of harbour facilities, specifically:

- Fish market – cold storage facility located north east of the harbour
- Shore Power and Fuelling Station – electrical power bollards to power marine vessels moored in harbour as well as a fuelling station for dispensing oil.

One Peterson SBS

One Peterson currently lease plot L22/58 as an area for fuel bunkering in Scalloway. OnePeterson provide logistical service to various industry sectors including oil and gas and renewables. Key services provided include:

- Supply Base Operations
- Lifting & Distribution
- Vessel Agency Services
- Materials & Inventory Management
- Property Rentals
- Labour Agency
- Decommissioning

Northern Lighthouse Board

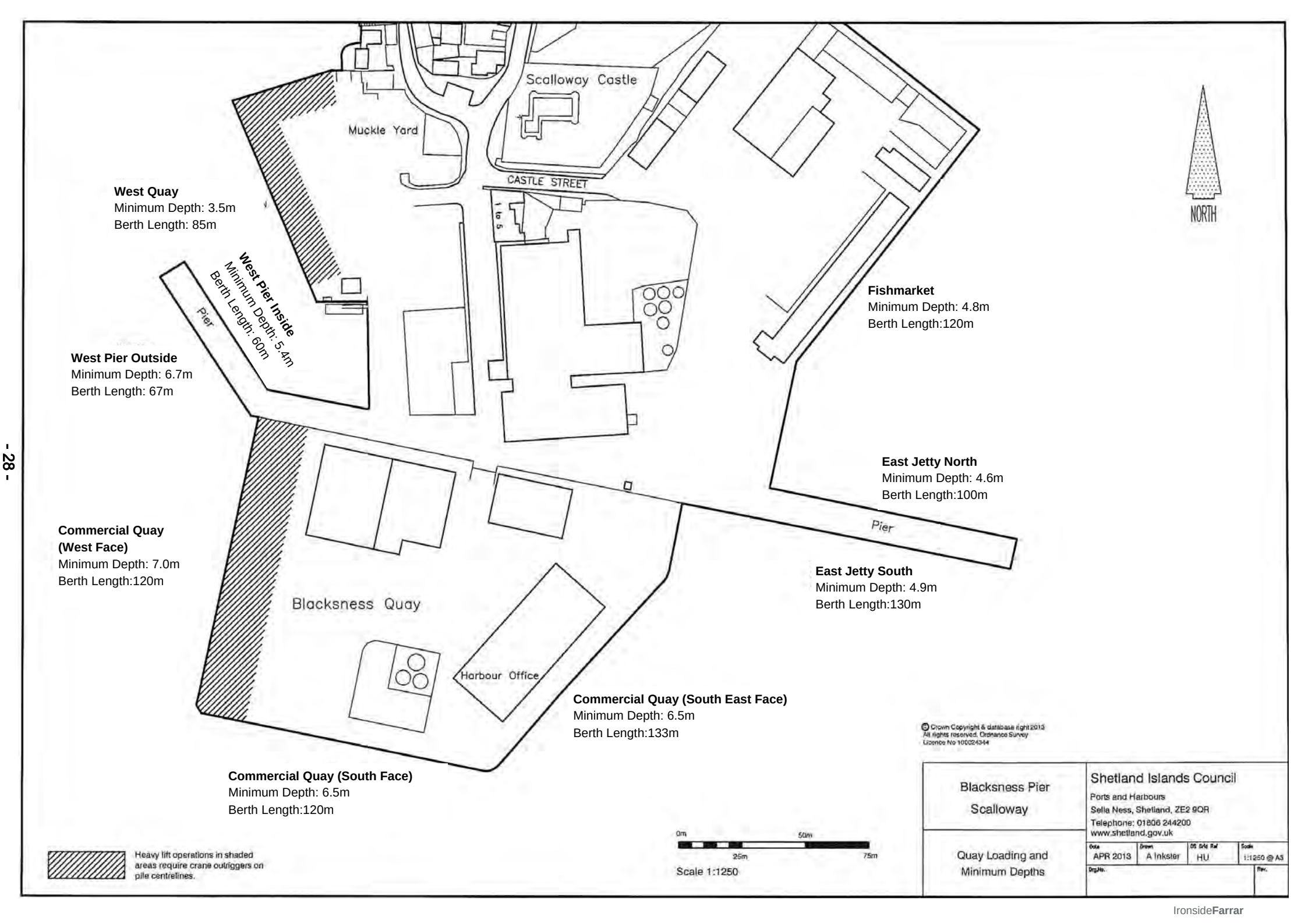
The NLB have two offices located in L22/71 (the old harbour master office) where they have two people currently working. The NLB currently have a vessel the NLV Pharos (length of 84.25 metres) which berths in Scalloway occasionally, however no dues are required of the vessel.

Comment on Lease and Plot Areas

The harbour area's designated tenant plots are near to capacity in terms of occupancy. The upper floor of the Fishmarket (L22/24 Lease Plot) is currently the only vacant building. However, in terms of land capacity, there is vacant land located throughout the site with development potential, particularly in the lands in the Muckle Yard area (small dock area located to the northwest of the pier area).

There is potential for development at this location should private sector investment be forthcoming and where key growth sectors will require a quantity of laydown/ yardage/ warehousing for future industry/ user expansion.

In addition, the fish market has some restrictions in terms of structural and customer suitability and is in need of a substantive refurbishment/ replacement to meet customer and operational requirements. A more efficient unit is considered more viable with considerable improvements to the roof and refrigeration features undertaken as a priority as well as the required space for fish grading equipment and fish discard management.



3.3 Physical Infrastructure

Marine Access

The Harbour Area access approach channel has recently been dredged to a depth of 8.7 metres CD. The approach channel has been dredged to this depth over a 90 metre width. There are a number of berths available and are detailed in the following table.

Berth	Minimum Depth	Berth Length
West Face, Commercial Quay	7.0m	120m
South Face, Commercial Quay	6.5m	120m
South East Face, Commercial Quay	6.5m	133m
East Jetty, North	4.6m	100m
East Jetty, South	4.9m	130m
Fish market	4.8m	120m
West Pier, inside	5.4m	60m
West Pier, outside	6.7m	67m
West Quay (Low level quay)	3.5m	85m

Figure 3.2: Marine Access (Draft and Berth Length)

Although the port benefits from its location in a sheltered harbour the North West berth areas may not have the most optimum shelter for vessels, in relative comparison to the east areas of the harbour. The West Pier comprises a suspended deck structure and is structurally only suitable for smaller vessels. It is currently suitable for the small aquaculture vessels which regularly utilise it however larger vessels do not utilise its berths.

In terms of berth/ quay length the maximum length is 133m which is sufficient for most vessels, however in terms of marine access the most significant constraint relates to draft which does not exceed 7 metres at present. This may be an issue for larger vessels, who may regularly require draft of greater than 7 metres throughout the tidal range and is particularly pertinent for large oil supply service/ anchor handling tug vessels and the larger pelagic trawlers. In addition, some vessel operators require 1 metre clearance under keel as a general rule, which in effect reduce draft at quay to 6 metres for these vessels

The East Jetty South is currently occupied by a large temporary accommodation vessel, which has consent to be located at the jetty until 2014 with the potential that this period could be extended. This is a significant revenue stream for the Council.

Road Access

Access to the harbour area is taken via Castle Street where an internal road network serves the harbour area. The key transport link for movement of goods is via Castle Street, which connects to the A970, which in turn connects to Lerwick (6 miles) and Sumburgh Airport. The A970 has a relatively steep gradient as it passes the Scord quarry and together with narrower sections at the Castle and museum area can pose issues for larger articulated vehicles. The A970 has limited width footways on the approach to Scalloway resulting in conflicts between large vehicles and pedestrian users and exacerbated by the lack of kerbing in places. Safety concerns have been raised by the community in this respect.

Logistics and Supplies

There are utilities, fuel and watering bunkering located on Blacksness Quay to services vessel requirements. This includes the following:

- 500cubic metre fuel tank capacity
- Road tankers are also used to service/supply vessels
- Water supply at 50 tonnes/hr—subject to service reservoir capacity
- 250 Tonne mobile crane
- Harbour Tugs with bollard pull up to 90 tonnes available

Services
Licensed pilots are available at any time on request; however they are only compulsory for cruise ships and vessels with hazardous cargoes.

Surrounding Area – Ancillary Infrastructure
Other key facilities and services include:

- Harbour Tugs with Bollard Pull (90 Tonnes), sheltered natural harbour
- A pilot vessel (workboat) is available for crew changes and harbour assistance
- Mobile cranes up to 250 tonnes,
- Facilities including bunkers, fresh water, diving, waste disposal, ship repair, rigging, chandlery and fuel services are available through local agencies and suppliers
- Two small slipways are available at local ship repair yard in Scalloway

Constraints and Considerations
A key issues and considerations table has been provided opposite which details the key issues relative to future development options at Scalloway Harbour.

This relates to issues regarding marine (including draft depth at quays) and road access issues, land capacity and built infrastructure constraints as well key environmental considerations and planning requirements in respect of future development options at Scalloway Harbour.


Considerations include land availability and Scalloway Castle (Listed)

Topic	Issue	Comments
Land Availability	Limited laydown area	The port has a relatively small footprint and land area is at a premium. There is little opportunity for significant landward expansion with the exception of the Muckle Yard area.
Marine Access	Draft	Significant constraint for vessels with greater draft than 7.0m. Access draft of 8.7 CD is available in the approach channel, however, this is not available at the quayside. Some operators do require 1m clearance under keel.
Built Infrastructure	Warehousing & Fish market facilities	Fish market is considered unfit for current customer requirements and in need of refurbishment/ new build. Lack of adequate warehousing space has been identified for a constraint in terms of providing for an oil spill response unit.
Designations	Shetland National Scenic Area	41817.14 ha area, covering the Western section of harbour area
	Lochs of Tingwall and Asta SSSI	Two lochs located approximately 2-3 miles north of Scalloway, covering approximately 65 ha.
Cultural Heritage	Listed Buildings	There are 21 listed buildings in proximity to the harbour area
	Scalloway Castle Scheduled Ancient Monument	Located immediately north of the harbour area. Significant consideration in terms of any future development
	Scalloway and Port Arthur Conservation Area	Conservation Area, located in Scalloway, in close proximity to the Harbour Area.
Road Access	Suitability for heavy loads.	Harbour users consider road access to be constrained by gradients in the vicinity of the quarry and safety concerns expressed by the community in relation to poor footway definition on the approach to the town.
Committed Development (Accommodation Vessels)	Coastel (Accommodation) Planning Permission (Floating Structure)	Commenced June 2013 for 2 years and is located along the east jetty south. It is likely that the barge will remain for the duration of the Intervention Project. This is a significant revenue stream for the harbour.
Harbour Revision Order	Works in that seek to improve the economic manner of the harbour need a HRO/ HEO	Transport Scotland, as the key consenting authority will consider aligning the need for HEO/ HRO with the relevant planning permission/ Marine Licence requirements.
Marine Licence	Works in the marine environment need a marine licence for MS-LOT	Works include: Deposit any substance or object in the sea or, on, or under the sea bed; Construct, alter or improve works (Inc renewables) on or over the sea or on or under the seabed; Remove substances or objects from the sea bed (>1m^3); Dredging; Deposit or the use of explosives; Incinerate substances or objects.
Planning/ SEA	Need for SEA	A Strategic Environmental Assessment is not required

Figure 3.3 Site constraints, risks and considerations

Current maximum draft at quay is 7.0m

Market Assessment and Sector Opportunity | 04

4.1 Introduction

The Development Masterplan has included a sectoral analysis based on economic data and reviewed through consultation workshops with stakeholders or one-to-one interviews. The focus of the assessment has been to identify within each sector, and sub sector, the key development opportunities and physical requirements with specific regard to facilities and potential development at Scalloway.

The sectors identified for analysis include:

- Fishing Industries & Aquaculture
- Oil & Gas Exploration/ Oil and Gas service and supply support
- Renewable Energy, including offshore wind, wave and tidal
- Freight Provision of general cargo/ port logistics/ ferry services
- Marine Tourism and Leisure

The sectoral analysis has included at a strategic level an overview of other ports and harbours in Shetland, to ensure that unnecessary competition is not created between each port/ harbour and that development focuses on market needs and how best market choice and fit-for-purpose facilities can be developed that maximise the benefits to Shetland as a whole. Market competition in certain sectors is perhaps most acute with mainland port facilities (Aberdeen / Scrabster) and in the renewable energy sector with modern, high quality facilities in Orkney.

4.2 Fishing and Aquaculture Sector

The fishing industry is a major component of the Shetland economy – 28% of total output, 19% of value added and 8% of employment in 2010-11. The Local Fisheries Development Strategy (LFDS) acknowledges that Shetland is a 'fisheries dependent area' with the sector being both economically and socially important to Shetland, supporting the vitality and viability of remote communities.

4.2.1 Market Context

Scottish Context

In 2012, 365,000 tonnes of sea fish and shellfish were landed by the Scottish fleet with a value of £466m – representing a 2% increase in volume but 9% decrease in value from the previous year (2011). This decrease has been driven by an overall decrease in value across all fish species due to changing EU regulations, changes to quotas and increased fuel costs. An example of this is fisherman focusing more on 'schooling fish' where the resources (man hours, equipment, etc) and fuel input are not as great as, for example catching Monkfish.

The changes in value for key species are broken down as follows:

- Pelagic fish landings, value of £166m – representing a decrease of 11% since 2011;
- Demersal landings, value of £143m – representing a decrease of 8% since 2011; and
- Shellfish Landings, value of £157m - representing a decrease of 6% since 2011.

There was a mixed picture in terms of the total value of landings generated by different species with Shellfish prices decreasing by 6%, Demersal species also experiencing an overall decrease (-8%). Some Pelagic species such as mackerel (which account for a large proportion of income to the Scottish fleet) decreased in value by 28%, whilst others like Herring increased (by 68%).

Figure 4.1 and **4.2** show the quality and value of landings broken down by species in Scotland.

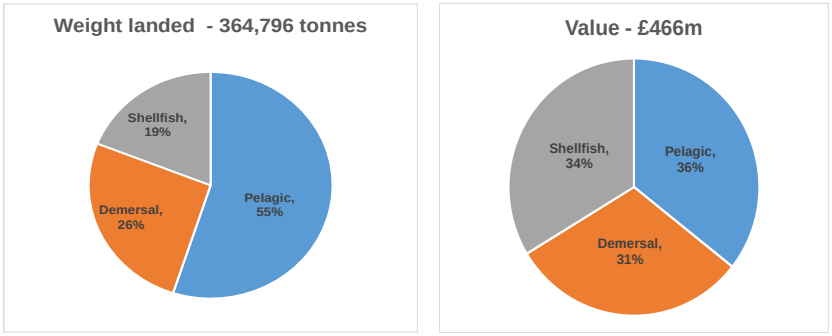


Figure 4.1: Quantity of Fish Landed 2012 **Figure 4.2: Value of Fish Landed 2012**
Source: Scottish Sea Fisheries Statistics, 2012

Figure 4.3 shows the change in real price for various key species of fish (most of which have experienced a decrease), which, in tandem with the relatively modest increase in the number of landings, helps explain the overall decrease in value of the sector from 2011.

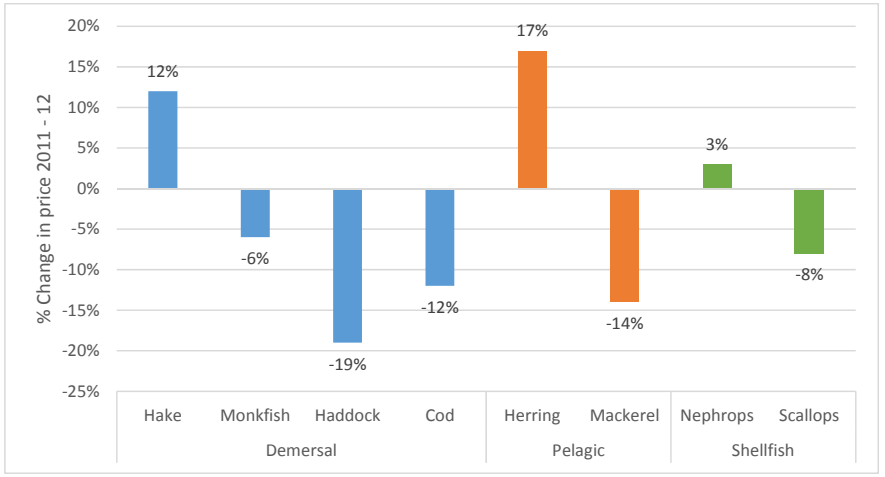


Figure 4.3: Change in Real Price between Key Fish Species 2011 – 12. Source: Scottish Sea Fisheries Statistics, 2012

Mackerel, which makes up a large proportion of the total landings, and Monkfish which historically has been one of the more profitable species have both seen a decrease in the cost per unit from 2011 – this has had a notable impact on the value of the sector.

In terms of quota uptake, **Figures 4.4** and **4.5** breakdown the quota uptake for the past two years across Scotland (please note no data available for Shellfish).

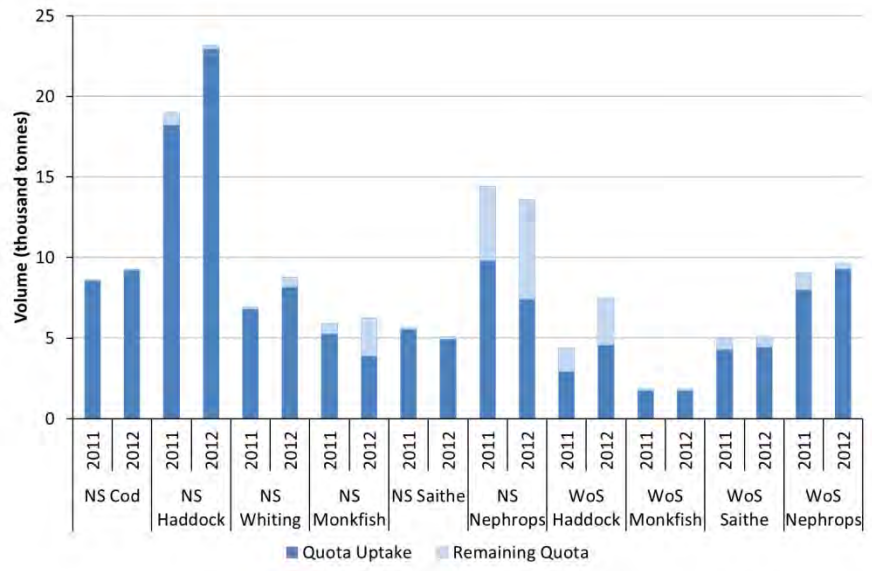


Figure 4.4: Demersal Species Quota Uptakes 2011 – 12 – Scotland. Source: Scottish Sea Fisheries Statistics, 2012

In 2012 there was a notable disparity between the quota and uptake levels for North Sea Nephrops, and Monkfish. In contrast, in 2011 and 2012 the full quotas for Pelagic species was taken up.

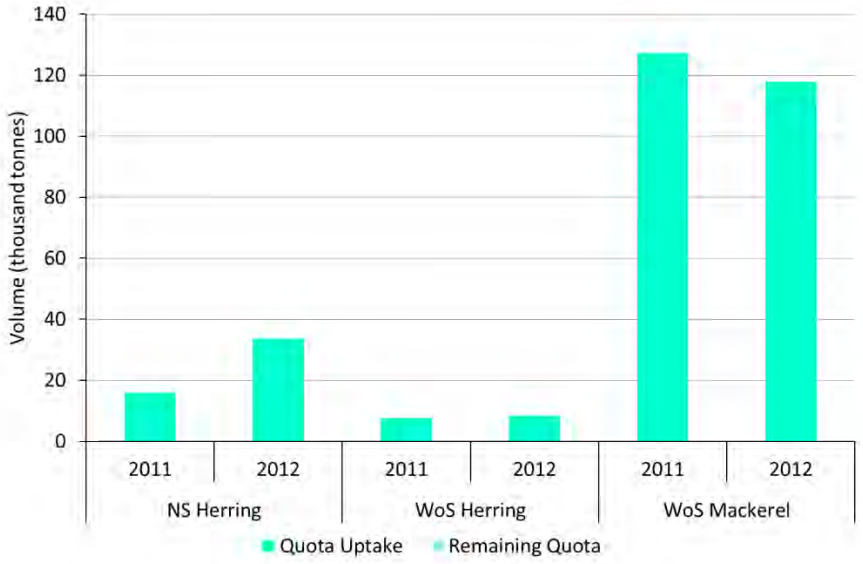


Figure 4.5: Pelagic Species Quota Uptakes 2011 – 12. Source: Scottish Sea Fisheries Statistics, 2012

There were 2,046 active Scottish based fishing vessels in 2012, the smallest number recorded and representing a long term 12% decline since 2002. With 177 vessels under the responsibility of Shetland, the district accounts for 8.7% of the total Scottish fleet

In 2012 there were 4,727 employees on Scottish based fishing vessels, representing a decline of 10% over the past ten years, and around 25% over the past thirty years. The most significant decline has been in 'regularly employed' fishermen which have declined by almost 50% over the past 30 years.

Of all Scottish districts, Shetland has the highest proportion of 'irregularly employed' fishermen working for its fleet, accounting for almost 50% of all fishermen compared to a Scottish average of 20%. It should also be noted that given the importance of quotas in the fishing sector, the days at sea are quite limited.

Whilst the island has a high proportion of irregularly employed, a notable proportion of fisherman are often supplementing their fishing income with other jobs such as guard duty for exploratory vessels and supply vessels for the oil and gas sector.

	Jobs	Businesses	Annual Turnover
Aquaculture	358 Jobs	34 Businesses	£88 Million
Fishing Catching	306 Jobs	78 Businesses	£36 Million
Fish Processing	444 Jobs	11 Businesses	£65 Million

Figure 4.6: Employment in Shetland by Sub-Sector. Source: NAFC Fish Landings in Shetland

Shetland Context

According to the Shetland Regional Accounts, fishing, aquaculture and fish processing remains the most significant economic sector in Shetland. The sector supports 1,100 jobs and 123 businesses with an annual turnover of £189million.

In 2012 Shetland accounted for 20% of volume and 14% of value for Scotland with 2012 landings representing around one-third less than the previous year – significant decrease in pelagic species which made up over half of total Shetland landings.

Within Shetland, 67,948 tonnes of fish/shellfish was landed in 2012 with a value of £59.7m, broken down as follows:

- Whitefish – 14,051 tonnes, value - £22.0m;
- Pelagic fish – 52,054vtonnes, value - £34.1m; and
- Shellfish – 1,843 tonnes, value - £3.5m.

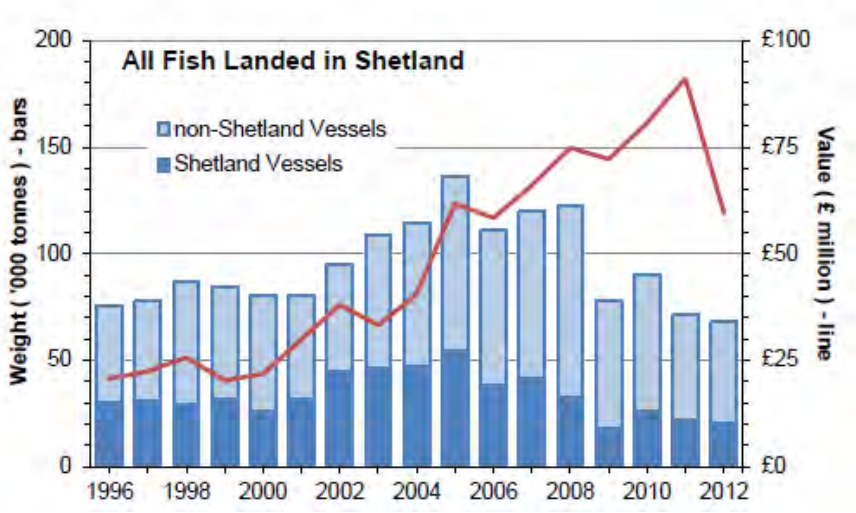


Figure 4.7: Fish Landings in Shetland. Source: NAFC Fish Landings in Shetland

Figure 4.7 details the historical trends for the value and volume of fish landed in Shetland. The data shows that for the most part the volume and value of the sector increased year on year until it peaked in 2010/11. Thereafter, both the total volume and value of the sector has experienced a significant decrease.

Overall the total weight of 'fish landings in Shetland in 2012 was 3% lower than in 2011, while their value was 19% lower – this is in comparison with Scotland where the total volume landed increased by 6%.

The Pelagic species accounted for the majority of the fish landed in Shetland (77% by weight, 57% by value), but had the smallest unit-value. Whitefish accounted for 21% of the weight but 37% of value. Shellfish accounted for the smallest proportion of landings (3% by weight, 6% by value) but had the highest unit-value.

As highlighted above for the Scottish fleet, fuel prices, quota costs, quota restrictions and reduction in days at sea have reduced the profitability of the sector, particularly the whitefish fleet in Shetland.

The most recent outlook data available form the NAFC shows that for the first 11 months of 2013, the weight of whitefish sold at local markets has increased by 13%, whilst the value of the landings increased by 17% - encouraging signs.

Information on Pelagic species indicates that the landings/volume have increased since 2012, however, this is still lower than levels experienced in 2010/11.

There is no current information available for Shellfish at Shetland Level.

Figure 4.8 provides information on the vessels that operated within Shetland.

Segment (length class, m)	Number of vessels	Proportion of Shetland fleet	Main gears used	Number of crew (average)	Main species fished
0-10	21	109 (19 %)	Creel	1	Lobster, brown crab, green crab, velvet crab
0-10	3	20 (15 %)	Scallop dredge	1	King and queen scallop
10-15	1	3 (33 %)	Nephrops trawl	1	Shellfish
10-15	1	6 (17 %)	Scallop trawl	1	King and queen scallop
15-40	5	24 (21 %)	Trawl - TR1	5	Cod, whiting, haddock, anglerfish
Total	**31**	**162 (18 %)**			

Source: Scottish government.

Figure 4.8: Vessels in Scalloway 2011. Source: Studies for carrying out the Common Fisheries Policy, European Commission

4.2.2 Market Trends

It is difficult to prepare comprehensive analysis of trends in the fishing sector. Whilst data is available from the Scottish Fisheries Statistics (SFF), it relates to the Scottish fishing fleet for landings in Scotland and therefore excludes two key data sets – the non-Scottish fishing fleet landing in Scotland, and the Scottish fishing fleet landing outwith Scotland.

The SFF records an upward trend in the number of voyages for the Shetland fishing fleet, with 2012 being 80% higher than in 2003. Over the same time period the Scotland fleet overall recorded a decline of 8%.

In contrast the quantity of fish landed in Shetland (by the Scottish fleet) reduced by 46% (2003-2012) against an overall decline for the Scottish fleet of 7%, whilst the value of landings increasing by 50% and 65% respectively for Shetland and Scotland. These are clearly inconsistent trends.

Potential reasons for these trends Include, smaller boats being used, changes to quotas for individual species and regulations and fluctuating unit prices.

There are likely to be a number of reasons for this mixed picture including, changes in wider EU regulations in relation to quotas, the permitted days at sea, fluctuations in the price per unit and wider financial influence, e.g. exchange rates. Historical trends show that the value of the landings have not decreased at the same level as the volume, however,

The data drawn from SFF does not correlate with locally sourced data for Shetland which records a 139% increase in the total number of boxes sold at the electronic auction between 2003 and 2013. This local data also records a significant increasing trend in the number of weeks that achieve large box sales – in 2003 no weeks recorded more than 5,000 box sales, but with an increasing trend over the past 10 years, 37 weeks in 2013 recorded more than 5,000 box sales.

The official data from SFF records a significant decline in both the quantity and value of landings in Shetland between 2008 and 2012. This is supported by data showing a long term decline in the number of vessels (31% decline in Shetland and 21% decline in Scotland from 2001 to 2012). This, however, is in contrast to a stable employment base within the sector over the past 10 years in Shetland, set against a 17% decline across Scotland.

There are a number of potential reasons for this decrease in activity but stable employment base. Firstly, the data is potentially not capturing the difference between regular and irregular employment, so therefore job count will remain at a similar level but hours may have decreased. Secondly, the data potentially does not capture the activity of the non-Scottish fleet and therefore employment related to this is not captured in the official statistics.

Figure 4.8 presents historical data for the volume and value of species landed in Shetland.

	Quantity (tonnes)					Value (£'000)				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Shetland										
Catfish	23	41	46	40	43	34	55	72	74	79
Cod	1,844	2,448	2,976	2,631	2,399	3,910	4,277	5,775	5,743	4,590
Cuckoo ray	-	0	69	112	92	-	0	71	117	73
Haddock	4,145	3,105	2,516	2,728	3,923	5,035	3,589	3,136	3,425	4,356
Hake	235	184	190	254	225	285	207	224	344	310
Lemon sole	82	76	74	90	101	236	176	218	353	347
Ling	691	830	802	863	807	810	888	975	1,198	1,069
Megrims	602	703	634	633	700	1,769	1,982	1,841	2,193	2,041
Monkfish	2,660	2,548	1,659	1,846	1,242	7,222	8,024	5,515	6,210	3,920
Norway pout	-	-	294	-	-	-	-	41	-	-
Plaice	230	197	226	227	272	167	148	171	194	209
Pollack	253	186	136	112	120	532	379	287	275	252
Saithe	1,939	2,193	2,227	1,873	1,581	992	1,383	1,919	1,844	1,550
Skates and rays	206	199	69	20	18	200	224	69	21	14
Spotted ray	-	-	29	39	44	-	-	40	57	50
Tusk	35	46	40	32	27	28	30	35	31	25
Whiting	2,191	2,167	1,744	1,794	2,148	2,428	2,242	1,936	2,149	2,287
Witches	89	117	72	88	91	108	145	88	127	122
Other demersal	119	150	149	97	98	347	366	357	321	244
Total demersal	**15,343**	**15,190**	**13,952**	**13,480**	**13,931**	**24,103**	**24,115**	**22,770**	**24,676**	**21,536**
Blue whiting	42,460	6,928	5,849	-	5,524	4,510	1,191	1,212	-	1,492
Herring	16,493	4,725	7,542	9,440	15,925	4,268	1,418	2,255	4,608	7,123
Horse mackerel	222	2,047	2,861	2,146	1,489	57	768	1,398	1,120	849
Mackerel	45,754	46,900	56,235 (r)	44,136	28,404	36,505	40,282	47,026 (r)	56,113	24,169
Other pelagic	55	-	9	-	-	3	-	1	-	-
Total pelagic	**104,985**	**60,600**	**72,495 (r)**	**55,722**	**51,342**	**45,342**	**43,659**	**51,891 (r)**	**61,841**	**33,632**
Edible crabs	435	325	276	296	340	420	315	278	299	379
Green crabs	29	23	25	26	32	16	12	16	20	22
Lobsters	20	31	32	30	36	252	370	383	365	488
Nephrops	426	399	313	253	42	1,720	1,136	830	914	206
Scallops	878	912	1,077	910	1,147	1,817	2,498	3,030	1,574	1,943
Squid	130	143	228	157	38	401	387	646	642	178
Velvet crabs	300	340	268	263	232	725	786	673	814	698
Other shellfish	5	11	25	30	65	14	10	20	19	40
Total shellfish	**2,222**	**2,184**	**2,244**	**1,965**	**1,931**	**5,363**	**5,515**	**5,876**	**4,647**	**3,955**
Total landings	**122,550**	**77,975**	**88,691 (r)**	**71,167**	**67,205**	**74,809**	**73,289**	**80,537 (r)**	**91,165**	**59,124**

Figure 4.9: Quantity and Value of Landings in Shetland 2008 – 12. Source: NAFC Fish Landings in Shetland

4.2.3 Scalloway Opportunities

Scalloway is a designated fishing port and is the main base for fishing on Shetland's West Coast, but all boats are registered at Lerwick. Data is not available on the number of fishing boat movements (as distinct from the total number of vessels) at Scalloway.

The Port and Cargo Section presents analysis from 2010 to 2013 showing a small increase in the total number of vessels at Scalloway, but a significant increase in tonnage – overall a 31% increase in gross tonnage per vessel over the past four years.

The LFDS has identified a number of actions needed to support its strategic aims:

- strengthening the competitiveness of the fisheries areas;
- adding value to fisheries products; and
- supporting small fisheries and tourism related infrastructure/services for the benefit of smaller fishing communities.

Analysis of the official BRES* data at Scalloway level shows that there has been significant fluctuation in employment in the fishing, aquaculture and processing sectors over the past 10 years, ranging from almost 200 to under 10 people employed in the sector. However, it should be noted that given the geographic level of disaggregation, there are likely issues relating to data confidentiality and the official sources may under-represent activity within Scalloway.

The actual values cannot be disclosed due to reporting restrictions at this data level, but there has been a 30% increase in employment since 2003, similar to the Shetland total increase of 33%. Overall Shetland performs significantly better than the wider Highlands and Islands and Scottish averages, which report declines of 5% and 2% respectively since 2003.

*Business Register and Employment Survey

There are a significant number of offshore fish farms and shellfish dredging grounds located in the immediate vicinity of the Harbour. Scalloway's proximate location to these grounds offers significant opportunity in terms of key support/ shore base for the industry. In busy periods, Scalloway harbour can deal with over 20 aquaculture boat movements on a daily basis.

A review of future prospects for shellfish farming in Scotland confirms the importance of Shetland, which has seen rapid increase in mussel farming over the past 10 years, and is expected to dominate the Scottish industry at least in the short to medium term. Despite significant growth over the past decade the industry in Scotland remains low relative to the rest of the European Union, with identified potential for further growth.

In 1999 Shetland accounted for only 14% of the Mussels quota but by 2008 this had grown to almost 60%. While other regions are forecasting growth, Shetland will continue to dominate, with half of the maximum potential for mussel farming in Scotland. There are 20 mussel farms within Shetland and The Prospects & Opportunities Review outlines feedback from wholesale markets (dominated by Billingsgate) which is reported to have an increasing preference for Shetland product, which tends to be larger with better meat yield than elsewhere. However, Scalloway only accounts for Shellfish landings in Shetland (1,000 tonnes in 2013).

The NAFC review includes analysis of the places of landings for Whitefish in Shetland – this shows that over the ten years from 1990 to 2000 there was an increase in landings in Lerwick and a consequent (significant) decline in landings in Scalloway, as shown in Figure 14. Currently, Scalloway accounts for 25% of all white fish landed in Shetland, with 2013 seeing a bumper year (83288 boxes (at 45kg approx)).

Scalloway—a key base for the west of Shetland Fishing Fleet

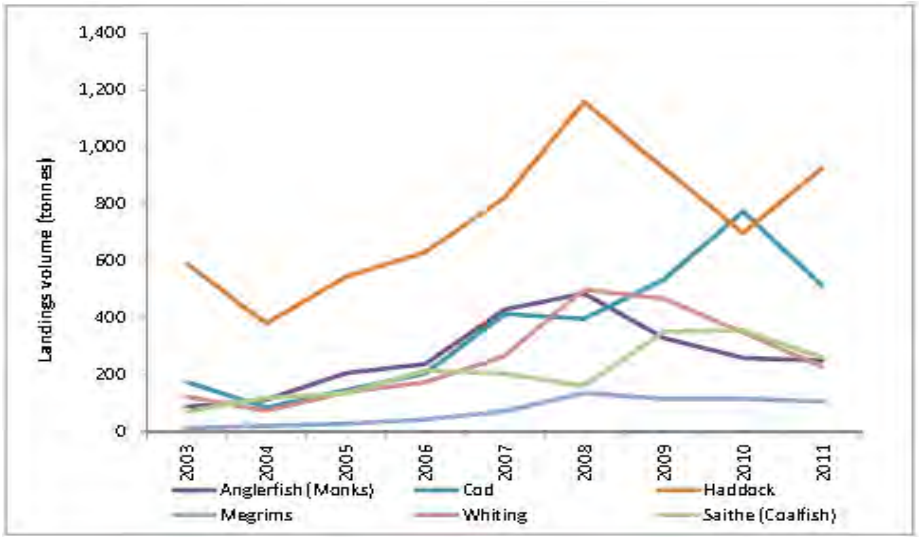


Figure 4.10 Weight of Whitefish Landed in Scalloway. Source: NAFC

There will be a myriad of reasons behind this significant decline in landings at Scalloway but the quality of the fish market building, which is nearing the end of its operational lifespan and requires significant investment or replacement, is likely to exacerbate the situation in the future. In terms of pelagic fish, all of the landings are at Lerwick, with no specific trends in Scalloway.

The NAFC review also analyses the weight and value of 2010 fish landings in the waters around Shetland, identifying the most valuable areas to the west and north, as shown in **Figure 4.11**.

The fishing industry is a major component of the Shetland economy – 28% of total output, 19% of value added and 8% of employment in 2010-11. The Local Fisheries Development Strategy (LFDS) acknowledges that Shetland is a 'fisheries dependent area' with the sector being both economically and socially important to Shetland, supporting the vitality and viability of remote communities.

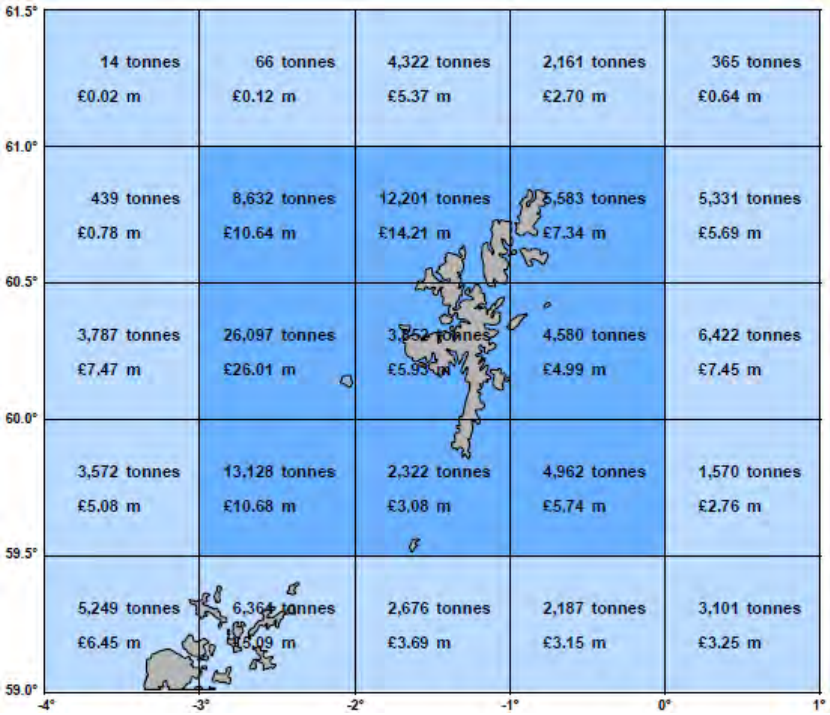


Figure 4.11: Weight and Value of 2010 Fish Catches
Source: NAFC
Note: Figure reports al landings everywhere, all species, all vessels. Individual rectangles are approximately 30 nautical miles.

4.2.4 Scalloway Competitive Advantage – Physical Infrastructure

In order for Scalloway to capitalise on the opportunities in the fishing and aquaculture sectors, the required physical infrastructure is essential. The current facilities may become under increasing pressure to meet the sector requirements. The table opposite identifies the competitive advantage for Scalloway currently, in relation of sector requirements:

4.2.5 Summary of Fishing and Aquaculture Sector Opportunity

Fishing and aquaculture will form a major sector for Scalloway providing a key port and base for the west coast fishing fleet specifically for the white fish fleets and aquaculture servicing. Sustaining this activity requires:

- Investment in a new or substantially re-developed Fish Market
- Protecting quay areas for fishing fleet berthing/landings (East Quay)
- Ensuring quay access is available for Aquaculture Well-Boats

Growth in this sector will be modest but it forms a key economic sector with the main opportunities for increased economic activity associated with:

- Retention and modest growth to fishing/aquaculture customers
- New Fish Market meeting British Retail Consortium (BRC) Global Standard (storage/ distribution)
- Expansion of Service Sector (nets / eng. services / supply chain)

Retention of adequate berthage in the sheltered waters adjacent to facilities that continues to meet current and future needs of the fishing industry is important and ensuring west coast fishing and aquaculture interests are able to compete on landings, market price and quality with other locations.

A detailed feasibility assessment is required to establish a design brief for the Fish Market. Our assessment suggests that the market should be:

- Located on the southern section of the East Quay based on current berths of the fishing fleet
- Retain the existing Ice Plant
- Cater for fish grading machinery space and fish discard management requirements
- Refurbishment of roof and building structure.
- Incorporate modern refrigeration and dock loading/transfer facilities
- Address any future need for storing/process of discards
- Upgraded ICT / broadband and Wi-Fi capacity

Sector growth in fish processing and packaging could be anticipated and local operators are seeking additional space for expansion and growth. QA fish and Scottish Sea Farms, have expressed interest in expanding in the short to medium term.

In summary, sector specific opportunity concentrates on:

- Fishing base (White Fish) with robust service support standards supported by a modern fish market that meets current customer requirements
- Identification of potential opportunity relative to increased shellfish landings in Scalloway, based on specific requirements
- Expansion of aquaculture business in Scalloway, clustering around existing operators and capitalising on close proximity to the majority of fish farms in Shetland
- Enhancing service standards and customer focused support that continues to make Scalloway a port of choice in this sector.

Figure 4.12: Fishing and Aquaculture Sector Requirements

Requirement	Competitive Advantage	Notes
Water and Ice Facilities	✓✓	LHD currently run an ice plant in the harbour which meets the requirements of the sector. No considerable constraints associated with water supply.
Adequate Berths	✓	The West Pier is in need of refurbishment and could provide further facilities for sheltering vessels. There will be a need to ensure that any further accommodation barge wouldn't negatively impact on berths for fishing vessels.
Fish market	-	The fish market is approaching the end of its useful life as a functional fish market that meet customer requirements and can offer modern prime facilities supporting a high value fishing sector. A smaller more consolidated market needs to be considered that reflects current and future levels of activity and ensures the quality of landings. .
Proximity to fishing grounds/ aquaculture farms	✓✓✓	Significant tonnages are caught off the west of Shetland (approximately 45,400 tonnes in the south west sectors). Scalloway is located in close proximity to highly productive grounds. The majority of fish farms are located in the south west of Shetland which is an advantage in terms of the aquaculture sector
Fuel and potable water supply	✓	Adequate provision of fuel and water stores.
Market and Sales	✓	Electronic auction system currently works from Lerwick and caters for the Scalloway market. An individual market and auction selling point for Scalloway is not recommended.
Net Mending	✓✓✓	Net services limited currently operate from the harbour, providing mending, provision and net washing facilities. There may be an opportunity to secure further growth in this sector, serving markets beyond Shetland.
Repair and maintenance facilities	✓	Standard of facilities meet current requirements.
Stores, yardage and provisions	✓	Laydown and storages meets current requirements.
Fish feed supply for fish farms	✓✓	Skretting operate from the pier supplying fish feed for aquaculture farms in Shetland

LEVEL OF ADVANTAGE	✓
NO ADVANTAGE	-

Scalloway— a key shore base for the West of Shetland Basin Oil and Gas Supply Vessels

4.3 Oil & Gas Sector

This sector covers the extraction of oil and gas in the sub-sea from offshore reserves, together with the on-shore supporting services – together made up of exploration, production, surveying, storage, exporting, servicing, safety and emergency response unit opportunities. There is also a large supply chain dominated by the engineering sectors of fabrication, maintenance and decommissioning.

While the coastal waters around Shetland have major concentrations of production and employment, this is not reflected in regional economic data with employees registered at the company's head office, typically Aberdeen. This therefore distorts the actual jobs and economic value for Shetland.

4.3.1 Market Context

The oil and gas industry (O&G) is the principal source of fuel and power for the UK, meeting 73% of primary energy needs in 2012, with a 2030 forecast at 70%. If current levels of investment are maintained, the UK Continental Shelf (UKCS), which is dominated by production in Scotland, is forecast to meet 50% of UK demand for O&G by 2020, with the remainder imported. O&G is the largest industry sector contributor to UK GVA, estimated at £32bn in 2010.

The UK is regarded as a mature O&G province with peak production reached in 1999 for oil and 2000 for gas. Over the past 45 years 42bn barrels of oil equivalent (boe) have been recovered from the UKCS, and since its peak in 1999/2000, 4.1bn boe of recoverable reserves have been found, with a total 15-24bn boe undeveloped.

Over recent years there has been a dip in production as early fields generate declining rates boe and new discoveries are established and exploited. While production has declined since 2011, Scotland is acknowledged to be the largest oil producer and 2nd largest gas producer in the EU.

The sector supports 450,000 jobs across the UK – around half of which are in Scotland – made up of:

- 36,000 operating companies – one-third offshore;
- 200,000 supply chain – one-quarter offshore
- 112,000 induced jobs; and
- 100,000 exporting jobs (goods and services).

The Shetland Regional Accounts identify almost 350 FTEs (estimates of currently 600 personal at the terminal although may include contract workers) working across three O&G sectors – 'oil terminal', 'electricity, gas and water' and 'oil supply services' – but this excludes a significant number of jobs in other sectors with high levels of integration with O&G e.g. 'marine engineering', 'construction', 'ports and harbours' and 'technical and professional services'.

Oil & Gas UK estimate that the Orkney and Shetland Parliamentary Constituency accounts for total employment in the O&G sector of between 1,000 and 2,000.

4.3.2 Market Trends

Over 2011/12, 45 projects were approved by DECC with total capital expenditure of £22bn forecast to yield 2bn boe. Capital investment in projects under production or development totalled £44bn at the start of 2013 – this is one-third higher than the start of 2012.

Sanctioned investments will guarantee the industry for the next 15-20 years, but looking further to 2050 and beyond is more difficult to predict. Oil & Gas UK believes that up to 24bn boe can be recovered (dependent on a range of factors including price, cost and technical recovery enhancements), and that the industry will be active beyond 2050.

In 2013 there were 15 fields anticipated to come on-stream with combined reserves of 470m boe. Over recent years there has been a downturn in O&G production, particularly in the North Sea region, but overall increases are forecast from 2014 onward.

Oil & Gas UK report that there is renewed confidence in the UKCS from the major companies with total annual investment in 2013 treble that of the 2009 level. Up to 2009 companies were rationalising and reducing commitments but, with a significant change in attitude, companies are now investing heavily, especially in West of Shetland.

It is expected that a number of new large oil fields will come forward over the next few years yielding over 100m boe of recoverable reserves. West Shetland will be a major source with 22% of sanctioned reserves, and a further 21% in the North Sea region. This area (together with the Hebrides) is identified as the largest remaining area of significant prospectivity in the UKCS, representing around 15-17% of the UK's remaining O&G reserves.

Oil & Gas UK forecast an increase in drilling after a prolonged period of low activity – if the forecast 130 wells are drilled over 2013-15 this will be the most active period in the past 15 years.

Across Scotland there is estimated demand in the O&G sector for between 30-40,000 jobs up to 2020 – split 2/3 replacement and 1/3 new demand – with a focus on the period up to 2015 as the industry re-enters a growth phase. The main skill requirements include engineers, project managers, welders and divers, with the majority of jobs at technician level (SVQ Level 3), with new workers largely drawn from people already in the labour force.

Opito is an employer and trade union led organisation and the O&G industry's focal point for skills training and workforce development. Its 2011 Labour Market Intelligence survey reported that 81% of companies that responded to their annual survey expect their business to grow over the next five years, with over half identifying challenges in attracting appropriately skilled staff.

4.3.3 Scalloway Opportunities

The location of Scalloway on the west coast of Shetland provides opportunities in relation to support services and Oil Supply Vessels (OSVs) as well as logistics management for the Oil & Gas sector. The port is currently used by the sector largely for servicing, port and field servicing, with expected increase in demand for logistics and servicing (e.g. crew changes).

Vessels	Key Operations	Length
Platform Supply Vessels	Carry supplies to offshore installations: ▪ casing and dill pipes ▪ internal tanks for fuel, water, dry bulk ▪ ½ days a week in deep water	55-80 metres
Anchor Handling Tug/ Towing Supply Vessels	OSVs fitted with winches and cranes in order to set and lift anchors as well as towing and positioning of moveable offshore installations: ▪ supply a range of equipment ▪ fire fighting and rescue operations	Up to 90 metres
Fast Support and Intervention Vessels	Flexible supply ships: ▪ capacity for carrying passengers ▪ survey tasks ▪ high speed supply	40-50 metres
Multi Purpose/ Multi Role Support Vessels	Post drilling well support services in subsea services including: ▪ ROV support ▪ subsea construction ▪ post drilling services	60-160 metres

Figure 4.12: Oil Supply Vessel (OSV) types

There are a number of Offshore Support Vessels (OSVs) that operate from the O&G fields, as detailed in the table 4.12 (including the key typical vessel length/ key operations).

There is currently one oil and gas support accommodation barge (Bibby Challenge) berthed at the East Jetty South at Scalloway on a short term basis until at least 2014 (likely to be expanded to be in line with the duration of the Intervention Project at Sullom Voe), with indicative interest in berthing a second barge.

The oil & gas sector demands reliability and efficiency with strong reliance on existing facilities, particularly in terms of shore based capacity. In order to compete successfully, Scalloway Harbour needs to support a good understanding of the base operating principles, servicing requirements of offshore oil & gas fields, as well as phases of exploration and production.

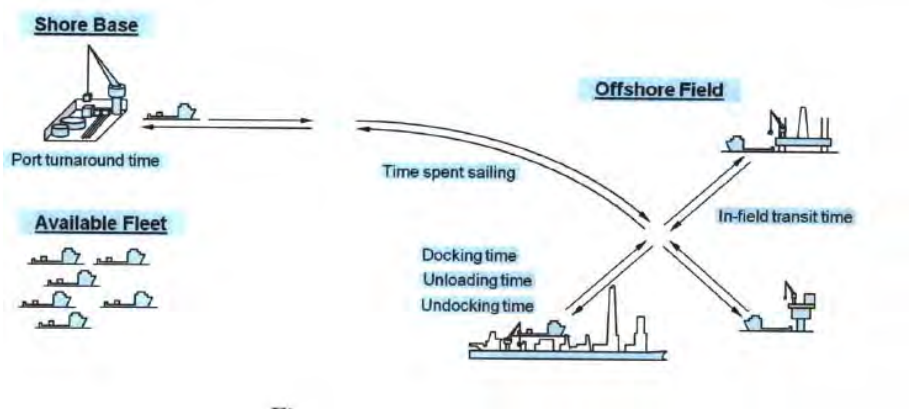


Figure 4.13: Offshore/ Shore base dynamics (Rose, RSK 2009)

This is particularly important in respect of maintaining robust supply chains. There are exist strong connections between Sullom Voe and Scalloway for this sector, and a complimentary development between the two port and harbour areas should be pursued – particularly as Scalloway provides more quays suitable marine access.

Drilling in the region to the west of Shetland started in 1997 and to date, 100m boe have been discovered across seven fields. The key fields (and their approximate distance from Shetland) include:

- Loyal (85 miles)
- Foinhaven (85 miles)
- Schiehallion (85 miles)
- Solan (95 miles)
- Clair (50 miles)
- Laggan (115km)
- Tormore (115km)

This area, and in particular the extended Clair field, is considered to have the greatest share of undeveloped resources in UKCS. In October 2011 the UK Government granted approval to proceed with Phase 2 development of the £4.5bn Clair field with estimated capacity of 640m boe forecast to come on-stream in 2016, extending production from this area to 2050. In addition to the 600 people already working on the project, it is expected to provide several hundred UK engineering, drilling and oilfield service jobs. While the majority of O&G activity in Shetland will continue to be based at Lerwick and Sullom Voe, there is an opportunity to attract small-scale and specialised O&G direct/ supporting activity to Scalloway Harbour and the surrounding area.

To maximise benefits for Shetland and minimise (where possible remove) displacement, any growth in O&G sector activity – direct and supply-chain – will require access to appropriately skilled local people. There are already well documented skills shortages within the O&G industry and high levels of labour displacement, with most new job vacancies being filled by people already in the workforce.

There is therefore a need to ensure that, as far as possible, established local businesses (particularly those in engineering and marine sectors) do not lose out to new competition from the O&G sector. It is also important to note that BP plans to double the Sullom Voe terminal workforce to around 1,000 people by 2020, with an urgent and ongoing recruitment drive focused on engineers.

4.3.4 Scalloway Competitive Advantage – Physical Infrastructure

In order for Scalloway to capitalise on the opportunities in oil and gas sectors, the required physical infrastructure is essential. The current facilities may become under increasing pressure to meet the sector requirements. Figure 4.14 identifies the competitive advantage for Scalloway currently, in relation to sector requirements.

4.4.4 Summary of Opportunities in the Oil & Gas Sector

The oil and gas sector will continue to offer economic opportunity and include exploration; survey; field servicing; and maintenance operations. Scalloway's west Shetland location offers competitive advantage. Capturing activity in this sector should focus on:

- Survey and exploration phase service vessels
- Field servicing and capacity for 'crew change / turnaround support'
- Non-routine service vessel / supply and logistics support
- Oil responses facilities and vessels.

BP operate a Oil Spill Response Unit, with an element of OSRL storage in Scalloway located with a combination of indoor/ outdoor storage facility. BP have indicated an interest in developing a facility circa 25,000 square feet for the West of Shetland basin with a preference for Scalloway Harbour. A new warehouse building for the OSRL unit should be a priority for Scalloway, given its location and a potential agreement with BP for its construction etc should be pursed.

Growth in this sector can be anticipated to be significant at the Scalloway level albeit that the majority of vessels are anticipated to utilise Aberdeen / Scrabster /Lerwick. To capture a share of this market the port will need to:

- Develop a marketing strategy
- Demonstrate quay capacity for larger vessels
- Demonstrate capacity to service larger vessels (fuel/water/provisions)
- Provide enhanced broadband ICT / Wi-Fi

Scalloway's position allows shorter turnaround time, faster response times, high vessel utilisation, reduced downtime and offers customers commercial benefits. Current infrastructure at Scalloway Harbour, particularly in relation to yardage/ laydown and draft requirements for large vessels (>9.0m), limits potential for large scale exploration and production opportunity associated with the oil and gas sector.

The oil and gas sector has greater requirements in terms of vessels size etc (particularly anchor handling, drilling and exploration vessels). In respect of service support, OSVs range from 55 to 90m with draft requirements of 6 to 7m (some exceptions). Current draft capability is 7.0m CD at quayside with a maximum quay length of 133m. This is adequate for the majority of vessels, however as the sector activity scales up larger vessels with deeper draft will seek greater depth at quay.

Figure 4.14: Oil and Gas Sector Requirements

Requirement	Competitive Advantage	Notes
Exploration		
Proximity to oil fields	✓✓	Key fields are located in the West of Shetland basin and Scalloway's location allows for shorter steaming time for vessels to a shore base. This is a significant advantage when compared to the required 7 hours additional steaming time to Lerwick.
Heavy Lift Capacity	✓	Mobile craneage will meet most operational needs with quay loading needing the use of spreader plates for heavy loads.
Laydown and yardage	–	There is a significant constraint in Scalloway in terms of yardage of laydown space for heavy engineering components for the oil and gas exploration/ drilling.
Marine Access	–	Exploration Vessels vary in size and length, typical lengths can vary from 60m to over 100, for larger vessels. Exploration vessels exceed 7m draft at quay, and therefore there may be significant constraints at Scalloway in this regard.
Logistic Supplies Fuel and potable water supply	–	Fuel and water capacity at Scalloway is limited and are dependent on intra island transport. Any increase in vessel size and frequency in terms of port visits would require significantly more bunkering capacity.
Skilled Labour supply (Marine Engineering)	–	There is a current concern in the local economy in Shetland generally that there is a significant shortage of required labour to meeting marine engineering requirements.
Vessel Servicing		
Proximity to oil fields	✓✓	Key fields are located in the West of Shetland and Scalloway's location allows for shorter steaming time for vessels to a shore base. This is a significant advantage.
Marine Access	✓✓	Vessel length typically varies between 50 – 90m in length which can be supported at capacity. Draft of OSVs typically range from 5m to 7m. Current marine access at Scalloway meets these requirements. As the sector scales up however, greater depth at quay may be required.
Logistics suppliers (Fuel Stores and Provisions)	–	There is limited current capacity in terms of bunkering of supplies which will be a considerable constraint for future development should vessel demand for port services increase.
Stores, yardage and provisions	✓	Servicing and support require significantly less laydown and yardage than exploration, therefore the current land capacity limitations in Scalloway is not likely to be significant for the oil and gas service support sector.
Services standards – materials handling and crew change, inventory management	✓✓	Scalloway meets these requirements, and with wider connections to key transport nodes i.e. ferrylink in Lerwick and Sumburgh Airport.

LEVEL OF ADVANTAGE	✓
NO ADVANTAGE	–

Quay utilisation at Scalloway is high and whilst draft has not been a significant constraining factor the perceptions of limited draft, short quays and limited facilities will result in limited operators selecting the port. Recommendations for enhancing facilities include:

- Develop the West Quay providing deep water draft (9.0m CD) adding additional capacity, flexibility of operations and service standards
- Increase fuel bunkering / fuel storage capacity and/or servicing arrangements to allow on site capacity to supply up 2000m3 (benchmarked against vessel capacities)
- Water storage tank supplied to provide circa 600m3 capacity
- Create new development land for transit facilities / warehousing and supply chain support
- Protect flexibility to moor an additional Accommodation Barge on the East Quay (additional to Bibby Challenge) during periods of high labour demand

Scalloway can offer additional flexibility and choice to West of Shetland basin operators that supports oil exploration and field servicing. This will develop services complimentary to Renewable Energy field servicing in the longer term where service costs and access times are critical for offshore marine energy devices (wind /wave and tidal) and enhance Shetland's overall capacity to compete in an international market.

4.4 Renewable Energy (offshore wind, wave & tidal) Sector

Renewable energy can be defined as energy that comes from a source that is not depleted when used. It is socially and politically defined as power generated from naturally regenerating sources – sunlight, wind, rain, tides, waves and geothermal.

"Renewable energy is energy generated from sources which are either naturally (e.g. wind, sun, tidal, biomass) or readily replenished (e.g. waste materials), and which therefore can be considered, on timescales of decades or more, to be sustainable." Shetland Renewable Energy Strategy, 2009

4.4.1 Market Context

The renewable energy sector comprises direct activity in power generation, its associated supply chains (manufacturing, installation, surveying, operation and maintenance of devices and connections) and supporting activities and services (e.g. transportation, permissions, etc).

In the UK, and in particular the Scottish context, the wind generation sector is well advanced with over 70 operational windfarm sites and 2,000 turbines across Scotland (and a further 200 farms under construction, granted permission or at planning stage). Projects range from small single turbines (not included in the data above) to the UK's largest on-shore windfarm development at Whitelee (215 turbines). The hydroelectric sector is also well established with over 145 schemes in Scotland, producing 12% of total electricity generation from two large pumped storage stations (Cruachan and Foyers) and over 80 conventional hydro-electric plants (including Glendoe and Sloy).

In contrast, the offshore wind, wave and tidal developments are still in their infancy and few schemes have been built – Beatrice, Robin Rigg and Limpet. It is considered that subsidies for the wind energy market will change in the medium term, potentially in favour of offshore wind generation, in an effort to address a lag in investment in this sector.

There is a lack of robust employment data on the renewable energy sector in Scotland, but estimates include:

- 1,100 direct jobs (2009/10 Verso Economics) – this is likely to significantly underestimate the total number of jobs as it does not take account of the direct supply chain impacts; and
- 22,000 total jobs (Scottish Government, 2008) with forecast growth projections to 48,000 by 2020.

In 2009, 10,744 GWh of renewable energy was generated in Scotland, representing 21% of total electricity generation. In addition, Scotland is identified as having 10% of Europe's wave resource and 25% of its wind/ tidal resource. The vast majority of this is in the Highlands & Islands with the world's most productive wind turbine on Shetland.

There is an identified need for new/ reinforced infrastructure across Scotland to transmit power from sources of generation to demand. This is particularly relevant for Shetland – the local electricity distribution network is currently at capacity and there is a need for significant investment to attract further projects and investment. The lack of a link to the UK National Grid is a significant infrastructure constraint – while some development can be undertaken off-grid, this is significantly less attractive for investors/ operators.

A proposed Interconnector Project will establish a connection from Shetland to the National Grid but this relates to one specific project (the Viking Windfarm) for which there is some local opposition and therefore uncertainty and, at best, delays in delivery. Feedback from consultees for this study report expects significant additional demand (beyond that to be installed for the Viking project) and therefore the need for a robust long-term approach. Current estimates are that the interconnector will be in place by 2018-2020.

Shetland is identified as having specific advantages for wind and wave/tidal renewable energy:

- wind energy (primarily offshore) – Shetland's geography, specifically in terms of seabed geometry, wave generation, coupled with the expertise that exists in terms of marine engineering (historically geared to the O&G sector), makes the Shetland Islands an attractive location for expansion of the renewables sector. The resource has been estimated at a maximum of 10,500 GWh/y, but more realistically at 2,200 GWh/y to minimise adverse development impacts. There are a number of windfarm projects, considered or already implemented on and around Shetland – Burradale, Viking and Cullivoe;
- marine renewables (wind and wave) – Shetland has been identified as a key location for the marine renewables sector specifically in relation to wave and tidal devices. Recent initiatives include the Aegir Wave Power proposal. This is a major joint venture between Vattenfall (one of Europe's leading energy companies) and Pelamis Wave Power. The project has seen the development of the Pelamis wave power test project off the southwest coast of Shetland, where a lease was agreed with The Crown Estate in 2011 for up 14 machines with a total forecast generating capacity of 10MW.

The renewable energy sector is identified as having significant potential for Shetland (jobs and GVA) as well as supporting the growth and diversification of businesses that currently serve the traditional O&G industry, especially the engineering and marine sector.

4.4.2 Market Trends

Renewables have a growing share of the electricity market, rising from 12.2% in 2000 to 27.4% by 2009. Within the UK market Scotland has a dominant position, accounting for 37% of all UK renewable electricity output in 2010.

Over the 2000-2009 period the total installed capacity for renewables in Scotland increased from 1,391 MWe to 3,820 MWe. Growth was dominated by the wind (and wave) sources which represented 3% in 2000 (38.5 MWe) but had grown to 55% by 2009 (2,115 MWe). The relative and proportionate growth in wind energy generation is clear from Figure 4.15.

SCDI report that over the next few decades Scotland has the capacity to install offshore renewable generation devices that could produce over 60GW of generating capacity, equivalent to three-quarters of the UKs current installed electricity generating capacity.

Renewables are identified as a major growth opportunity for Shetland, which is well placed to take advantage of this growing sector through an established supply chain already serving the O&G industry, particularly in the marine and engineering sectors. Development of the consented (and potential) offshore wind and wave proposals will support further economic growth (jobs and GVA) initially focused on surveying, development and monitoring, followed by manufacture and installation, then servicing and maintenance.

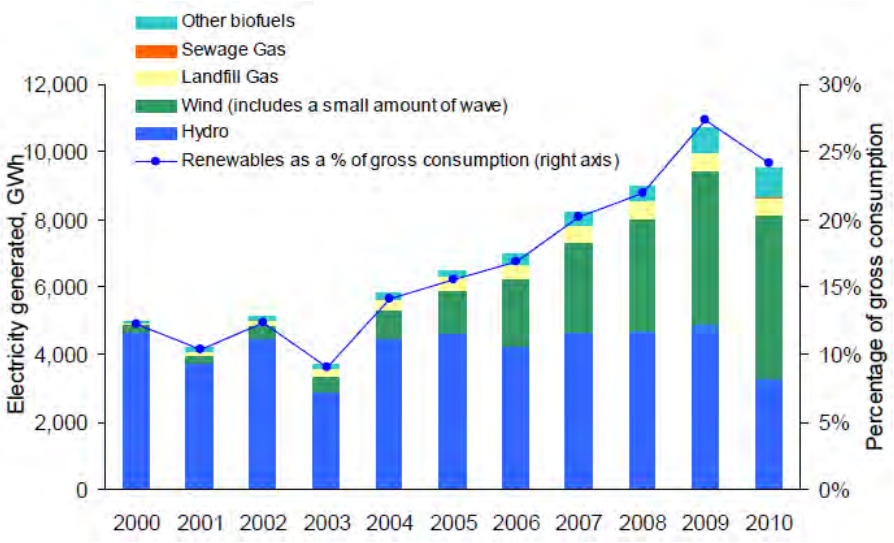


Figure 4.15: Energy Generated from Renewables in Scotland
Source: DECC, Energy Trends, 2011

There is an opportunity for Shetland to become a major renewable energy location and therefore attract further investment in hydrogen and marine technologies. Renewables is an opportunity to enhance economic activity in remoter communities across Shetland – direct jobs, supply chain impacts and supporting community benefit projects.

There is an estimated demand for an additional 36,000 employees in the Scottish renewable energy sector (excluding CCTS (Complete Construction Training Services), heat and other micro-generation), focused in the period from 2015-2020. As with Oil & Gas the key skills requirements are for engineers, divers and welders, but also turbine technicians, with the majority of jobs at the technical level (SVQ Level 3) and likely to be drawn from the existing workforce.

4.4.3 Scalloway Opportunities

For Scalloway and Shetland as a whole, the main opportunities in the renewable energy sector will be offshore marine renewable projects. The Pelamis test site is located between Kettla Ness and Scousburgh – it is considered that Scalloway's location (most convenient distance from the test site) is the most suitably positioned for companies to support renewable projects located to the West of Shetland, having ample facilities for import, export, assembly, transhipment and maintenance of equipment.

The potential location of the final wave farm site (near St Ninian's Isle) has advantageous connotations for Scalloway, being the most obvious of the Shetland ports to act as a key logistics base for the development. Development of the project will be taken forward in stages with the first machines expected to be commissioned around 2016.

In the short-term it is unlikely that any significant construction will be undertaken in Shetland, with Sullom Voe/ Sella Ness and Lerwick the most likely location for this activity. There is, however, potential for Scalloway in terms of service, support and operations and maintenance activities, due to its relative proximity to the test site in the immediate term and longer term as the renewable sector scales up. Activity at Scalloway will be limited due to space restrictions and competing demand for both land and water. However, the Aegir Project as it currently stands requires a particular set of requirements that are not necessarily incompatible with current facilities in Scalloway and the wider area.

Specific quayside requirements are minimal, with just a minor berth area for ad hoc service support. Essentially, given the dimensions (180m length) of the test device, a potential floating pontoon modular is required for operations and maintenance requirements. This can be located in shallow water locations in the surrounding harbour area.

In relation to offshore wind, there are six medium-term potential offshore sites in the North Scotland region, of which five are located in the waters around Shetland, as outlined in Figure 4.16 below.

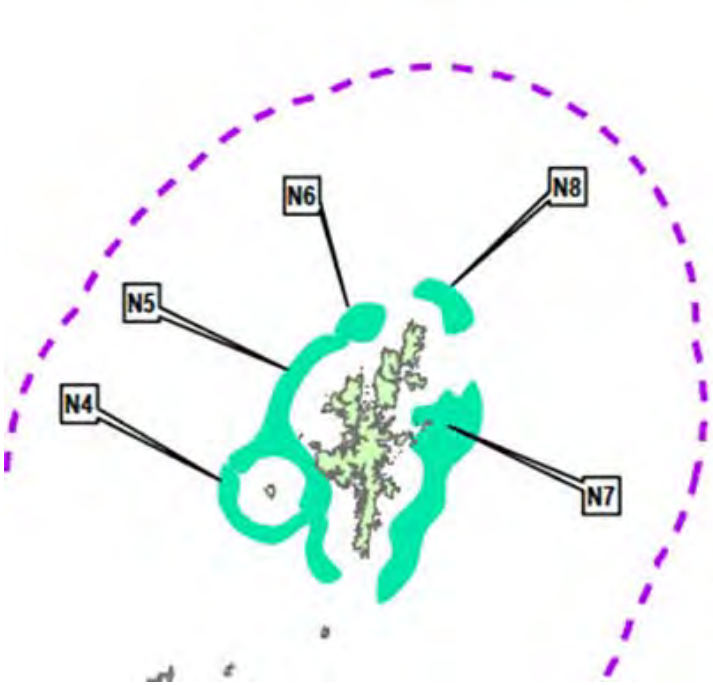


Figure 4.16: Medium Term Offshore Wind Energy Areas of Search
Source: Blue Seas, Green energy – Sectoral Marine Plan for Offshore Wind Energy, Marine Scotland, 2011

Development of these sites is not expected before 2020, but where/when they are delivered, they are expected to support further activity in the marine energy sector. Again, the success of the Viking project and the proposed interconnector development will be critical pre requisites for the development of any significant renewable energy projects in Shetland.

It is essential that ongoing support is provided to renewables sector businesses – both direct and supply chain – to build and establish the industry on Shetland, but it is unlikely that there will be any major increase in the short-medium term, and with activity likely to be concentrated at Lerwick.

While there is potential for Scalloway to benefit from the development and growth of this sector, it is not expected that there will be any large-scale uplift at the port, but a real opportunity to secure smaller-scale supporting/servicing and O&M activities, with specific short to medium term opportunity for support capacity for the Aegir test site.

4.4.4 Scalloway Competitive Advantage – Physical Infrastructure

In order for Scalloway to capitalise on the opportunities in the renewables sector, the required physical infrastructure is essential. Although considered unsuitable for any significant market share, there are current requirements that are required in relation to wave and tidal test sites. Figure 4.16 identifies the competitive advantage for Scalloway currently, in relation to sector requirements.

Figure 4.16: Renewable Sector Requirements

Requirement	Competitive Advantage	Notes
Wind		
Proximity to arrays/ wind farms	-	There are no significant arrays and windfarms located in the Shetland area
Heavy Lift Capacity (Multi user craneage)		Can be provided in the event of limited quayside facilities or access to heavy lift services (Geared vessels). Local companies do provide larger mobile crane capacity
Laydown and yardage	-	There are significant constraints in terms of yardage and laydown space for wind based renewable opportunities. It is highly unlikely that Scalloway can meet requirements in terms of laydown for wind turbine components.
Fuel and water stores		There is limited current capacity in terms of bunkering of supplies which will be a considerable constraint for future development should vessel demand for port services increase.
Marine Access draft	-	The industry standard for vessel size is 140LOA and draft of 9m. Scalloway is unlikely to meet these requirements currently.
Skilled Labour supply (Marine Engineering)	-	There is a current concern in the local economy in Shetland generally that there is a significant shortage of required labour to meet marine engineering requirements.
Transport Access	-	Abnormal loads associated with turbine manufacturing may encounter road constraints to the northeast of Scalloway
Wave (specific to Pelamis technology)		
Proximity to arrays/ test sites – tug distances		The Aegir Test site is located in close proximity to Scalloway. This is a key advantage as the device requires short distance tug time (4-6 hours) with access to shallow water.
Marine Access		No significant berthage required for test/ pilot projects, with some shallow water required for a pontoon structure for maintenance of device. Tug and pilot requirements (2 x 30 metres berths). Draft is suitable at 5 metres. (Mulitcat Vessel (40m)) and small work boat required. Modular floating pontoon structure in the sheltered water in the harbour area.
Storage, yardage, workspace with some minor office space		In terms of the Aegir test site, current capacity should meet expected demand. Any significant scale up in marine renewables, where Scalloway could develop as an operations and maintenance base, there may be greater demand for general onshore facilities.
Plant and workspace equipment		Scalloway has suitable plant equipment to meet requirements, including telehandle forklift and other portable plant
Services standards – materials handling and crew change, inventory management, maintenance and repair, utilities and broadband		Scalloway meets requirements in this regard and generally the existing facilities at Scalloway that cater for existing sectors can provide for the Aegir project requirements.
Wider socio economic – road links and access to local skills etc		Scalloway has suitable road access for O & M shore base facilities for the test project requirements. The are the required skills on Shetland to meet marine engineering requirements, however the issue is shortage of skills.

LEVEL OF ADVANTAGE	✓
NO ADVANTAGE	–

4.4.4 Summary of Opportunities in the Renewable Energy Sector

Renewable energy, in the short to medium term, is unlikely to offer significant opportunities for Scalloway. Facilities for heavy loads/ abnormal loads are better serviced from Lerwick and potentially Sullom Voe with commercial deployment of utility scale marine arrays is unlikely before 2030.

Longer term, and subject to the Shetland interconnector, significant marine renewable devices are likely to be deployed in the West of Shetland and will require maintenance and O&M services. Commercial activity in this sector should focus on:

- Creating a strong multi-user port that services the West of Shetland
- General provision for survey vessels and specialist marine survey craft

Test sites, pilot deployments and small arrays can be anticipated (2015 –2025) to lead the renewable industry development process with alternative technologies being tested under varying climatic/ wave conditions. Scalloway offers opportunity for marine servicing of smaller devices and marine storage in sheltered water for units for pre-deployment or under maintenance. Scalloway should therefore:

- Acknowledge opportunities for marine energy devices in forward planning
- Review marine and renewable rnergy sector needs on a 5 year cycle
- Position Port to avail of opportunities within the O & M element of renewable energy sector
- Ensure marketing addresses the sector and the locational advantages
- Seek to promote service standards supporting enterprise / innovation

In the short term, there are specific opportunities in relation to the Aegir Project. Aegir will require:

- Operational shore base with facilities
- Sheltered harbour area within a suitable tug distance from the test site
- Shallow and sheltered water for a floating modular pontoon for maintenance operations

There are potential locations within the Scalloway Harbour area and the surrounding islands (Burra and Tondra) that can accommodate the pontoon structure. Some quayside requirements in terms of minor berthage for maintenance vessels may be needed. This is not substantial and the facilities associated with existing sectors at Scalloway Harbour will meet the short – medium term infrastructure requirements for the Aegir Project.

4.5 General Port Cargo and Logistics

Ports are transport modal interchange points allowing transfer of goods and people between land and sea. They typically support a wide range of activities, with strong presence in fishing, oil & gas, ferry services, goods transport, etc.

4.5.1 Market Context

Across Scotland there are 270 ports and harbours, of which 15 are, classified 'major ports' typically handling at least 1m tonnes of cargo per annum (major ports include both Lerwick and Sullom Voe).

In 2009 10.5m passengers and 85.5m tonnes of cargo were handled by Scottish ports in over 15,000 vessel arrivals. Over 80% of vessel arrivals were at three ports, Aberdeen, Forth Ports and Lerwick. Lerwick accounted for 17% of arrivals, an increase of 53% since 2005, set against an overall 4% decline across Scotland. Over 67% of Scotland's total exports are distributed by the network of ports.

There are three types of port ownership in Scotland – Trust, Municipal and Private – Scalloway is held in municipal ownership by Shetland Island Council. It is a small to medium sized mixed use harbour with a variety of businesses and activities on a footprint of around 5 hectares (12.5 acres). The access channel was recently widened and dredged, and the harbour can accommodate vessels of up to 130m in length with maximum 7m (7.8) draft.

Scalloway Harbour Office is the main authority of the harbour with responsibility for the operation and control of both land and sea traffic. The main office is equipped with the latest communication systems for safe navigation, including an Automatic Identification System that provides an accurate navigation system for locating, identifying and tracking marine vessels.

The Harbour Office manages the following land-based facilities:

- fish market – intensive cold storage facility allowing wholesale trade between fishermen and fish merchants;
- shore power – the pier has power available for marine vessels moored at the harbour; and
- fuelling station – the harbour dispenses oil to marine vessels.

The harbour office also has a weather station that continuously monitors weather, such as wind speed, direction and tidal height. Within the harbour, vessels have access to fresh water, diving services, ship repair, chandlery and fuel. In addition, the Northern Lighthouse Board currently operates an office/ workshop from the harbour area.

4.5.2 Market Trends

Scotland's Marine Atlas records 4,700 jobs and £423m GVA for sea and coastal water transport and its supporting services in 2009 – likely to be significantly higher when supporting activities and supply chain impacts are taken into account. Updating and expanding this to include warehouse, cargo and service activities for water transport records 6,000 jobs across Scotland in 2012, equating to a slight decline (-4%) since 2009.

Data cannot be disclosed at the Scalloway level but across Shetland there were just over 250 jobs in this expanded sector in 2012, down over one-third (-34%) since 2009. Feedback from consultees did not provide any explanation of the reason for this decline in jobs in Shetland, but it could be a combination of reduced activity at Sullom Voe together with some jobs being reclassified from port and related sectors to other industry groups e.g. engineering.

A wider and more recent assessment of the economic impact of UK ports records that in 2011 there were 117,200 direct employees (5% increase from 2009), but significantly higher (391,800 total jobs) when indirect and induced multiplier impacts are taken into account. The report shows that the Scottish Ports accounts for 26% of total UK Port related employment, 15% of total UK Port related freight tonnage and 25% of total UK Port related GVA.

While there has been an ongoing reduction in ship movements across Scotland, there is also an ongoing trend in size and technology allowing greater volumes to be carried by fewer, efficient ships, especially in the container market with the growth in super tankers. These ships typically operate hub and spoke services at major ports with onward transhipment to smaller and medium sized ports.

The introduction of bigger ships creates the need for increased water depth (and in some cases width and turning circles) in both entry channels and berths in order for ports to remain competitive.

The Marine Atlas notes UK forecasts that there is “a compelling need for substantial additional port capacity over the next 20-30 years” and “opportunities for some of this additional capacity to be met in Scotland”. Lerwick Port Authority (LPA) Strategy and Business Plan for 2013 notes that the port is flourishing and records significant past and ongoing investment in infrastructure (improved access, extended deep water facilities, fish market and development of new land and quays).

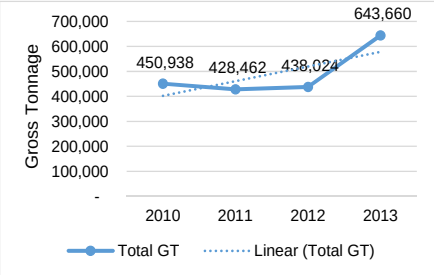
In 2012 LPA had 5,165 vessel arrivals, carrying 161,821 passengers. In the first six months of 2013 it had 2,512 vessel movements, a 9% increase in ship tonnage and additional activity related to the Sullom Voe gas plant construction. LPA has four core markets:

- offshore O&G serving the established offshore industry and decommissioning;
- ferries and freight remain a cornerstone of trade through the port;
- fishing supported by development of a new quay and fish market; and
- cruise ships and yachts as a major growth area generating around 50 ships a season that bring 37,500 passengers to Shetland.

A 2007 economic impact appraisal of LPA identified it as a major employment generator adding £11.4m annually to the Shetland economy, with 77% of income from external sources and 80% of expenditure made locally. As a major economic contributor, it is therefore essential that any future development at Scalloway does not displace activity or investment from LPA (or other Shetland ports) but makes an additional positive contribution to the island economy. It is, however, equally important that Scalloway continues to secure investment to ensure that it is able to compete efficiently with other ports, and secure economic/social benefits for the local community.

Data provided by Scalloway Harbour Master records vessel movements and tonnage over the 2010-2013 period for vessels over 15m entering the harbour. It should be noted that the data excludes two key segments – all vessels under 15m, which includes a large number of movements from the small aquaculture boats, and the Bibby Challenge accommodation barge which is resident within the harbour. The former accounts for around 20 additional movements per day and the latter accounts for almost 12,000 gross tonnage – these are therefore significant exclusions from the data and make the harbour appear far less busy than it is in reality.

Figures 4.11and 4.12 below present data on activity at Scalloway harbour over the past four years.



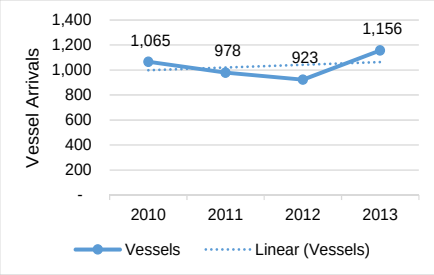


Figure 4.17: Number of Vessels Per Annum **Figure 4.18: Total Gross Tonnage Per Annum**

The two figures show that whilst there has been some increase in the number of vessels arriving at Scalloway over recent years. This has fluctuated over the period and the trend line shows an increase, equating to 9% growth from 2010 to 2013. The trend line for total gross tonnage, however, shows a much greater uplift over the past four years, equating to 43% increase from 2010 to 2013. Early estimates from 2013 indicate an increase to 640,000 Gross Tonnes (up from 438,000 in 2012) with deadweight (DWT) almost doubling from 280,000 to 500,000 (potential indication of larger vessel sizes).

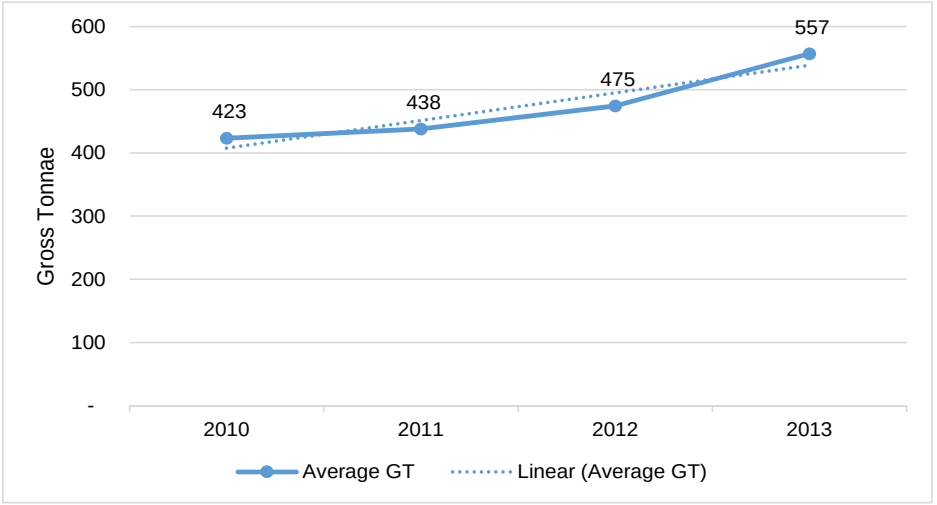


Figure 4.19: Average Gross Tonnage Per Vessel

The increasing volume of tonnage is confirmed in Figure 4.19, which shows the average tonnage per boat per annum, recording a 31% increase from an average of 423 GT per vessel in 2010 to 557 GT per vessel in 2013.

4.5.3 Scalloway Opportunities

Essentially, opportunity in the port and cargo sector is intertwined with developments in other sectors in Scalloway, unless a single cargo and freight user commits to a using Scalloway as its designated port for operations. This would, however, require significant investment in the physical infrastructure (laydown space etc) and would need to be assessed in terms of displacement of existing services at Lerwick.

Many ports in Scotland have identified opportunities around the renewable energy sector. Due to its size and restricted land mass, Scalloway would be unsuitable as a major base for this sector, but given its location (as outlined in the Renewable Energy section) it has solid potential to attract a range of supporting activities and services in terms of O&M support, which has significant employment generation potential.

Scalloway already secures activity from the O&G and renewable sector with regular use by offshore support vessels – crew changes, water and fuel bunkering. Within Shetland, Lerwick and Sullom Voe are considered better suited to provide a major base for the renewable energy sector, with both land and quayside capacity to support additional activity.

Scalloway Harbour is operating at or near its maximum capacity. There is limited land and laydown capacity but, with growing demand forecast, there is a need to consider where and how existing land/buildings can best be used, and where additional land can be created without displacing other economic activities (largely fishing related) that require direct marine access.

There was unanimous feedback from those consultees that currently use the harbour that it performs very well in comparison with other ports, operations are efficient and service standards are good. There is good co-operation between, and no issues or concerns about, the co-existence of the variety of mixes and uses at Scalloway. There were, however, some concerns expressed about any major change in direction for the port that could effectively squeeze out some of the existing marine operations. The port is constrained in its growth aspirations with an absence of development land to the north (Scalloway Castle) and therefore any extension would need to be on the water side.

The major opportunities for Scalloway Harbour are identified as continued servicing of the fishing/ aquaculture sector, additional servicing for oil & gas and renewables, securing the Emergency Oil Response Unit, and some growth of port logistics operations. The latter in particular would support a significant growth in the general port and harbour operations at Scalloway i.e. attracting a port-based logistics operator to establish an operational base would raise the profile of the harbour and support diversification of existing services.

The key issue noted by consultees that would influence its ability to secure the identified opportunities is the availability of land and premises, especially lay-down area, but other major factors include the location of existing facilities/services within the port, current fuel capacity at the port, bunkering, weight restrictions on the West Pier the absence of a logistics operator and the road access into the village which causes difficulties for large and heavy load vehicles.

Medium scale cargo operators, for example Rix Shipping / Steamline / others, would require dedicated laydown and secure storage for splitting up cargo and re-distributing (circa 2-3 hectares), and a designated secure docking facility.

In addition, wider hinterland concerns would need to be addressed in terms of feasibility of road access that can take intra island transport. However, with the exception of abnormal loads, it is considered there are no significant constraints for conventional transport.

4.5.4 Scalloway Competitive Advantage – Physical Infrastructure

In order for Scalloway to capitalise on the opportunities in port and cargo sector the required physical infrastructure is essential. The following table identifies the competitive advantage for Scalloway currently, in relation to sector requirements:

Requirement	Competitive Advantage	Notes
Marine Access	✓	Dredged channel offers marine access to deep draft vessels and berthing capacity should reflect this for at least some of the berthing arrangements.
Laydown, yardage and secure storage	–	There are significant constraints in terms of land supply at Scalloway which is required in terms of split up of cargo material for redistribution. 2 hectares would be required for standard storage of cargo, at a minimum
Fuel and potable water supply	–	There is limited current capacity in terms of bunkering of supplies which will be a considerable constraint for future development should vessel demand for port services increase. Potable water supply is also understood to be problematic in relation to the town water service reservoir capacity
Road Access	–	Road access is generally adequate for standard loads, however any abnormal and large loads currently face constraints regarding gradients on road connecting Scalloway to Lerwick as well as narrow footway widths on the existing approaches to the town which creates conflicts between pedestrians and HGV traffic

Figure 4.20: Port and Cargo Sector Requirements

4.5.5 Summary of the Port and Cargo Sector Opportunity

General port, freight cargo and logistic operations will form a major sector for Scalloway and should form a core element of commercial operations. Growing this sector requires either a:

- Clear strategy to secure a significant shipping/logistics provider to operate from Scalloway potentially with Ro-Ro facilities based on expansion including warehousing

  or
- Marketing of the site for general port cargoes / bulk materials and general freight (Lo-Lo) with increased quay facilities and limited flexible lay-down and/ or warehousing transit facilities

Tonnages have increased significantly in recent years and sustaining growth and diversifying the range of cargo operators that adds additional resilience to the commercial operations and flexibility will require Scalloway to:

- Create additional land for port related warehousing and laydown. This plan seeks to infill the small dock and prepare the former fish processing site for Class 5/6 Industry/ warehousing.
- Create a multi-use deep water quay that extends within the port the general quay capacity (length) and quay aprons and working areas
- Promote opportunities for partnership investment in warehousing / simple portal frame flexible space with the port authority facilitating links between developers /occupiers based on ground rents/leases
- Retain large open area flexible operations space in the area of the South and West Quays for cargo handling and vehicular movement
- Develop support services with freight handlers and service support companies (hauliers / crane operators / fork-lift /distribution service operators to ensure seamless capacity for port and freight logistics).
- Option to facilitate NLB requirements in terms of adequate workshop and office space.

Capacity doesn't exist for both options. Delivery of the first option would require the identification of an operator and developing a partnership approach to addressing their requirement for infrastructure provision. This will be bespoke to their operation and commercial routes. Given commercial uncertainties and port investment requirement in infrastructure costs this would involve significant commercial risk.

The port has a good reputation for high service standards which can be built on in terms of attracting users with port requirements and logistics that will drive additional tonnages over quay and ship berthing.

Addressing the site capacity constraints for a shipping operator or users with larger transit /warehousing requirements could potentially be delivered off-site. Scalloway has limited employment land allocations in the current Local Development Plan. The two potential longer term options (subject to evaluation and planning) to create an Industrial /Employment include:

- Tingwall Road area to north of Scalloway adjacent in the area of the Fire Station
- Scord Quarry as part of a longer term re-planning of former working areas to accommodate additional users.

User seeking close to port back-up facilities and speed transit times to quay may be attracted to appropriately designed and designated sites as part of a package offered by the port authority in conjunction with a development partner. Further assessment would be required and appropriate submissions made to the next LDP call for sites.

4.6 Marine Tourism and Leisure

Marine tourism and leisure includes the core activities of water sports, recreational sailing (residents and visitors), ferry/ cruise ship activities, and visitor trips to the marine environment (sailing regattas/ events, seaside trips, etc).

Marine and coastal tourism is defined as “any recreational activity that makes use of the marine environment and intertidal coastal zones”. Tourism activities also have strong links with other sectors including accommodation, travel, and food and drink.

4.6.1 Market Context

There is no comprehensive market analysis for tourism that specifically relates to the marine environment, but outwith the central belt area a significant proportion of tourist activities and attractions are based in coastal settings – as an island, this will be particularly true for Shetland.

The Scottish Tourism Strategy 2012 notes that overnight and day visitors to Scotland spent £11bn in 2011 and supported around 200,000 jobs across 20,000 businesses. The sailing sector is identified as generating £101m per annum, with potential for an additional £44m per annum by 2002.

VisitScotland estimate that UK and overseas visitors took 15.3m trips to Scotland in 2012 accounting for 62m nights and expenditure of £4.4bn. This equates to an average of 4.1 nights and £287 spend per trip. In addition, a further 142m day trips were taken with a total spend of £4.7bn, an average of £33 per day trip.

Within Northern Scotland (Highlands & Islands, Aberdeen & Grampian and Orkney & Shetland) GB and overseas visitors took 4.1m trips, stayed 16.8m nights and spent £1.1bn. From the GB market, Shetland attracts a significantly greater proportion of English than Scottish visitors (80/20 split, compared to national average of 46/52 plus 2% Wales).

Tourism activity in Shetland was estimated to generate 1,100 jobs in 2010 and £12.9m GVA. Visit Scotland estimate that Shetland secured 55,000 GB tourist trips and £27m spend in 2012 (data not available for overseas trips). The Marine Plan estimates that tourism is worth £18-20m per annum, supporting 845 FTE jobs, with significant scope for growth.

Detailed analysis of employment records show 1,500 jobs in tourism and related industries in Shetland in 2012 – representing an 8% increase since 2009. Some of these jobs will be supported by local resident activity (e.g. food and beverage), and it will exclude activities in other industries that have strong links with tourism e.g. transport. While data is available for employment in this sector for Scalloway the number cannot be disclosed (less than 50 jobs), but it shows a 3% decline since 2009.

In terms of accommodation, Shetland has 11 hotels, 105 self catering units, 23 B&Bs, 13 guest houses, 5 caravan/campsites and 4 hostels. Of these only 1 hotel and 1 B&B were identified in Scalloway. Scalloway Hotel is a 3 star family run hotel with 22 rooms from £75 per night with bar and restaurant. The hotel has the only AA rosette restaurant in Shetland and scores 4.5 / 5 from visitors on the Trip Advisor website. It is therefore a key tourism asset for the village.

Shetland offers a wide range of marine recreational activities including scuba diving, sea kayaking, sailing, yacht events, fishing, sea angling and coasteering. The Islands have a wide range of marine tourism infrastructure to support the industry. Shetland has 24 marinas around the island, a significant asset, with visitor berths available at most, by appointment, with a total of 325 points of access to the shore via jetties, piers and slipways. There are 17 annual regattas and three major races. This provides for significant opportunity in the marine tourism and leisure sector in Shetland.

Scalloway has two commercial marinas – East Voe and Port Arthur – which both have berths for visiting boats. The Boating Club also has pontoon facilities that can be made available to visiting boats, by arrangement – the club also provides toilets, shower and laundry services for visitors, with advanced plans to improve facilities in 2014. Scalloway Harbour also has capacity to accommodate smaller leisure craft at Blacksness Pier on the west side of the inner harbour, but most leisure craft are diverted to the two marinas.

4.6.2 Market Trends

The key growth areas for the Scottish tourism industry are golf, business tourism, sailing, cruises, activity/adventure tourism and mountain biking. There is therefore a strong link with the marine leisure industry.

British Marine Federation (BMF) Watersports Participation Survey identifies 11.1m individual adult participants in boating and watersports activities across the UK in 2012, with two-thirds of all activities taking place on the coast. The key activities in 2012 were:

- general leisure time at the beach – 6.1m
- outdoor swimming – 3.5m
- coastal walking – 3.4m
- any boating activity – 2.8m
- angling – 1.0m

The BMF estimates that 13% of Scottish adults participated in boating and watersports in 2012, the lowest of any of the UK regions, against a UK-wide average of 23%. The sailing market in Scotland has an estimated annual value of £101m, with potential growth to £145m per annum by 2020. The cruise market in Scotland has an estimated annual value of £32m, with potential to attract another 1.1m visitors per annum by 2029.

Scotland is acknowledged as a 'mature' tourism destination. While there is some forecast growth in the volume of tourist trips, this is unlikely to be significant over the next decade or two and therefore there is a greater focus on increasing tourist spending – this needs a focused effort on the range and quality of activities.

Shetland is relatively limited in its reliance on tourism, with an identified opportunity to secure further growth in both the volume and value of visitors. Due to its remote location, it is a high cost destination (particularly for travel) with a need for more activities, events and festivals to support its environmental and natural attractions, improve competition with less expensive destinations and deliver quality experiences and value for money for visitors.

Tourism in Shetland has significant potential for growth, with opportunities identified in the marine tourism and leisure sector, supporting the target to secure an additional £1bn visitor spend per annum by 2020, from the 2011 base of £5.5bn.

The Shetland Tourism Strategy aims to achieve growth in visitor numbers and spend, thereby generating jobs and wealth for local people. Notwithstanding a lack of bed space, the Strategy raises the need for the tourism industry to become less seasonal by expanding the calendar through a programme of activities, events and festivals. Action 4 is to "broaden the range of products" which includes investigating opportunities for sports-based holidays, including marinas.

4.6.3 Scalloway Opportunities

While cruise ships regularly call at Lerwick, there is limited activity at Scalloway with only a small number of vessels arriving at the port each year. Scalloway does, however, gain some benefits from cruises berthing at Lerwick with passengers taking coach trips that regularly call in at the village, including stops at Scalloway Museum and Castle.

The number of berths at Scalloway's marina is limited and some concerns were raised from consultees that neither marina is marketed sufficiently widely to visiting boats, with a strong bias toward permanent resident berths.

There are no identified conflicts between the tourism/leisure market and other port users at present, but limited potential to attract significant new business activity into the port from this sector without displacing other existing and potential activities that are better suited to a mixed use commercial port. There may, however, be potential to expand the existing marina facilities within the wider Scalloway area (the two marinas, the boat club and NAFC). In particular there is an opportunity to increase the number of visitor berths, thereby supporting other services and activities within the village – hotel, visitor attractions, retail, etc.

4.6.4 Scalloway Competitive Advantage – Physical Infrastructure

In order for Scalloway to capitalise on the opportunities in Marine Tourism and Leisure, the required physical infrastructure is essential. Figure 4.21 identifies the competitive advantage for Scalloway currently, in relation to sector requirements.

Requirement	Competitive Advantage	Notes
Shore access & suitable berthing	✓✓	Pier, jetties, slipways and marinas located in East Voe Marina, Scalloway Boating Club, and Port Arthur Marina.
Facilities and wider amenities/ attractions	✓	Laundry, other services (food, drink and general recreation); are available, as well as the wider facilities and amenities located in Scalloway.
Supplies and maintenance, and repair. Facilities	✓	Current facilities are considered adequate to cater for sector needs.

Figure 4.21: Marine Tourism and Leisure Sector Requirements

4.6.5 Summary of Marine Tourism and Leisure

Marine leisure and tourism sector offers only limited commercial opportunities for Scalloway and the opportunities are likely to be opportunistic and require very limited forward planning, special infrastructure or marketing focus. Opportunities for Scalloway will be associated with:

- Occasional cruise ships and specialist cruise and tourism operators exploring Shetland or offering cruise packages to Orkney / Faroe Islands / Fair Isle / Foula
- Recreational leisure craft and yacht activity with passage making from Scotland including Orkney to Norway and local yacht and dingy sailing in Shetland coastal waters

East Voe and Port Arthur marinas and the Scalloway Boating Club operate within Scalloway. Further development in this sector is not likely in the long term; however existing facilities should be maintained as key infrastructure to the tourism economy in the west of Shetland. This can be achieved through increased marketing of the facilities on offer in Scalloway.

SIC Harbour will work with the tourism sector and the local community to promote Scalloway as the tourism hub of western mainland. This could include:

- Harbour Day / Regatta Days
- Increased berths in local marinas should be undertaken in consultation with SIC, to ensure that unnecessary incompatibility with existing users.

Scalloway—fishing fleet service support facilities include net services, ice factory, and fish market

4.7 Summary of Market Assessment

The market assessment identifies significant opportunities for Scalloway to grow as Shetland's second port supporting the Shetland economy and ensuring operators and customers have the facilities and marine access and port capacity to meet future need.

Scalloway needs to focus and grow its core business areas developing and extending its customer base based on the quality of service support, facilities and infrastructure whilst diversifying into new areas of opportunity. The market assessment highlights fishing/ aquaculture sector, port freight /logistics, additional servicing for O&G (specifically West of Shetland basin) and renewable energy as key sectors.

Short term market opportunities exist associated with expansion of current operators and with specific opportunity available with a storage and port response base for a West of Scotland Emergency Oil Response Unit and refurbishment to the fish market.

It is an important element of the strategy to ensure growth is sustainable and avoids the unnecessary displacement of economic activity from other facilities in Shetland and delivers additionality and strong commercial returns sustaining port operations and investment.

Consultation with business interests highlighted the potential to attract new business to the port through a targeted marketing and promotional effort – the facilities, services and benefits of Scalloway need to be more strongly marketed across the key sectors / customer base with a positive message for growth and quality of service.

	Lerwick	Sullom Voe	Scalloway
Fishing Sector (White Fish/ Pelagic)	✓✓	–	✓
Fishing Industries (Shell Fish)	✓✓	–	✓
Aquaculture	✓	–	✓✓
Oil and Gas Field Servicing and Support (West of Shetland)	0	✓	✓
Oil and Gas Field Exploration (West of Shetland)	✓	✓✓	0
Renewables (Wind Onshore and Offshore)	✓✓	✓	0
Renewables (Wave and Tidal)	✓	✓	✓
General Cargo and Port Logistics	✓✓	✓	0
Tourism and Marine Leisure	✓	0	✓

Figure 4.22 Summary of Competitive Advantage (Shetland Ports)

✓✓	Significant Advantage
✓	Advantage
0	Little or No Advantage
–	Disadvantage
– –	Significant Disadvantage

Scalloway Harbour Area—close proximity to fish farms in the west of Shetland

5.1 Introduction

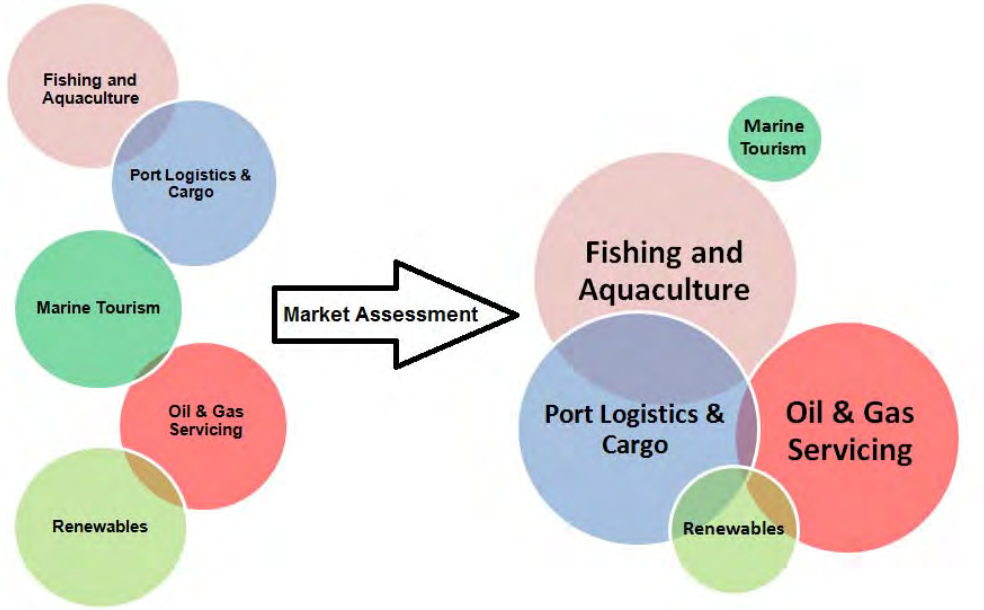
The strategic growth opportunity for Scalloway will be based on accelerating progress in the development of Scalloway as a multi user port, building on existing sectors and extending opportunity to play a role in emerging sectors where Scalloway can offer competitive advantage. For Scalloway, the key industry sectors for consideration that should inform a future development/ investment strategy will be:

- **Tier 1 Sectors**
  - Fishing and Aquaculture
  - Oil & Gas servicing & support
  - General Port Cargo & Logistics
- **Tier 2 Sectors**
  - Marine Renewables
  - Marine Tourism and Leisure

The major opportunities for Scalloway Harbour are identified in the continued servicing of the fishing/ aquaculture sector, growing the port logistics/ cargo operations and in addition, capturing a share of the servicing requirements of the oil and gas sector as it develops in the West of Shetland basin.

Tier 2 secondary activities will include continued support of the renewable test/ pilot projects in the marine environment in terms of maintenance support. In addition, work with the local marinas and the community in Scalloway will be undertaken to consolidate the marine leisure and tourism economy in the west mainland.

Success needs to be based on a sustainable business case where revenues are generated from berthage and related charges that can support investment. Additional benefits will include increases to local economic activity and job creation.



5.2 Scalloway 2025

Scalloway has opportunity for growth. Port facilities are exhibiting strong demand from a diversity of users and market assessments suggests these trends and Scalloway's competitive locational advantage will allow levels of utilisation and the customer base to grow. Scalloway needs to address its constraints to growth (limited quay capacity/ quay depth /service support) and extend its market profile in both existing and future market sectors.

Priorities for investment must initially address current operator /user needs adding resilience to forward business planning by protecting existing revenue streams; extending capacity for further warehousing /service support and extending quay capacity. Scalloway's market position is too parochially based (fishing /aquaculture/ local cargo) and whilst these markets are important, growth needs to be based on extending market opportunity and significantly increasing levels of activity, tonnage across quays and warehouse-transit activity. Development proposals need to ensure new capacity is compatible with existing uses and construction activity can maintain current levels of activity and avoid loss of business during development activity.

The objective is to ensure that the Scalloway at all times:

- Offers a market ready and business supportive proposition with high operational standards and a reputation for commercial efficiency and service
- Develops additional deep water capacity and quay availability to service a diverse range of vessels and sectors
- Offers opportunity for further built development in warehousing with quay access and provides for expansion of existing operators
- Secures additional capacity to promote cluster activity associated with the ports primary sectors and maximises utilisation of land assets within port
- Promotes through active marketing the location and competitive advantage of Scalloway in a Northern Isles and West of Shetland context.

These will work to ensure that Scalloway in 2025 is *a market facing and dynamic multi user port on the west of Shetland, with a retained and robust* ***fishing and aquaculture sector****, building on the strong linkages with the North Atlantic Fisheries College. Increased investment and expansion of existing aquaculture businesses on the harbour (i.e. QA fish, SFF) will further establish Scalloway as a key base for the industry, capitalising on the port's close proximity to aquaculture farms along the south west coast of Shetland. This sector is supported by a modern and efficient fish market facility on the harbour and retained quay space for the fishing fleet.*

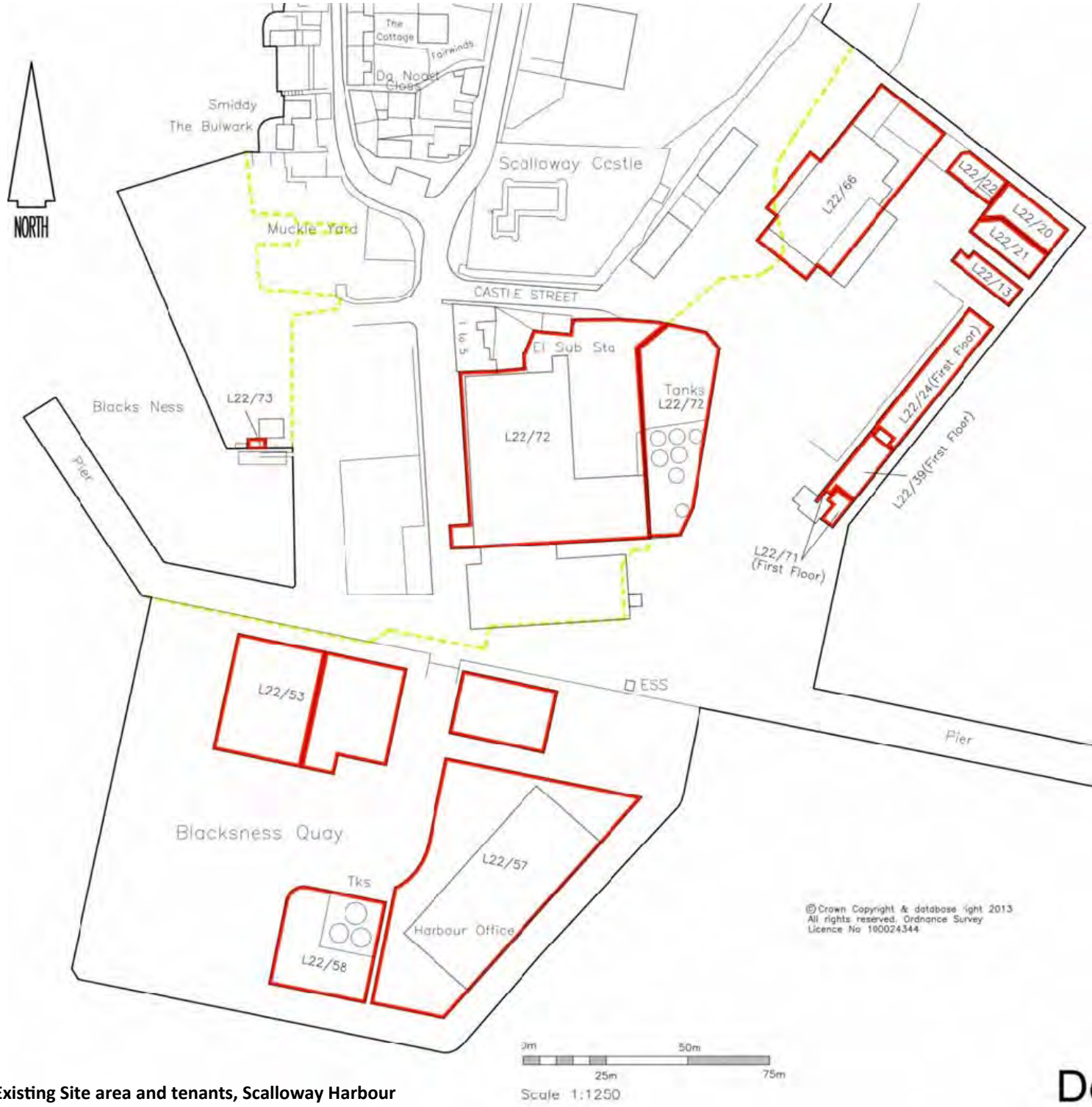
05

*Scalloway, operating in partnership with other Shetland ports provide a customer facing service base for **oil and gas sector servicing and support** (crew change, provisions, bunkering, etc) offering the essential logistical support for oil field support vessels operating in the West of Shetland. Developments in the oil and gas, fishing and aquaculture and renewable sectors increase **port cargo and logistics** activity at Scalloway, supported by developments in warehousing and available land capacity to meet logistical and distribution requirements of the sector.*

*Continued deployment and testing of pilot **marine renewable energy** projects in the west of Shetland increases maintenance support and servicing activity at Scalloway. Scalloway will also be the hub for tourism in the west mainland supported through the existing **marine tourism and leisure** facilities in the harbour area.*

*Scalloway is a **quality service standard** port capitalising on new opportunities in existing and emerging sectors. Low energy development improvements have been undertaken, as Scalloway continues to work towards a showcase for low carbon harbour development.*

Quays at Scalloway



Reference	Property	Tenant
L22/13	Site for Ice Making	LHD Marine Ltd
L22/20	Box Storage Compound	LHD Ltd
L22/21	Box Storage Compound	Net Services Ltd
L22/22	Box Washing Plant	Net Services Ltd
L22/22	Box Washing Shed	Victor Laurenson & Pts
L22/24	Upper Floor Fishmarket	Vacant
L22/39	Fishmarket Extension	LHD Ltd
L22/53	Site for Transit Sheds	SLAP Property
L22/57	Area for unloading fish	Scottish Sea Farms Sublet SIC Harbour Office
L22/58	Area for fuel bunkering	SBS Logistics
L22/66	Area for net servicing	Net Services (Shetland) Ltd
L22/71	Old Harbour Office	Northern Lighthouse Board
L22/72	Yard Adj Castle Seafood	Scottish Sea Farms
L22/73	Fuel Tank Site	LHD Ltd
L22/72	Castle Seafood Centre	Scottish Sea Farms
	Storage Shed	SIC 25% - OSRL 50% - BP 25%

Dashed Line shows extent of Crown Estate Lease

Existing Site area and tenants, Scalloway Harbour

Scalloway Harbour
Development Masterplan

IronsideFarrar

Development Plan 06

6.1 Introduction

The strategy for Scalloway Harbour promotes a demand led approach informed by market assessments. The development options take cognisance of the market and sector assessments and promote Scalloway as a:

1. Cross Sector Multi User Port and harbour
   - Oil and gas service support
   - Fishing and aquaculture industries
   - Marine renewables (future)

2. General Cargo and logistics Port
   - General freight and cargo
   - Logistics and distribution

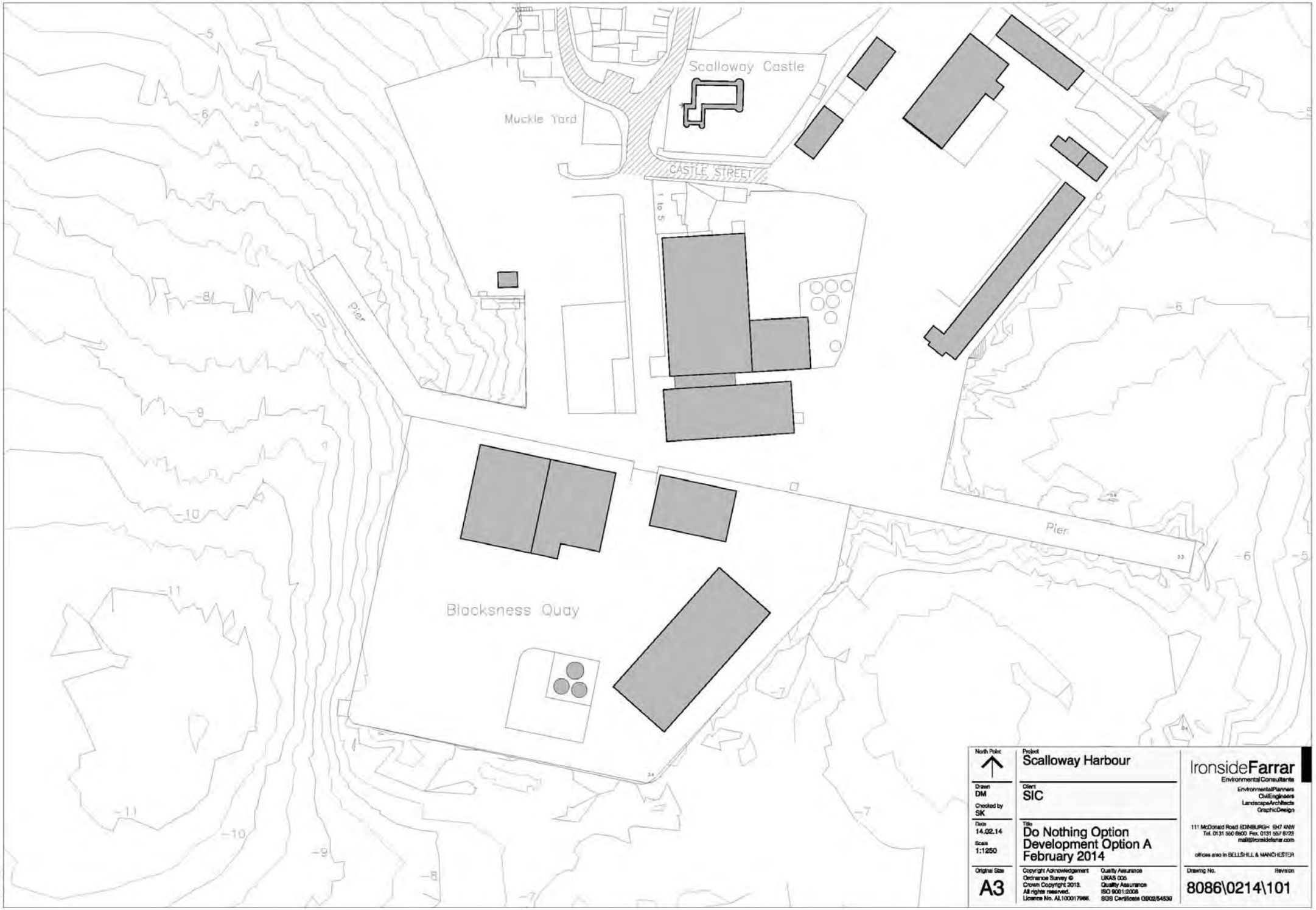
3. Tourism and Marine Leisure Hub
   - West mainland tourism hub
   - Services and infrastructure for marine leisure/ sailing craft

6.2 Development Options

Four Development Options have been identified. The options assessed are:

- Option A - Do Nothing Scenario
- Option B - Investment Scenario 1
- Option C - Investment Scenario 2
- Option D - Investment Scenario 3

The options will be assessed in terms of sector opportunity and the positive and negative aspects of each option. The options are detailed in the following including an initial analysis which identifies key strengths, weaknesses, opportunities and threats. Each option has undergone a detailed economic impact assessment (likely employment and GVA contribution) to ascertain social and economic benefits to the local economy (See section 7 and Appendix E).



North Point

Project
Scalloway Harbour

Client
SIC

Drawn
DM

Checked by
SK

Date
14.02.14

Scale
1:1250

Original Size
A3

Title
Do Nothing Option
Development Option A
February 2014

Quality Assurance
UKAS 005
Quality Assurance
ISO 9001:2008
SGS Certificate GB02/54539

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Drawing No.
8086\0214\101

Revision

6.3 Development Option A

Option Description:	Retain current services and infrastructure at current levels with no further investment.
Quay Apron Area:	N/A
Quay/ Berths Lengths:	N/A
Quay Draft 5-7m:	Existing at 500 metres
Quay Draft 7-9m:	0 metres
Construction Impact:	None
Budget Cost:	**£0M**

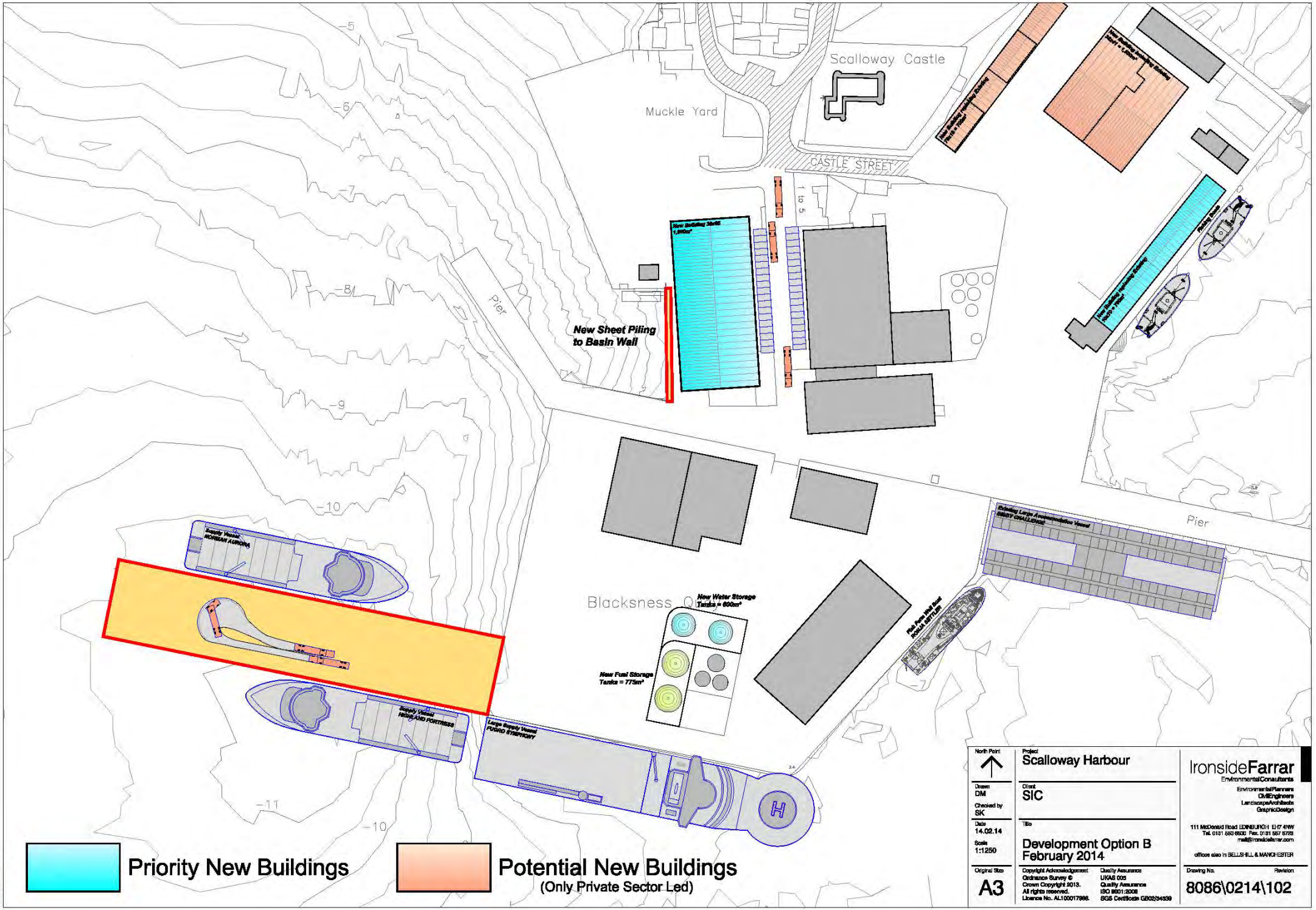
Discussion

This option would rely on previous investments to meet sector demand. Potential commercial opportunities would not be realised, in terms meeting vessel requirements for key sectors i.e. oil and gas, particularly for vessels with deeper draft requirements.

No investment would be undertaken in the fish market which would impact negatively on the fishing industry in Scalloway, as a modern facility would not be available to meet new requirements i.e. fish grading and discards. No significant additional new build/warehousing would be undertaken.

SWOT ANALYSIS

Strengths	Weaknesses
No cost repercussions for SIC	Potential restriction in terms of capturing OSV market share Fish market will not meet sector requirements in the medium term No additional warehousing provision No greater depth at quay
Opportunities	**Threats**
No construction impacts on current users No development impacts on environmental considerations	Potential for adverse impact on west quay siltation/maintenance dredge. No increase in fuel and water supply capacity availability for servicing larger vessels. No single full depth/full length deep water quay. Failure to capture market share in key



Priority New Buildings

Potential New Buildings
(Only Private Sector Led)

North Point

Drawn: DM
Checked by: SK
Date: 14.02.14
Scale: 1:1250
Original Size: A3

Project: Scalloway Harbour
Client: SIC
Title: Development Option B February 2014

Quality Assurance
UKAS 005
Quality Assurance
ISO 9001:2008
SGS Certificate GB02/34539

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Revision:

Drawing Name and Location

6.3 Development Option B

Option Description:	Extend south quay with a sheet piled quay accessing deep water area from the quay of circa - 9.0m CD.
Quay Apron Area:	4,500m^2 (additional).
Quay/ Berths Lengths:	330 metres (additional).
Quay Draft 5-7m:	-
Quay Draft 7-9m:	330 metres
Construction Impact:	Limited
Budget Cost:	**£17.0M**

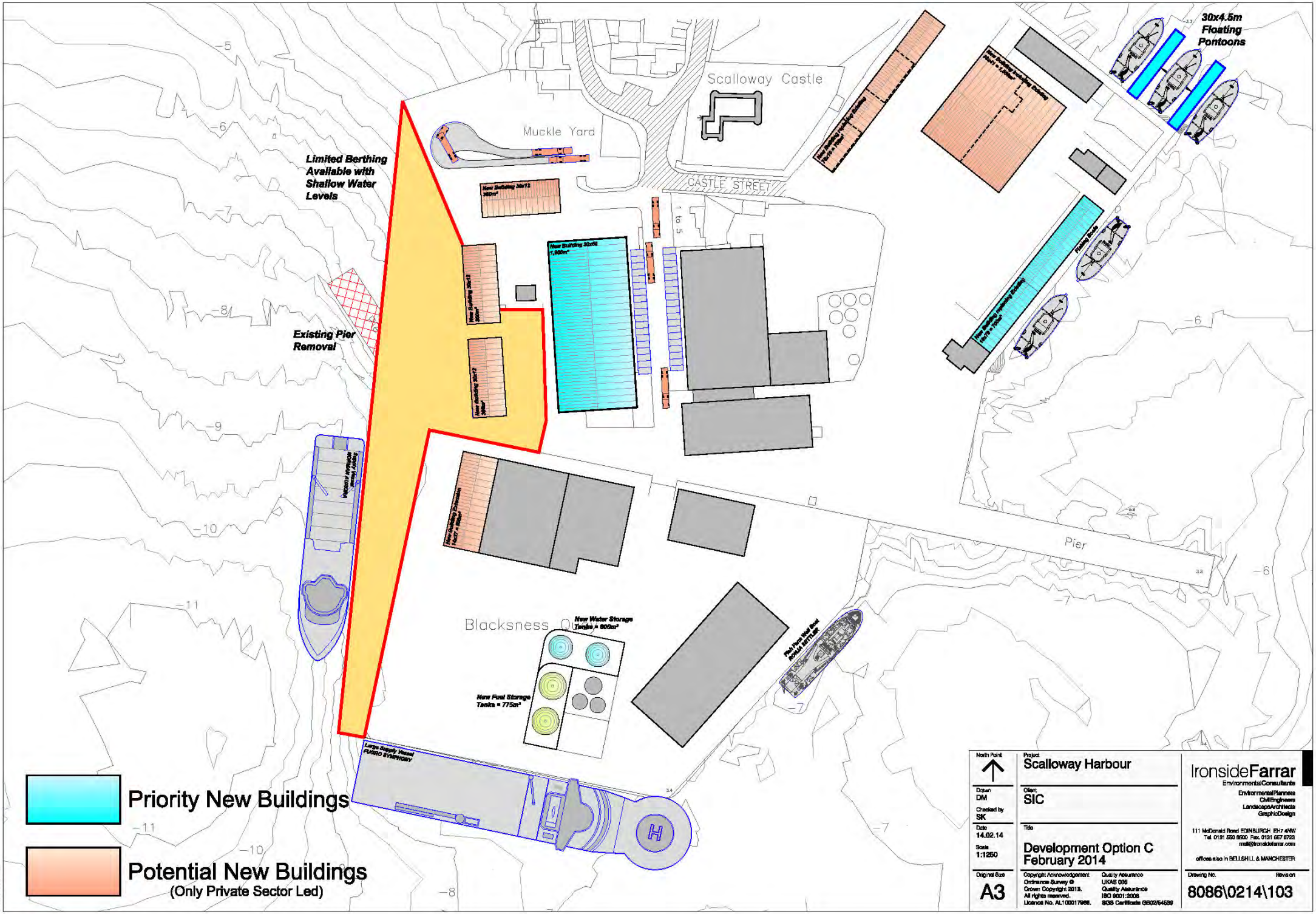
Discussion

This investment scenario would see a quay extension into deeper water to achieve adequate under keel clearance, which is important in terms of oil and gas sector vessels. The quay width of 30 metres provides adequate manoeuvring. The west facing wall off the basin area south of the Muckle undergoes sheet piling improvements.

Priority new build is identified in terms of a modern fish market and a 1,950m^2 storage warehouse which can be pursued as joint venture to accommodate potential demand for Oil Spill Response Unit storage. Potential new build extensions of (2250m^2) are illustrated in terms of site potential (only private sector interest).

SWOT ANALYSIS

Strengths	Weaknesses
Accesses deep water with minimum capital dredge. Extends south quay edge to 220 metres overall. Provides berth space either side of finger. Construction impact on existing harbour operations limited.	Limited additional apron area. High cost due to extent of sheet piled quay walls. Additional manoeuvre/tug support for vessel access to west quay. No additional laydown/working areas.
Opportunities	**Threats**
Provides marine access for deeper draft vessels. Extends available berthing by 330 metres. Increased quay capacity and flexibility.	Potential for adverse impact on west quay siltation/maintenance dredge. Fuel and water supply capacity availability for servicing larger vessels. No single full depth/full length deep water quay.



North Point

Drawn: DM
Checked by: SK
Date: 14.02.14
Scale: 1:1250
Original Size: A3

Project: Scalloway Harbour
Client: SIC
Title: Development Option C February 2014

Quality Assurance
UKAS 005
Quality Assurance
ISO 9001:2008
SGS Certificate GB02/54589

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Revision:

6.5 Development Option C

Option Description:	Extend west quay with suspended deck or sheet piled quay edge extension to west accessing deeper quay edge draft.
Quay Apron Area:	2330m2 (additional)
Quay/ Berths Lengths:	240m (as existing)
Quay Draft 5-7m:	120m
Quay Draft 7-9m:	120m
Construction Impact:	West quay out of use during construction
Budget Cost:	**£20M**

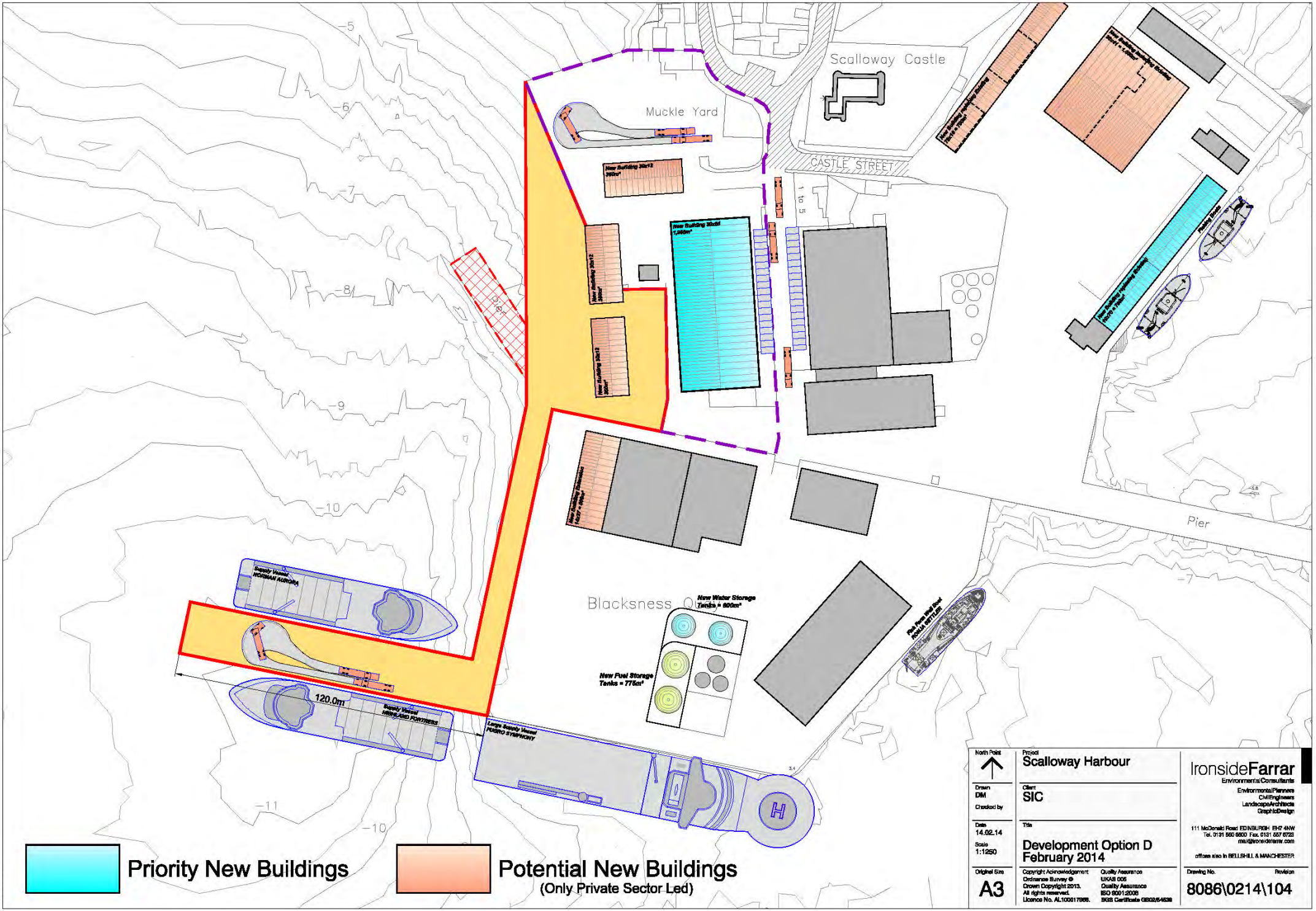
Discussion

This option would see a significant increase in land availability, and would see the demolition of the west quay. This would remove shelter for the aquaculture vessels currently utilising the basin. Greater depth would be available however this would decrease in the northward direction, restricting marine access.

Additional potential new build (3,830m2) is identified as potential private sector led development along with the increase in fuel bunkering and water supplies, as identified in all options. Priority new build is identified in the form of a new fish market facility and warehousing/ storage unit.

SWOT ANALYSIS

Strengths	Weaknesses
Provides access to deeper draft vessels with modest dredge and construction. extension to quay apron area of 2330m2 Creates 9m draft berth. Integrates well with existing quay areas/ apron/ laydown areas. Retains full access to south/east quays during construction.	West quay and apron area rendered out of use during construction phase. Removal of existing western finger pier removes a level of shelter to Blacksness. Restricted marine access to the northern section of the new quay area. Need to relocated aquaculture vessels/ potential conflicts with fishing fleet in terms of space requirements
Opportunities	**Threats**
Marine access available to larger draft vessels. Future expansion potential to Option D	Fuel and water supply capacity availability for servicing of larger vessels. Impact on the aquaculture operations on Blacksness.



North Point

Drawn: DM
Checked by:
Date: 14.02.14
Scale: 1:1250
Original Size: A3

Project: Scalloway Harbour
Client: SIC
Title: Development Option D February 2014

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Drawing No.: 8086\0214\104
Revision:

Drawing Name and Location

6.6 Development Option D

Option Description:	Extends Option 3 by inclusion of a sheet piled finger pier extension to the south quay, infill of the west pier harbour (Commercial Quay South) and dredge to provide 9m draft along west quay extension
Quay Apron Area:	6800m2 (additional)
Quay/ Berths Lengths:	500m (100m additional)
Quay Draft 5-7m:	90 metres
Quay Draft 7-9m:	290 metres
Construction Impact:	West quay out of use during construction
Budget Cost:	**£30M**

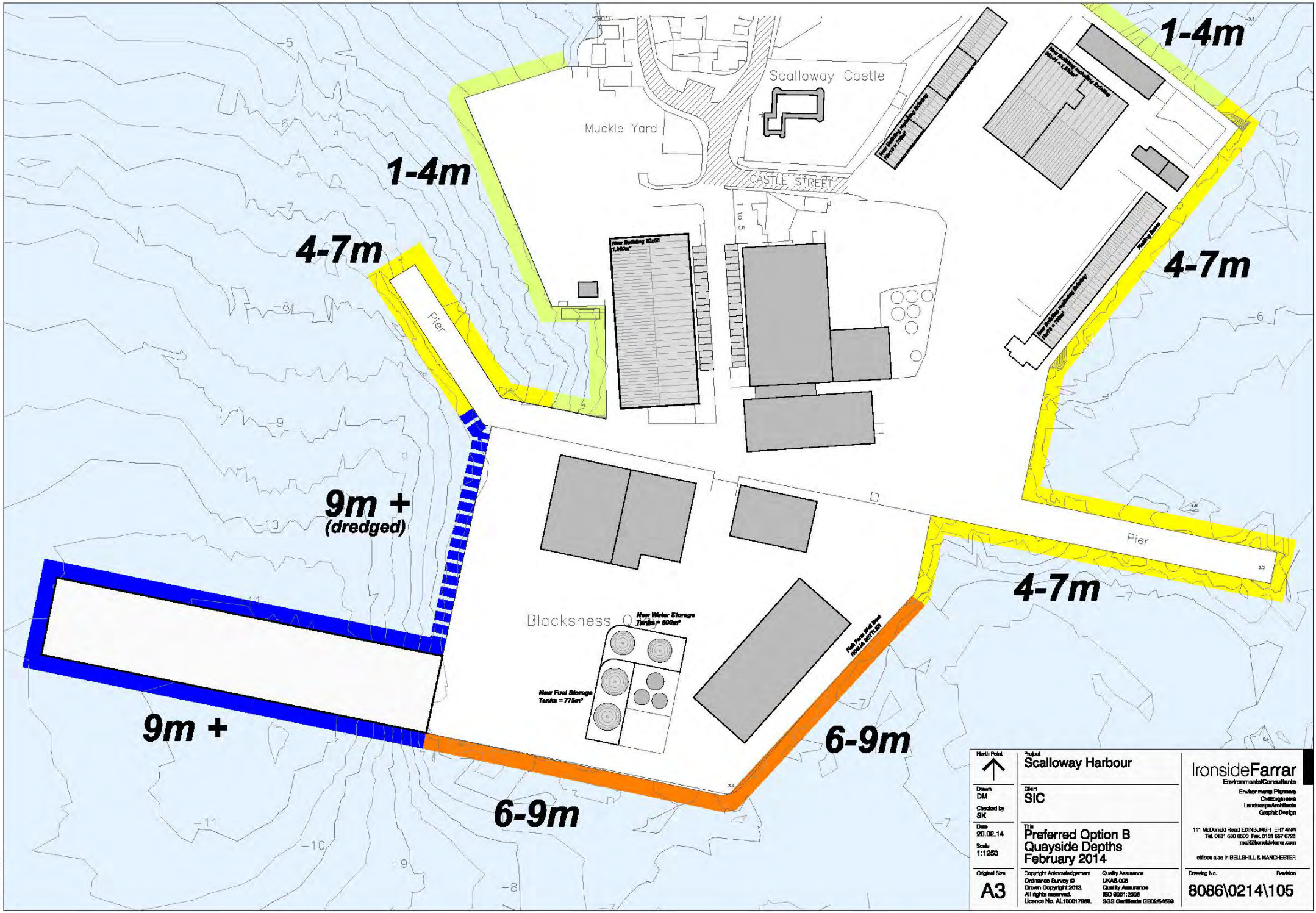
Discussion

This option would see a significant increase in land availability, and would see the demolition of the west quay. A new pier extension would be undertaken to achieve greater depth. Additional potential new build (3,830m2) is identified as potential private sector led development along with the increase in fuel bunkering and water supplies, as identified in all options.

Priority new build is identified in terms of a more modern fish market facility and warehousing.

SWOT ANALYSIS

Strengths	Weaknesses
Extends quay apron area plus development land area. Provides deep draft berthing extension to commercial quay South Replaces existing west pier.	West quay out of use during construction. High cost option. Need to relocate aquaculture vessels/ potential conflicts with fishing fleet in terms of space requirements
Opportunities	**Threats**
Extended quay length offers additional berthing capacity. Deeper quays offer capacity for deep draft vessels. Potential for phasing of works combining elements of Options B and C	Fuel and water supply capacity availability for servicing of larger vessels. Costs potentially prohibitive relative to Business Case. Construction impacts to existing users and income.



North Point

Drawn: DM
Checked by: SK
Date: 20.02.14
Scale: 1:1250
Original Size: A3

Project: Scalloway Harbour

Client: SIC

Title: Preferred Option B Quayside Depths February 2014

Quality Assurance
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Quality Assurance
ISO 9001:2008
SGS Certificate GB06/64539

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Revision:

Economic Assessment | 07

7.1 Introduction

This section presents the results of the economic impact appraisal of the four development options for Scalloway Harbour. Within our assessment we have considered the following:

- **on-site impacts** – captures the new and safeguarded operational on-site impacts (employment and GVA) that are predicted to be generated within Scalloway Harbour through the existing, and proposed commercial activity (priority public sector led development and potential speculative private sector led development);
- **construction impacts** – captures the one-off impacts associated with the construction of the new pier and commercial accommodation
- **financial impacts** – captures the level of increased revenue generated through the increased use of Scalloway Harbour by the oil supply vessels, and the Business Rates generated through the proposed developments; and
- **cumulative impacts** – captures the net discounted impacts of the existing, and proposed developments over a 20 year appraisal period.

The economic impacts are reported at the Shetland and Highlands and Islands (H&I) levels.

Technical Note

The economic impacts have been calculated using a bespoke appraisal model and based on HM Treasury Green Book guidance.

Also the assessment as taken account of existing, priority new build, and potential (speculative) new build. Note any potential (speculative) new build should be private sector led but is assessed to show the potential of the site in its entirety.

We have used a number of technical terms in describing the likely economic impacts:

- **gross jobs**: the direct jobs accommodated on-site at the existing and proposed (priority and potential) developments. The existing gross on-site jobs and breakdown of proposed floorspace has been provided by IronsideFarrar. The gross jobs generated through the proposed development activity has been assessed through EKOS calculations using employment density benchmark data. However, economic output associated with these jobs (GVA) has been taken as sectoral averages from official published data;
- **net jobs** – the out-turn of the gross jobs taking account of:
  - deadweight – the extent to which the impacts could be generated without public sector intervention
  - the impact the development is estimated to have on other businesses and the labour market (displacement)
  - the proportion of impacts that will benefit those outwith the defined spatial areas (leakage)
  - the positive spin off benefits generated through income and supplier multiplier effects;
- **FTE jobs** – jobs or posts where the working hours are a minimum of 37 hours a week and last for a period of ten years;
- **Gross Value Added** – GVA is a measure of the value of goods and services produced before allowing for depreciation or capital consumption. GVA measures the income generated by businesses after the subtraction of input costs but before costs such as wages and capital investment. GVA is the Government's preferred method for measuring economic performance;
- **PYEs** – construction jobs are based on Person Year Equivalents (PYE). This method allows the number of people on-site over the whole construction period (which will vary over the period between full-time, part-time, permanent, temporary and contract) to be estimated as an annual equivalent post. Please note, construction impacts are one-off; and

- **net cumulative discounted impacts** – the total quantified value of the net additional GVA impact over a 20-year period taking account of the date at which the development will be completed and occupied, and the time value of money i.e. £1 today is worth more than £1 next year.

In line with HM Treasury Green Book guidance we have rounded – typically jobs impacts are rounded to the nearest 5 and GVA to the nearest £0.1m.

7.2 Option A

Option A considers the counterfactual 'do nothing' option. This option assumes that there is no new pier development or associated commercial development activity within the Harbour.

There is however, economic activity generated through the existing commercial activity at the Harbour. Option A is estimated to support:

Onsite Impacts

Shetland level:

- Gross impacts:
  - 105 FTE jobs
  - £5.8m GVA per annum; and
- Net impacts:
  - 90 FTE jobs
  - £5.0m GVA per annum.
- **H&I level**:
  - Gross impacts:
  - 105 FTE jobs
  - £5.8m GVA per annum; and
- Net impacts:
  - 95 FTE jobs
  - £5.1m GVA per annum.

Construction impacts

There are no additional construction impacts associated with this option.

Financial Impacts

As there are no development works associated with the pier, Option A will not attract additional oil supply vessels, and therefore will not increase revenue.

Based on a rough average rateable value of £40 per m2, and applying the current poundage rate of 46.9p the Harbour supports Business Rates of £180,000 per annum.

Cumulative Discounted Impacts

In order to accurately assess the longer term impact and benefit brought to the economy by the Harbour, it is important to consider the economic impact through the lifetime of the physical asset. We have therefore considered the 20 year discounted impact of the Harbour – please note that impacts are discounted at the Treasury recommended 3.5%.

Over 20 years, Option A is estimated to generate £76m GVA for the Shetland economy and £78m at the H&I level.

7.3 Option B

Option B outlines a new £17m investment in the pier and development of new commercial accommodation within the Harbour. This includes:

Priority development:

- Building 1: 700 m^2 (Fish Market) - replacing existing (805m^2); and
- Building 2: 1,950 m^2 (Oil Response Unit).

Potential (Speculative) development:

- Building 3: 700 m^2 - replacing existing (170 m^2 x 2 = 340 m^2) (Aquaculture business); and
- Building 4: 1,550 m^2 – replacing existing (807 m2) (Net Services).

Option B is estimated to create/safeguard the following impacts:

Onsite Impacts

Shetland level:

- Gross impacts:
  - 125 FTE jobs
  - £6.8m GVA per annum; and

- Net impacts:
  - 110 FTE jobs
  - £6.0m GVA per annum.

H & I level:

- Gross impacts:
  - 125 FTE jobs
  - £6.9m GVA per annum; and

- Net impacts:
  - 115 FTE jobs
  - £6.4m GVA per annum.

Construction impacts

Shetland level:

- Gross impacts:
  - 130 PYE jobs
  - £7.2m GVA; and

- Net impacts:
  - 20 PYE jobs
  - £1.1m GVA.

H & I level:

- Gross impacts:
  - 130 PYE jobs
  - £7.2m GVA; and

- Net impacts:
  - 115 PYE jobs
  - £6.3m GVA per annum.

Table 7.1 provides the detailed breakdown between existing, priority and potential activity.

Table 7.1: On-site Impacts Breakdown

		Gross jobs	Net jobs	Gross GVA (£m)	Net GVA (£m)
Shetland Level Impacts					
On-site Impacts	Existing	97	83	£5.3	£4.5
	Priority	14	14	£0.8	£0.8
	Potential	15	13	£0.8	£0.7
Construction Impacts	Pier	111	17	£6.1	£0.9
	Priority	11	2	£0.6	£0.1
	Potential	9	1	£0.5	£0.1
H&I Level Impacts					
On-site Impacts	Existing	97	85	£5.3	£4.7
	Priority	14	16	£0.8	£0.9
	Potential	15	15	£0.8	£0.8
Construction Impacts	Pier	111	97	£6.1	£5.3
	Priority	11	10	£0.6	£0.5
	Potential	9	8	£0.5	£0.5

Note: the impacts associated with the redeveloped fish market are included in the priority developments.

Financial Impacts

The new pier development is assumed to double the existing capacity of the Harbour i.e. potential for twice as many vessel to berth/dock. Based on information provided by Shetland Council, currently around 400,000 gross tonnes per annum move through the Harbour. Based on the current charge of £0.48 per gross tonne, the Harbour generates revenue of £192,000 per annum through the oil supply vessels.

Therefore, as an estimated proxy, the new pier development will increase revenue by a further £192,000 per annum. If we consider this increased revenue in terms of potential economic activity it could support, we estimate the following impacts:

Shetland level:

- Gross impacts:
  - 2 FTE jobs
  - £150,000 GVA per annum; and
- Net impacts:
  - 2 FTE jobs
  - £100,000 GVA per annum.

H & I level:

- Gross impacts:
  - 2 FTE jobs
  - £150,000 GVA per annum; and
- Net impacts:
  - 2 FTE jobs
  - £100,000 GVA per annum.

Based on a rough average rateable value of £40 per m2, and applying the current poundage rate of 46.9p the Harbour supports Business Rates of:

- Existing activity - £180,000 per annum;
- Priority developments – £50,000 per annum; and
- Potential developments - £20,000 per annum.

Cumulative Discounted Impacts

Over 20 years, Option B is estimated to generate:

Shetland level:

- Existing activity and new pier development - £69.6m;
- Priority developments – £7.7m; and
- Potential developments – £5.4m.

H&I level:

- Existing activity and new pier development - £75.5m;
- Priority developments - £9.0m; and
- Potential developments – £6.9m.

7.3 Option C

Option C outlines a new £20m investment in the pier and development of new commercial accommodation within the Harbour. This includes:

Priority development:

- Building 1: 700 m2 (Fish Market) - replacing existing (805m^2); and
- Building 2: 1,950 m2 (Oil Response Unit).

Potential (Speculative) development:

- Building 3: 700 m^2 - replacing existing (170 m2 x 2 = 340 m2) (Aquaculture business);
- Building 4: 1,550 m^2 – replacing existing 807 m2 (Net Services);
- Building 5: 360 m^2;
- Building 6: 360 m^2;
- Building 7: 360 m^2; and
- Building 8: 500 m^2.

Option C is estimated to create/safeguard the following impacts:

Onsite Impacts

Shetland level:

- Gross impacts:
  - 145 FTE jobs
  - £8.0m GVA per annum; and

- Net impacts:
  - 120 FTE jobs
  - £6.5m GVA per annum.

H & I level:

- Gross impacts:
  - 145 FTE jobs
  - £8.0m GVA per annum; and
- Net impacts:
  - 125 FTE jobs
  - £6.9m GVA per annum.

Construction impacts

Shetland level:

- Gross impacts:
  - 160 PYE jobs
  - £8.6m GVA; and
- Net impacts:
  - 25 PYE jobs
  - £1.3m GVA.

H & I level:

- Gross impacts:
  - 160 PYE jobs
  - £8.6m GVA; and
- Net impacts:
  - 140 PYE jobs
  - £7.5m GVA.

Table 7.2 provides the detailed breakdown between existing, priority and potential activity.

Table 7.2: On-site Impacts Breakdown

		Gross jobs	Net jobs	Gross GVA (£m)	Net GVA (£m)
Shetland Level Impacts					
On-site Impacts	Existing	97	83	£5.3	£4.5
	Priority	14	14	£0.8	£0.8
	Potential	36	22	£2.0	£1.2
Construction Impacts	Pier	131	20	£7.1	£1.1
	Priority	11	2	£0.6	£0.1
	Potential	16	2	£0.9	£0.1
H&I Level Impacts					
On-site Impacts	Existing	97	85	£5.3	£4.7
	Priority	14	16	£0.8	£0.9
	Potential	36	24	£2.0	£1.3
Construction Impacts	Pier	131	114	£7.1	£6.2
	Priority	11	10	£0.6	£0.5
	Potential	16	14	£0.9	£0.8

Note: the impacts associated with the redeveloped fish market are included in the priority developments.

Financial Impacts

The new pier development delivered through Option C will not have a notable impact on increasing the number of oil supply vessels and therefore no direct impact on increasing revenues at the Harbour.

Based on a rough average rateable value of £40 per m2, and applying the current poundage rate of 46.9p the Harbour supports Business Rates of:

- Existing activity - £180,000 per annum;
- Priority developments – £50,000 per annum; and
- Potential developments - £50,000 per annum.

Cumulative Discounted Impacts

Over 20 years, Option C is estimated to generate:

Shetland level:

- Existing activity and new pier development - £69.8m;
- Priority developments – £7.7m; and
- Potential developments – £9.0m.

H&I level:

- Existing activity and new pier development - £76.4m;
- Priority developments - £9.0m; and
- Potential developments – £10.6m.

7.4 Option D

Option D outlines a new £30m investment in the pier and development of new commercial accommodation within the Harbour. This includes:

Priority development:

- Building 1: 700 m^2 (Fish Market) - replacing existing (805m^2); and
- Building 2: 1,950 m^2 (Oil Response Unit).

Potential (Speculative) development:

- Building 3: 700 m^2 - replacing existing (170 m^2 x 2 = 340 m^2) (Aquaculture business);
- Building 4: 1,550 m^2 – replacing existing 807 m2 (Net Services);
- Building 5: 360 m^2;
- Building 6: 360 m^2;
- Building 7: 360 m^2; and
- Building 8: 500 m^2.

Option D is estimated to create/safeguard the following impacts:

Onsite Impacts

Shetland level:

- Gross impacts:
  - 145 FTE jobs
  - £8.0m GVA per annum; and

- Net impacts:
  - 120 FTE jobs
  - £6.5m GVA per annum.

H & I level:

- Gross impacts:
  - 145 FTE jobs
  - £8.0m GVA per annum; and
- Net impacts:
  - 125 FTE jobs
  - £6.9m GVA per annum.

Construction impacts

Shetland level:

- Gross impacts:
  - 225 PYE jobs
  - £12.2m GVA; and
- Net impacts:
  - 35 PYE jobs
  - £1.8m GVA.

H & I level:

- Gross impacts:
  - 225 PYE jobs
  - £12.2m GVA; and
- Net impacts:
  - 195 PYE jobs
  - £10.6m GVA.

Table 7.3 provides the detailed breakdown between existing, priority and potential activity.

Table 7.3: On-site Impacts Breakdown

		Gross jobs	Net jobs	Gross GVA (£m)	Net GVA (£m)
Shetland Level Impacts					
On-site Impacts	Existing	97	83	£5.3	£4.5
	Priority	14	14	£0.8	£0.8
	Potential	36	22	£2.0	£1.2
Construction Impacts	Pier	196	30	£10.7	£1.6
	Priority	11	2	£0.6	£0.1
	Potential	16	2	£0.9	£0.1
H&I Level Impacts					
On-site Impacts	Existing	97	85	£5.3	£4.7
	Priority	14	16	£0.8	£0.9
	Potential	36	24	£2.0	£1.3
Construction Impacts	Pier	196	170	£10.7	£9.3
	Priority	11	10	£0.6	£0.5
	Potential	16	14	£0.9	£0.8

Note: the impacts associated with the redeveloped fish market are included in the priority developments.

Financial Impacts

The new pier development is assumed to double the existing capacity of the Harbour i.e. potential for twice as many vessel to berth/dock. Based on information provided by Shetland Council, currently around 400,000 gross tonnes per annum move through the Harbour. Based on the current charge of £0.48 per gross tonne, the Harbour generates revenue of £192,000 per annum through the oil supply vessels.

Therefore, as an estimated proxy, the new pier development will increase revenue by a further £192,000 per annum. If we consider this increased revenue in terms of potential economic activity it could support, we estimate the following impacts.

Shetland level:

- Gross impacts:
  - 2 FTE jobs
  - £150,000 GVA per annum; and
- Net impacts:
  - 2 FTE jobs
  - £100,000 GVA per annum.

H & I level:

- Gross impacts:
  - 2 FTE jobs
  - £150,000 GVA per annum; and
- Net impacts:
  - 2 FTE jobs
  - £100,000 GVA per annum.

Based on a rough average rateable value of £40 per m2, and applying the current poundage rate of 46.9p the Harbour supports Business Rates of:

- Existing activity - £180,000 per annum;
- Priority developments – £50,000 per annum; and
- Potential developments - £50,000 per annum.

Cumulative Discounted Impacts

Over 20 years, Option D is estimated to generate:

Shetland level:

- Existing activity and new pier development - £70.2m;
- Priority developments – £7.7m; and
- Potential developments – £9.0m.

H&I level:

- Existing activity and new pier development - £79.1m;
- Priority developments - £9.0m; and
- Potential developments – £10.6m.

East Voe Marina, Scalloway

7.5 Options Discussion - the Preferred Option

Following consideration of range of options presented, the preferred development Option is **Option B - Investment Scenario 1**

- Refurbishment of the fish market to provide an up to date facility, capability of dealing with increasing sector requirements i.e. fish grading machines and discard requirements
- Development of the west quay to gain greater depth for vessels (9+ metres) with a quay wall extension accessing deeper water with an associated capital dredge.
- New build warehouse storage facility for potential Oil Spill Response (potential Joint Venture)
- Retention of the basin adjacent to the West Pier by means of stock sheet pile improvements on the inner berth
- Expansion of the fuel tank/ bunkering facility to increase capacity to circa 1550m3
- Provision of water storage facility on the harbour area to reduce impact on Scottish Water Reserves.
- Indicates potential for new build (only private sector lead)
  - Expansion potential for building L22/66 – currently occupied by Net Services (Shetland) Ltd.
  - Expansion potential for the building currently occupied by QA Fish.

The components of the preferred development option can be implemented on a phased basis if required and can be developed out relative to specific user/ tenant requirements, market demand in order to provide enhanced/increased capacity and revenue streams. The preferred option would require to be supported by a developed business case.

The economic impacts of each option including the preferred option (Section 7.3) are provided in the previous pages.

Priority Projects		Programme Priority – Term						Lead Body
		Immediate Action (2013/2014)	Short 0-5 years	Medium 5-10 years	Long 10+ years	**Immediate/ Feasibility Works Order of Cost £**	Longer Term Works Order of Cost £	
PP1	Feasibility Assessment including Design of Fish market	✓				50.000		SIC
	Design and Build Construction Costs		✓				450,000	SIC
PP2	Feasibility Assessment for quay extension		✓			100,000		SIC
	Design and Build Construction Costs			✓			14,000,000	SIC
PP3	Marketing Strategy inc. website	✓				15,000		SIC
	Prepare port technical prospectus	✓				10,000		SIC
PP4	Preparation of Business Case	✓				15,000		SIC
PP5	Oil Spill Response Unit Warehouse		✓			1,200,000		SIC
PP6	Private Sector Led (New build/ Warehousing)			✓	✓	n/a		
PP7	Market Assessment Review (5 year Cycle)		✓	✓	✓		10,000	SIC
PP8	Undertake Network Study/ Water Impact Assessment		✓			20,000		SIC
PP9	Tourism Working Group for Scalloway		✓				n/a	SIC/ Tourism Groups
PP10	Power Supply Capacity Study		✓				20,000	SIC
	Provide ICT/ broadband capacity	✓				100,000		SIC
PP11	Establish Planning and Consenting Partnership	✓				n/a		SIC

8.0 Action Plan

The scenarios for development provide a range of investment options to ensure that Scalloway meets the requirements of key growth sectors. A series of action points have been identified (as based on the **Preferred Option B)** and are detailed fully below and in the table opposite to provide clear intervention recommendations for Shetland Island Council.

8.1 Priority Projects

PP1 Undertake a Detailed Feasibility Assessment for Fish market

What this will constitute:

- Develop strategy for Scalloway fishing sector / market
- Consult with the fishing sector in terms of operational requirements
- Explore options for grant aid/ funding
  i.e. European Fisheries Funding, Coastal Community Funding etc
- Review potential development options for newly refurbished fish market:
  - Location at southern section of the East Quay
  - Facility to deal with discards and grading machinery requirements
  - Modern refrigeration and dock loading/ transfer facilities
  - Utility requirements including broadband/ power supply etc.

PP2 Undertake Detailed Feasibility Assessment for Quay Extension

What this will constitute:

- Develop Business Case
- Undertake initial Feasibility Studies informed by SI/Structural Assessment
- Develop a strategic programme / agree procurement
- Undertake consultation with key sectors to define brief
- Appoint Design Team
- Undertake cost appraisal for extending the quay facility

PP3 Develop a Port Marketing Strategy targeting key sectors

What this will constitute:

- Develop a Marketing Strategy
- Continuation of updating current Communication Strategy
- Provide Overview of locational advantages that address sector requirements
- Prepare port technical prospectus :
  - Demonstrating quay capacity for larger vessels
  - Demonstrating capacity for servicing support (fuel/water/provisions)
  - Demonstrating warehousing and laydown capability
  - Demonstrating utilities, transport and internet communication provision
- Promoting quality customer standards and service support

PP4 Develop Business Case for Investment

What this will constitute:

- Develop Scalloway Harbour Business Plan
- Develop business case for individual developments .
- Identify partnership arrangements / partnering / grant support

PP5 Develop warehouse for Oil Spill Response Unit

What this will constitute:

- Joint venture with private sector party
- Identify design parameters:
  - 20,000- 25,000 sq.feet Gross Floor Area (GFA)
  - Combination of outdoor/ indoor facility
  - Quick access to the quay area for rapid deployment.

Consultation and Engagement, Scalloway Development Masterplan

PP6 Encourage private sector led land space and warehousing capacity

What this will constitute:

- Promote development of Masterplan & identify partner opportunity
- Undertake Feasibility Study and SI /Geotechnical Studies
- Seek development partners / funding / funding model
- Assess options outwith Harbour (i.e. Tingwall Road /Scord Quarry)
- Retain large flexible port service area operations in the area of the south and west quays for cargo handling and vehicular movement.
- Scope options for developing support services with freight handlers as well as hauliers, crane, fork lift, and distribution service operators

PP7 Undertake review of renewables sector on a 5 year cycle basis

What this will constitute:

- Liaise with operators regarding test/ pilot sites to meet short term requirements:
  - Berthage for maintenance vessels
  - Suitable locations for shallow and sheltered water for drydock floating modular pontoon
- Review to understand trends and requirements as the sector scales up over next two decades
- Ensure quality service standards for specialist marine survey craft

PP8 Fuel and watering bunkering facilities

What this will constitute:

- Liaise with key logistic suppliers in terms of scope for increasing fuel bunkering for vessel requirements
- Undertake network study/ water impact assessment to gauge water supply requirements
- Establish agreement with Scottish Water for adequate water supply to meet port and sector requirements

PP9 Enhance tourism potential of the harbour area

What this will constitute:

- SIC Harbour Authority to work with local tourism sector/ local community to promote Scalloway as the tourism hub of the Western Mainland
- Options for a Harbour Day/ Regatta Day
- Increase in berths for leisure/ sailing craft to be undertaken in consultation with SIC

PP10 Utilities, services and broadband provision

What this will constitute:

- Upgraded ICT/ broadband and Wifi capacity
- Assessment of power supply capacity
- Adequate waste water and sewage treatment

PP11 Engage with Planning and Consenting Partners

What this will constitute:

- Initiate early dialogue with SIC Planning
- Consult with key regulatory bodies (SIC/ SNH/ SEPA/ Marine Scotland etc)
- Develop a consent/ approval programme

- 98 -

Appendix A
Socio Economic Baseline

Scalloway Harbour – Sector Review

1. Socio-Economic Baseline

This baseline presents detailed socio-economic information on four comparator areas, Scalloway, Shetland, the Highlands and Islands Enterprise (HIE) area and Scotland, where Scalloway is defined as a single datazone which encompasses the town and the HIE area is defined as: Argyll and Bute, Eilean Siar, Highland, Moray, Orkney and Shetland.

1.1 Population

Total population in Scalloway is around 800 people and over the period 2001 – 2011, the total population has fallen by 8%, compared to rises of between 2% - 4% in the comparator areas. However, there has been development of around 70 housing units over the last decade on the edge of the village, just outside of the Scalloway datazone meaning that the drop in population is likely overstated, **Table 1.1**.

Table 1.1 Total Population

	2001	2003	2005	2007	2009	2011	% Change
Scalloway	869	858	870	811	794	798	-8%
Shetland	21,960	21,870	22,000	21,950	22,210	22,500	2%
HIE Area	454,850	454,780	459,010	463,770	466,540	467,960	3%
Scotland	5,064,200	5,057,400	5,094,800	5,144,200	5,194,000	5,254,800	4%

Source: Scottish Neighbourhood Statistics (SNS)

Scalloway and Shetland have a greater proportion of males than in Scotland as a whole, especially when considering the working age population, **Table 1.2**. This likely reflects the traditionally male dominated employment sectors that comprise a large part of the areas employment base (see Section 1.2).

Table 1.2 Population by Gender 2011

	Scalloway	Shetland	HIE Area	Scotland
Males	404 (51%)	11,405 (51%)	231,751 (50%)	2,548,200 (48%)
Female	394 (49%)	11,095 (49%)	236,209 (50%)	2,706,600 (52%)
Working Age Male	281 (55%)	7,447 (54%)	148,973 (53%)	1,697,878 (51%)
Working Age Female	230 (45%)	6,318 (46%)	130,461 (47%)	1,601,765 (49%)

Source: SNS

The Scalloway population has a similar age breakdown to Scotland, whilst Shetland has a higher proportion of children that the comparator areas, **Table 1.3**.

Table 1.3 Population by Age 2011

	Scalloway	Shetland	HIE Area	Scotland
Children (0 – 15)	129 (16%)	4,246 (19%)	80,307 (17%)	913,317 (17%)
Working Age (16 – 64)	511 (64%)	13,765 (61%)	279,434 (60%)	3,299,643 (63%)
Pensionable Age (65+)	158 (20%)	4,489 (20%)	108,219 (23%)	1,041,840 (20%)
Total	**798**	**22,500**	**467,960**	**5,254,800**

Source: SNS

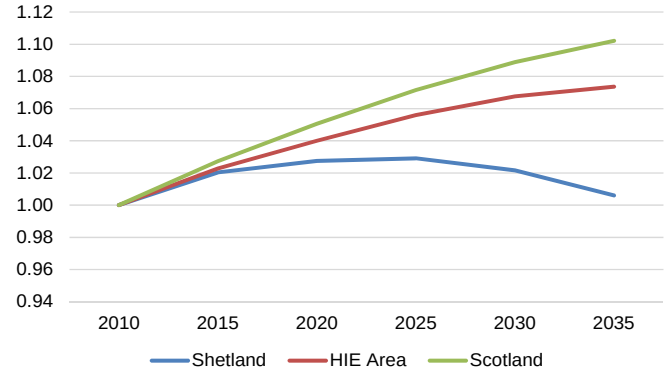
Population growth across Shetland (over a 25 year period) is predicted to be much lower than in the HIE area and Scotland, in fact, the population in Shetland is predicted to peak in 2025, before declining thereafter. Population projections are unavailable at the Scalloway level, **Table 1.4** and **Figure 1.1**.

Table 1.4 Population Projections

	2010	2015	2020	2025	2030	2035	Change	% Change
Shetland	22,400	22,855	23,014	23,051	22,884	22,534	134	1%
HIE Area	467,250	477,896	485,969	493,409	498,830	501,611	34,361	7%
Scotland	5,222,000	5,365,000	5,486,000	5,596,000	5,686,000	5,755,000	533,000	10%

Source: General Register Office for Scotland (GROS)

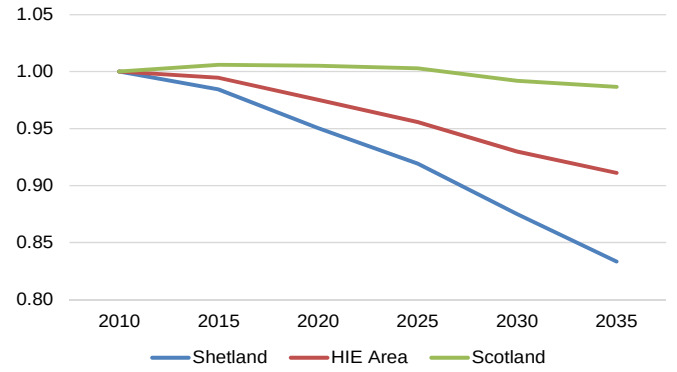
Figure 1.1 Population Change Projections, 2010 = 1



Source: GROS

The working age population is predicted to decline in all areas as the population ages. This trend will be more pronounced in Shetland than the comparator areas potentially due to a lack of housing and employment opportunities in future, **Figure 1.2**.

Figure 1.2 Working Age Population Change Projections, 2010 = 1



Source: GROS

Shetland has seen a small positive net migration rate over the period 20-09 - 2011, with the most likely group to both move to and move from the islands being 16 to 29 year olds, **Table 1.5**.

Table 1.5 Migration Pattern by Age Group, Shetland, 2009-2011 Three Year Average

Age Group	In	Out	Net
0-15	132	105	27
16-29	271	275	-4
30-44	186	137	49
45-64	142	96	46
65+	24	20	4
All ages	**755**	**633**	**122**

Source: GROS

1.2 1.2 Employment

Over the period 2009 – 2012 there has been a significant drop of around one quarter (-24%) in total employment in Scalloway, with large decreases in 'manufacturing', 'wholesale', 'education' and 'health' employment. Only 'agriculture, forestry and fishing' has bucked this trend, but total numbers employed in this industry are low, **Table 1.6**. Figures are rounded to the nearest hundred and many are non-disclosable at this level of analysis, and therefore should be treated with caution.

Table 1.6 Scalloway Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	0	0	n/d	n/d	94%
Mining, quarrying & utilities	0	0	0	0	n/a
Manufacturing	100	100	100	100	-23%
Construction	0	0	n/d	0	n/a
Motor trades	n/d	n/d	n/d	n/d	-48%
Wholesale	100	n/d	0	0	-75%
Retail	n/d	n/d	n/d	0	2%
Transport & storage (inc postal)	0	0	0	0	-33%
Accommodation & food services	0	0	0	0	-3%
Information & communication	0	0	0	0	n/a
Financial & insurance	0	0	0	0	n/a
Property	n/d	0	0	0	-100%
Professional, scientific & technical	100	100	100	100	-3%
Business administration & support services	n/d	n/d	n/d	n/d	-13%
Public administration & defence	n/d	n/d	n/d	n/d	-20%
Education	n/d	n/d	n/d	n/d	-57%
Health	n/d	100	n/d	100	-17%
Arts, entertainment, recreation & other services	0	n/d	0	n/d	-9%
Total	**700**	**600**	**600**	**500**	**-24%**

Source: Business Register and Employment Survey (BRES)

APPENDIX A: SOCIO-ECONOMIC BASELINE

Shetland as a whole has also seen a drop in employment since 2009 – c. 2,000 employees, although at -12%, this drop is proportionately lower than seen in Scalloway. The industry sectors that have experienced the greatest absolute decline were 'public administration and defence', 'education' and 'health'. In particular there has been a large decline in 'hospital activities' in part due to the recent partial closure of Montfield Hospital.

The sectors that have seen increases in employment over this period include 'agriculture, forestry & fishing' 'business administration & support services' and 'professional, scientific & technical', **Table 1.7**.

Table 1.7 Shetland Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	500	700	600	800	45%
Mining, quarrying & utilities	200	400	300	200	-2%
Manufacturing	1,000	1,000	900	900	-11%
Construction	1,000	1,100	1,100	1,100	10%
Motor trades	300	300	200	200	-35%
Wholesale	500	400	400	500	-7%
Retail	1,100	1,000	1,200	1,000	-6%
Transport & storage (inc postal)	1,300	1,000	1,000	1,100	-13%
Accommodation & food services	900	900	900	1,000	14%
Information & communication	100	200	100	100	-13%
Financial & insurance	100	100	100	100	4%
Property	100	0	100	100	-36%
Professional, scientific & technical	400	400	400	600	50%
Business administration & support services	400	500	500	600	61%
Public administration & defence	1,400	1,300	1,000	600	-54%
Education	1,300	1,300	1,300	1,100	-19%
Health	3,700	3,600	2,700	2,500	-32%
Arts, entertainment, recreation & other services	1,100	1,100	1,100	1,000	-9%
Total	**15,300**	**15,300**	**13,900**	**13,400**	**-12%**

Source: BRES

With a -4% fall, equating to around 10,000 jobs, the HIE area has seen a much smaller decline than Scalloway and Shetland. There have been falls in employment in 'public administration and defence', 'retail', 'education' and 'health'. However, these have been partially offset by employment rises in 'agriculture, forestry & fishing', 'business administration & support services' and 'arts, entertainment, recreation & other services', **Table 1.8**.

Table 1.8 HIE Area Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	4,000	4,800	4,000	4,900	24%
Mining, quarrying & utilities	3,800	4,300	3,700	3,900	1%
Manufacturing	16,200	14,600	16,000	16,500	2%
Construction	14,500	13,800	14,800	13,200	-9%
Motor trades	4,600	4,700	4,100	3,800	-17%
Wholesale	5,800	5,300	5,400	5,900	1%
Retail	23,200	22,300	23,100	20,700	-11%
Transport & storage (inc postal)	11,300	10,300	10,900	10,500	-7%
Accommodation & food services	22,600	21,000	22,100	21,900	-3%
Information & communication	3,600	4,000	3,300	3,000	-16%
Financial & insurance	2,400	2,100	2,200	2,300	-5%
Property	2,500	2,500	3,200	3,000	20%
Professional, scientific & technical	9,300	8,400	9,400	9,000	-4%
Business administration & support services	10,300	10,300	10,800	11,100	8%
Public administration & defence	18,800	19,100	17,200	16,200	-14%
Education	19,100	19,200	18,300	17,100	-10%
Health	37,900	37,800	36,500	36,100	-5%
Arts, entertainment, recreation & other services	9,500	9,700	10,400	10,400	10%
Total	**219,300**	**214,000**	**215,500**	**209,500**	**-4%**

Source: BRES

Scotland has seen a similar drop in employment to the HIE area of -4% (around 100,000 jobs), with the sectors experiencing the greatest absolute levels of decline being 'construction', 'education' and ' accommodation and food services'. A number of industries had employment growth during this period, the most notable being 'professional, scientific & technical', 'arts, entertainment, recreation & other services' and 'mining, quarrying & utilities', **Table 1.9**.

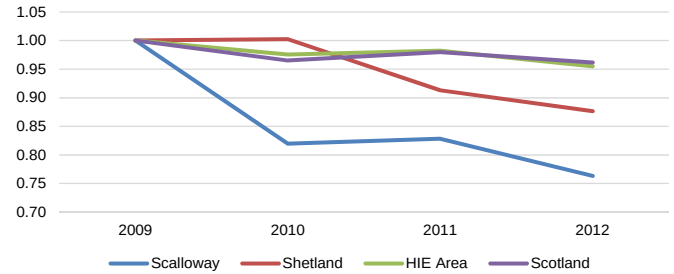
Table 1.9 Scotland Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	81,200	83,700	78,700	82,400	1%
Mining, quarrying & utilities	61,800	64,200	64,600	64,800	5%
Manufacturing	191,300	175,200	182,800	183,400	-4%
Construction	146,500	135,400	140,200	125,000	-15%
Motor trades	43,700	45,400	41,100	39,800	-9%
Wholesale	78,000	71,900	70,200	73,600	-6%
Retail	251,300	246,400	250,500	240,900	-4%
Transport & storage (inc postal)	106,200	96,700	101,400	96,300	-9%
Accommodation & food services	182,700	173,600	173,800	167,100	-9%
Information & communication	65,800	65,600	57,400	58,100	-12%
Financial & insurance	94,200	86,300	84,700	91,300	-3%
Property	31,600	27,300	35,000	33,300	5%
Professional, scientific & technical	163,400	149,100	175,000	172,500	6%
Business administration & support services	182,300	175,500	182,300	182,700	0%
Public administration & defence	152,800	156,300	148,300	145,500	-5%
Education	195,600	192,200	190,900	179,700	-8%
Health	387,600	385,800	387,100	376,200	-3%
Arts, entertainment, recreation & other services	107,100	104,800	108,600	113,200	6%
Total	**2,523,100**	**2,435,300**	**2,472,600**	**2,425,900**	**-4%**

Source: BRES

Overall, there has been a much steeper decline in employment at the Scalloway and Shetland levels over the last four years than in the HIE Area and Scotland, as is summarised in **Figure 1.3**. The large drop in Scalloway should be treated with caution due to the small nature of the area under consideration. For example, a workplace moving address that is still within walking distance of the town may be presented as fall in employment.

Figure 1.3 Change in Overall Employment 2009 = 1



Source: BRES

Table 1.10 shows employment location quotients for Scalloway, Shetland and the HIE area compared to Scotland. Location quotients show how dependent areas are on particular industries and are calculated by taking the proportion of jobs in each sector and comparing them to Scotland e.g. agriculture, forestry & fishing is 6.08% of Scalloway jobs, but only 3.39% of Scottish jobs giving Scalloway an LQ of 1.79 for this sector (i.e. 6.08/3.39). Results are colour coded with green indicating a greater reliance on a particular industry, red a lower reliance and yellow is around the national average.

At the Scalloway level we can see a greater reliance on 'agriculture, forestry & fishing', 'manufacturing and 'professional, scientific & technical', with the latter two the result of single large employers in the town. There are a number of industries absent in Scalloway, such as 'construction', 'information and communication' and 'property', however this is to be expected at this low level of analysis.

Shetland has concentrations of 'agriculture, forestry & fishing', 'construction' and 'transport and storage', and a lack of jobs in 'information and communication', 'financial & insurance', 'professional, scientific & technical' and 'business administration & support services'.

The HIE area has its highest reliance on accommodation and food services, reflecting the importance of the tourist area in this region. It differs from Shetland in having a lower than average reliance on agriculture & fishing, but shares the lack of employment in 'information and communication', 'financial & insurance', 'professional, scientific & technical' and 'business administration & support services'.

Table 1.10 Location Quotient Analysis

	Scalloway	Shetland	HIE Area
Agriculture, forestry & fishing	1.79	1.70	0.69
Mining, quarrying & utilities	0.00	0.66	0.70
Manufacturing	2.66	0.89	1.04
Construction	0.00	1.54	1.23
Motor trades	1.46	0.78	1.11
Wholesale	1.09	1.12	0.92
Retail	0.80	0.75	1.00
Transport & storage (inc postal)	0.46	2.13	1.27
Accommodation & food services	0.83	1.08	1.52
Information & communication	0.00	0.34	0.61
Financial & insurance	0.00	0.16	0.29

APPENDIX A: SOCIO-ECONOMIC BASELINE

Property	0.00	0.32	1.04
Professional, scientific & technical	2.15	0.65	0.60
Business administration & support services	1.15	0.56	0.70
Public administration & defence	0.37	0.80	1.29
Education	0.82	1.10	1.10
Health	0.98	1.21	1.11
Arts, entertainment, recreation & other services	1.19	1.59	1.07

Source: BRES

1.3 1.3 Business Base

Please note that no information on the business base is available at the Scalloway geographic level, therefore below we present the business base data for the comparator areas.

The number of businesses in Shetland has moved in the opposite direction from employment, with an increase of 6% in the numbers of businesses (around 100 businesses) compared to the fall of 12% in employment. The sectors that contributed most to this increase are 'agriculture, forestry & fishing', 'professional, scientific & technical' and 'health'. The only sector to experience a large absolute fall is 'transport and storage', although property has seen a large proportionate fall, but from a low base, **Table 1.11**. Figures for the business base are unavailable at the Scalloway level.

Table 1.11 Business Base Shetland

	2009	2010	2011	2012	2013	% Change
Agriculture, forestry & fishing	480	510	505	525	545	14%
Production	100	95	95	95	100	0%
Construction	135	145	150	150	145	7%
Motor trades	30	30	30	30	30	0%
Wholesale	40	40	40	40	40	0%
Retail	125	120	125	125	125	0%
Transport & storage (inc. postal)	90	80	85	80	75	-17%
Accommodation & food services	80	75	85	90	85	6%
Information & communication	25	20	25	30	30	20%
Finance & insurance	10	10	10	10	10	0%
Property	20	15	15	20	15	-25%
Professional, scientific & technical	85	85	85	100	115	35%
Business administration and support services	70	65	65	70	65	-7%
Public administration and defence	60	60	60	60	55	-8%
Education	70	75	70	70	70	0%
Health	65	80	80	80	85	31%
Arts, entertainment, recreation and other services	100	105	105	105	95	-5%
Total	**1,585**	**1,610**	**1,630**	**1,680**	**1,685**	**6%**

Source: Office of National Statistics (ONS) UK Business: Activity, Size and Location

APPENDIX A: SOCIO-ECONOMIC BASELINE

The HIE area has experienced a slight increase in the number of businesses (+1%, around 150 business in total) with a notably large increase in the number of businesses in the 'professional, scientific & technical' sector (+23%, 420 businesses), **Table 1.12**.

Table 1.12 Business Base HIE Area

	2009	2010	2011	2012	2013	% Change
Agriculture, forestry & fishing	5,240	5,180	5,190	5,270	5,300	1%
Production	1,460	1,435	1,420	1,480	1,535	5%
Construction	2,690	2,675	2,665	2,710	2,630	-2%
Motor trades	635	625	635	635	650	2%
Wholesale	765	765	755	765	750	-2%
Retail	2,795	2,740	2,675	2,720	2,635	-6%
Transport & storage (inc. postal)	1,065	1,050	1,025	1,035	1,050	-1%
Accommodation & food services	2,225	2,180	2,105	2,165	2,155	-3%
Information & communication	570	540	545	555	545	-4%
Finance & insurance	315	320	295	310	300	-5%
Property	485	510	500	530	530	9%
Professional, scientific & technical	1,855	1,890	1,960	2,135	2,275	23%
Business administration and support services	1,245	1,205	1,205	1,230	1,185	-5%
Public administration and defence	710	715	705	675	650	-9%
Education	835	835	830	805	795	-5%
Health	1,345	1,380	1,365	1,435	1,410	5%
Arts, entertainment, recreation and other services	1,550	1,550	1,525	1,585	1,545	0%
Total	**25,785**	**25,595**	**25,400**	**26,040**	**25,940**	**1%**

Source: ONS

Scotland has also seen an increase in the number of businesses (+2%, around 2,900 businesses) with notable increases in 'information and communication' and 'professional, scientific & technical'. These rises were offset to a large extent by declines in businesses operating in 'construction', 'business administration and support' and 'retail', **Table 1.13**.

Table 1.13 Business Base Scotland

	2009	2010	2011	2012	2013	% Change
Agriculture, forestry & fishing	17,440	17,200	17,270	17,440	17,465	0%
Production	10,740	10,515	10,250	10,590	10,865	1%
Construction	19,760	19,110	18,495	18,810	18,270	-8%
Motor trades	4,955	4,995	5,005	5,160	5,140	4%
Wholesale	7,555	7,560	7,555	7,545	7,450	-1%
Retail	24,200	23,825	23,425	23,550	23,110	-5%
Transport & storage (inc. postal)	6,515	6,365	6,235	6,200	6,290	4
Accommodation & food services	15,575	15,430	14,925	15,135	14,895	-4%
Information & communication	7,520	7,435	7,750	8,400	8,705	16%
Finance & insurance	4,310	4,430	4,415	4,320	4,385	2%
Property	5,615	5,595	5,495	5,580	5,725	2%
Professional, scientific & technical	22,865	23,505	24,675	27,090	28,830	26%
Business administration and support services	13,110	12,340	12,200	12,425	12,085	-8%
Public administration and defence	3,195	3,210	3,065	3,035	3,040	-5%
Education	5,705	5,535	5,525	5,455	5,485	-4%
Health	11,645	11,700	11,835	12,180	12,145	4%
Arts, entertainment, recreation & other services	14,670	14,555	14,330	14,845	14,395	-2%
Total	**195,375**	**193,305**	**192,450**	**197,760**	**198,280**	**2%**

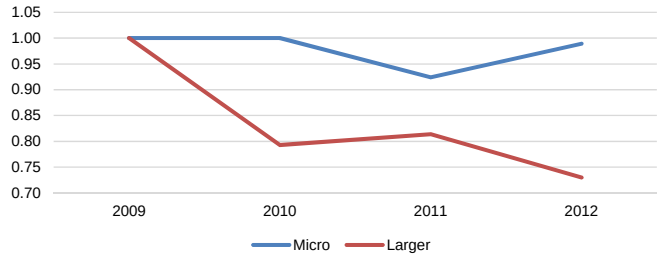
Source: ONS

The trend of falling employment and rising business base likely indicates that larger businesses are shedding staff and there is a growth in micro businesses - there has been an increase in the number of people employed in micro businesses, although this increase in micro business employment has not offset the decrease within larger businesses i.e. employment has decreased.

We can see this by looking at employment size bands in **Figures 1.4, 1.5, 1.6** and **1.7**. Across all comparator areas there has been a rise in the number of people employed in micro enterprises (less than ten employees) compared to other businesses. This trend is most pronounced at the Scalloway and Shetland levels.

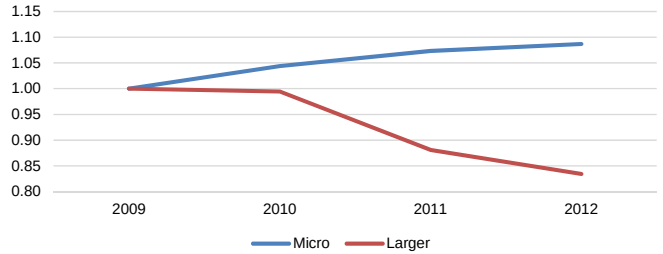
APPENDIX A: SOCIO-ECONOMIC BASELINE

Figure 1.4 Change in Employment in Micro and Larger Businesses Scalloway 2009 = 1



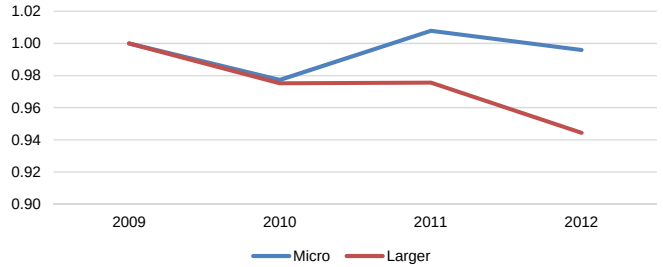
Source: BRES

Figure 1.5 Change in Employment in Micro and Larger Businesses Shetland 2009 = 1



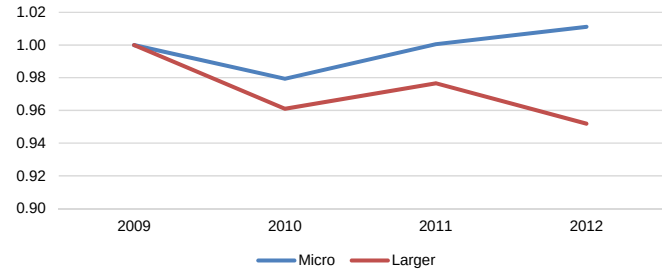
Source: BRES

Figure 1.6 Change in Employment in Micro and Larger Businesses HIE Area 2009 = 1



Source: BRES

Figure 1.7 Change in Employment in Micro and Larger Businesses Scotland 2009 = 1



Source: BRES

1.4 1.4 Unemployment

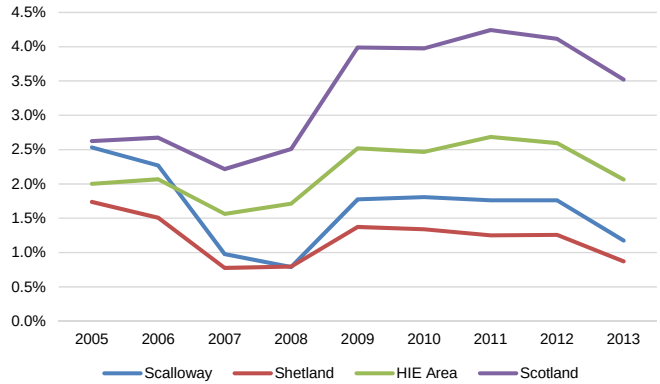
Unemployment on the claimant count measure (the number of people claiming jobs seekers allowance) saw the same pattern across all areas - a reduction from 2005 to 2008 (when the economy was performing strong nationwide and experiencing year on year growth), a sharp spike which saw a steep increase in the number of people unemployed due to the global financial crisis (2009 – 2011), which has now started to decline, albeit at a slower rate than the increase. Claimant count for Scalloway and Shetland on this measure is considerably lower than in Scotland and lower than the HIE area, **Table 1.14** and **Figure 1.8**.

Table 1.14 Claimant Count Totals and Rates

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Scalloway	14 (2.5%)	12 (2.3%)	5 (1%)	4 (0.8%)	9 (1.8%)	9 (1.8%)	9 (1.8%)	9 (1.8%)	6 (1.2%)
Shetland	234 (1.7%)	202 (1.5%)	104 (0.8%)	107 (0.8%)	186 (1.4%)	183 (1.3%)	172 (1.2%)	173 (1.3%)	120 (0.9%)
HIE Area	5,544 (2%)	5,765 (2.1%)	4,364 (1.6%)	4,785 (1.7%)	7,026 (2.5%)	6,865 (2.5%)	7,500 (2.7%)	7,247 (2.6%)	5,771 (2.1%)
Scotland	83,782 (2.6%)	85,861 (2.7%)	71,504 (2.2%)	81,243 (2.5%)	129,569 (4%)	129,964 (4%)	140,010 (4.2%)	135,736 (4.1%)	116,202 (3.5%)

Source: Claimant Count

Figure 1.8 Claimant Count Unemployment



Source: Claimant Count

Whereas the claimant count measures the number of people who are claiming unemployment related benefits, the International Labour Organisation (ILO) measure of the unemployed population is defined as those who are willing and able to work, irrespective of whether they are claiming job seekers allowance.

The ILO data is therefore likely to give a more accurate reflection of those not in work (but available and seeking work) as not all unemployed persons will claim job seekers allowance, or other unemployed related benefits (i.e. will not be captured via the Claimant Count).

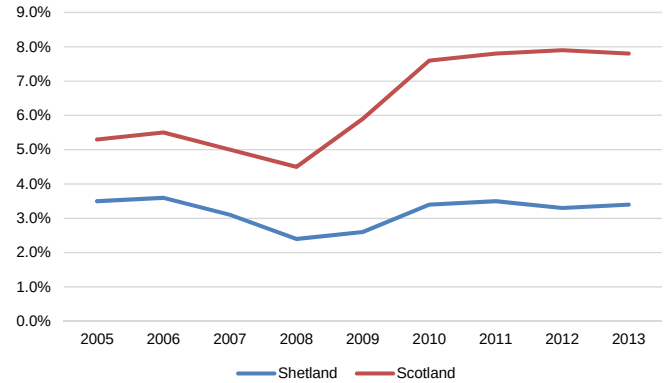
ILO unemployment for Shetland and Scotland is presented in **Table 1.15** and **Figure 1.9**. Data was unavailable for Scalloway or the HIE area. The trend is broadly the same as the claimant count, with unemployment falling from 2005 to 2008, with a subsequent sharp increase to 2011/12, and thereafter starting to level off. The Shetland unemployment rate is considerably lower than in Scotland as a whole and experienced a proportionally smaller increase during the economic recession (2008 – 2011).

Table 1.15 Unemployment Model based Estimate

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Shetland	3.5%	3.6%	3.1%	2.4%	2.6%	3.4%	3.5%	3.3%	3.4%
Scotland	5.3%	5.5%	5.0%	4.5%	5.9%	7.6%	7.8%	7.9%	7.8%

Source: Annual Population Survey

Figure 1.9 ILO Unemployment Rate



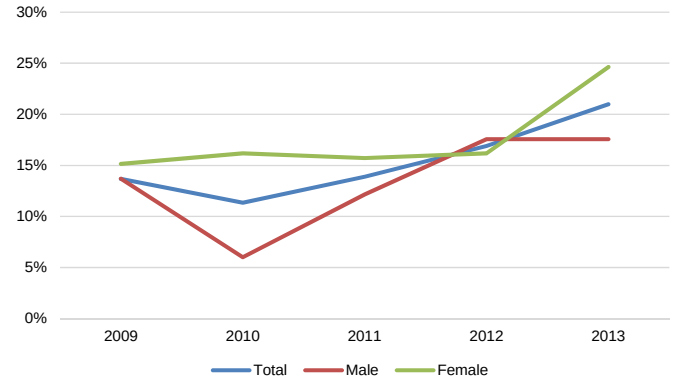
Source: Annual Population Survey

There is a conflict in the data whereby total levels of employment have fallen considerably at the Scalloway and Shetland levels from 2009 (**Tables 1.6** and **1.7**) without a corresponding rise in the unemployment rate (**Figures 1.8** and **1.9**). This could be due to a number of factors. Firstly, a number of those who were previously in employment have decided to remove themselves from the labour force, and therefore are not included in the ILO measure of unemployment, as can be seen in the rise in the economic inactivity rate since 2009 despite a sharp dip for males in 2010, **Figure 1.10**.

Secondly, the registering of job locations in the BRES dataset is based upon the location of the job rather than the residence of the employee. In Shetland there are more jobs than the working age population, compared to Scotland where only 73.5% of the working age population are employed (**Tables 1.3** and **1.7**). This indicates that there is a substantial amount of workers on the island who are not normally resident there.

The fall in job numbers has likely largely fallen on these workers, who would not register on the Shetland unemployment statistics.

Figure 1.10 % Economically Inactive, Shetland



Source: Annual Population Survey

1.5 1.5 Housing

Table 1.16 and **Figure 1.11** shows the number of residential units in the comparator areas over the period 2004 - 2012, with the number of units (new housing completions) having increased by a similar percentage across all areas, except the HIE area which has seen a greater level of growth. The rate of growth on Scalloway fluctuates more than the other areas due to the small size of the datazone.

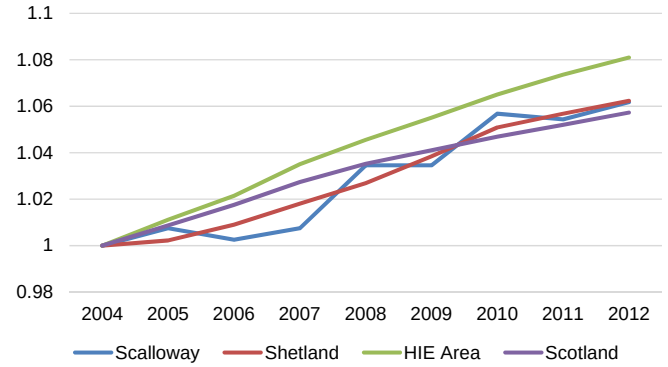
The numbers outlined here likely underestimates the number of houses in Scalloway because of a number of newly built residences just outside the Scalloway datazone (i.e. they are not captured by the area definition used but these residences are considered part of the local area).

Table 1.16 Housing Numbers

	2004	2006	2008	2010	2012	% Change
Scalloway	405	406	408	419	430	6.2%
Shetland	10,159	10,250	10,432	10,676	10,792	6.2%
HIE Area	221,429	226,182	231,503	235,835	239,367	8.1%
Scotland	2,382,158	2,424,049	2,465,998	2,493,838	2,518,699	5.7%

Source: SNS.

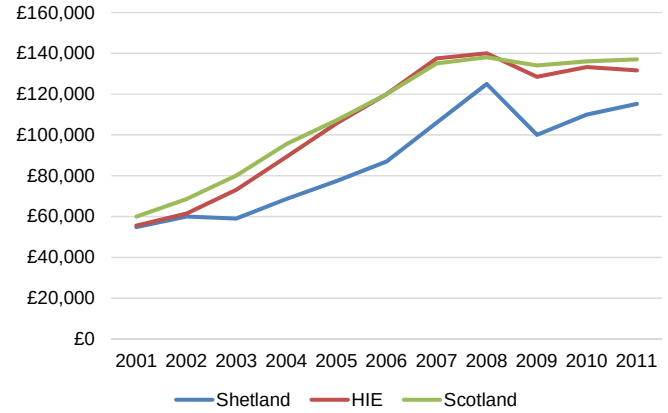
Figure 1.11 Housing Numbers over Time, 2003=1



Source: SNS

House prices have risen considerably since 2001 across all areas, with Shetland exhibiting more modest growth. Median house prices level off around 2006/07 in all areas, presumably in part due to the global financial crisis, with Shetland having a larger drop, **Figure 1.12**.

Figure 1.12 Median House Price



Source: SNS

APPENDIX A: SOCIO-ECONOMIC BASELINE

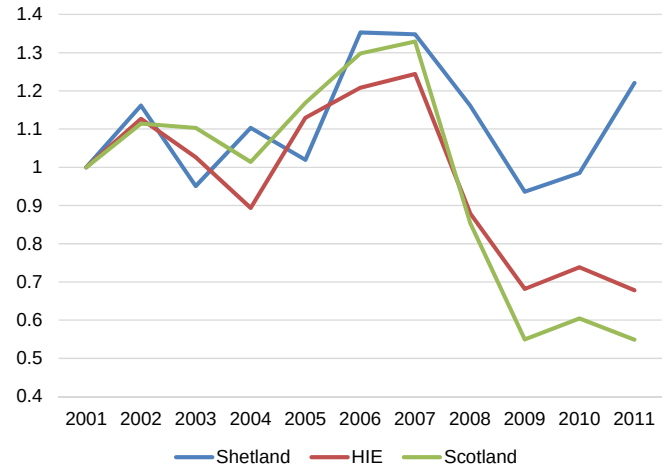
The number of house sales saw steady, if uneven growth from 2001 and then a steep decline from 2007 due to the global financial crisis. Shetland, however suffered a much smaller decline in the number of house sales and has seen growth in recent years as the comparators have stagnated, **Table 1.17** and **Figure 1.14**. Figures are unavailable at the Scalloway level.

Table 1.17 Number of House Sales

	2001	2003	2005	2007	2009	2011
Shetland	204	194	208	275	191	249
HIE	7,595	7,794	8,579	9,449	5,177	5,150
Scotland	97,656	107,725	114,125	129,836	53,630	53,580

Source: SNS

Figure 1.14 Change in No of Sales 2001 = 1



Source: SNS

The type of housing in Scalloway, Shetland and the HIE area differs considerably from Scotland as a whole, with more detached and semi-detached houses and far fewer flats, **Table 1.18**.

Table 1.18 Housing Type 2012

	Scalloway	Shetland	HIE	Scotland
Flats	75 (17%)	896 (8%)	37,666 (16%)	958,307 (38%)
Terraced	22 (5%)	814 (8%)	39,306 (16%)	519,364 (21%)
Semi-Detached	176 (41%)	2,838 (26%)	56,412 (24%)	499,065 (20%)
Detached	157(36%)	6,244 (58%)	100,230 (42%)	529,213 (21%)
Unknown	0 (0%)	0 (0%)	5,753 (2%)	12,750 (1%)

Source: SNS

Scalloway and Shetland has consistently had a greater proportion of housing lying vacant than the other comparators, however in recent years this a declined to something approaching the Scottish level, **Table 1.19**.

Table 1.19 Percentage of Houses which are Vacant

	2007	2008	2009	2010	2011	2012
Scalloway	5%	3%	4%	4%	3%	4%
Shetland	6%	5%	5%	5%	5%	4%
HIE	4%	3%	3%	3%	3%	4%
Scotland	3%	3%	3%	3%	3%	3%

Source: SNS

Overall the housing picture is mixed in Scalloway and Shetland. The rate of housing completions is broadly comparable to the rest of the country, house prices lag behind the HIE area and national average, but house sales have held up better, during and after the financial crisis. The declining percentage of vacant housing potentially points to some pressure on housing on the island.

1.6 1.6 SIMD

The Scottish Index of Multiple Deprivation (SIMD) measures deprivation across small areas[1] throughout the country. The SIMD ranks each datazone from 1 to 6,505 (the total number), with 1 being the most deprived ranking, and 6,505 being the least deprived. The following figures show what percentage of datazones in each of the comparator areas lie in the 15% most deprived datazones in Scotland set against various indicators, these include income, employment, health, education, housing, geographic access to services and crime.

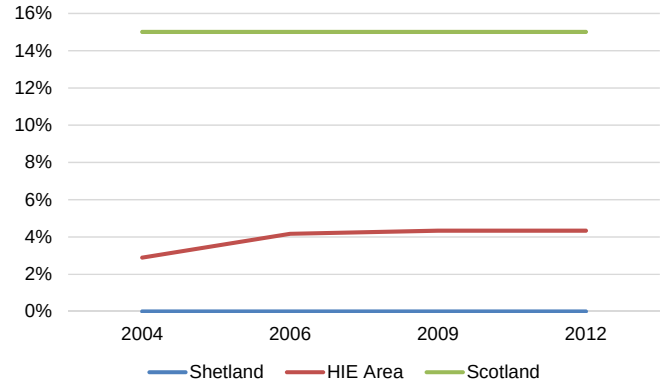
Changes in these rankings should be treated with caution however, since they measure deprivation relative to the rest of Scotland and not on an absolute measure. For example, if all datazones in Aberdeen and Dundee got significantly worse and the Shetland datazones remained static, we would see the Shetland datazones climb the SIMD rankings without any change in the absolute levels of deprivation.

Figure 1.15 shows the figures for overall levels of deprivation across the three relevant comparator areas from 2004 to 2012. Scalloway is not included as it is only one datazone and it does not feature in the bottom 15% for any indicator. Shetland also has has no datazones in the bottom 15% most deprived, however is does have datazones in the bottom 15% on individual measure of deprivation. The HIE area has less than 5% of datazones in the most deprived areas.

[1] These areas are known as datazones which represent areas of between 500 and 1000 residents with an average of c 1000

APPENDIX A: SOCIO-ECONOMIC BASELINE

Figure 1.15 Overall: Datazones in bottom 15%



Source: Scottish Index of Multiple Deprivation (SIMD)

On the individual measures of deprivations:

- income deprivation is similar to the overall rankings with no Shetland datazones in the bottom 15% and HIE area datazone having under 5% of the most deprived datazones;
- employment deprivation is very similar; not datazones in the bottom 15% in Shetland and less than 5% in the HIE area;
- again, health deprivation is similar to the previous levels with no Shetland datazones in the bottom 15%. The HIE area has seen a rise since 2004 from 4% to 6% of datazones in the 15% most health deprived;
- Shetland and the HIE area also have low levels of Education deprivation compared to the Scottish average, there are no Shetland datazones in the 15% most deprived, but HIE area education deprivation has risen over time from under 1% to 5% of datazones in the bottom 15% since 2004;
- housing deprivation is low in Shetland and the HIE area with not Shetland datazones in the most deprived areas and 2% of HIE datazones;
- geographic access to services is the indicator where the most deprivation is seen in the Highlands and Islands. Over 70% of Shetland datazones and around 45% of HIE area datazones rank in the bottom 15% of Scottish datazones on this indicator. This is unsurprising due to the rural and remote nature of many of the datazones in these areas;
- lastly, the number of crime deprived datazones in Shetland and the HIE area is lower than the national average, but a 10% and 11% respectively is higher than the other forms of deprivation

Overall, compared to Scotland as a whole, Shetland and the HIE area have lower levels of deprivation on all indicators except for geographic access to services.

1.7 1.7 Skills and Qualifications

Please note that no information on qualifications is available at the Scalloway geographic level, therefore below we present this for the comparator areas.

Over one third (35%) of the working age population in Shetland have higher level qualifications, however, in comparison with Scotland, Shetland has both less people with no qualifications and less highly skilled people than the Scottish average. There is a greater level of 'mid-range' qualifications between the NVQ 1 and NVQ 3 levels, **Table 1.20**. The data is unavailable at the Scalloway level.

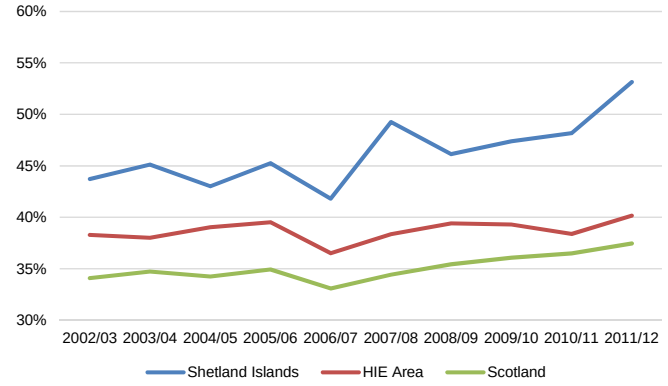
Table 1.20 Working Age Skills

	Shetland	HIE Area	Scotland
NVQ 4+	35%	34%	39%
NVQ 3+	60%	57%	59%
NVQ 2+	80%	74%	73%
NVQ 1+	87%	86%	83%
Other Qualifications	5%	7%	6%
No Qualifications	8%	8%	11%

Source: Annual Population Survey

Pupils in Shetland have historically had a higher level of educational attainment in exam results than their counterparts in the rest of Scotland. **Figure 1.16** shows the percentage of S4 pupils achieving at least five awards at SCQF level 5 or above (i.e. Credit level Standard Grades), with Shetland pupils outperforming the HIE area and Scottish pupils.

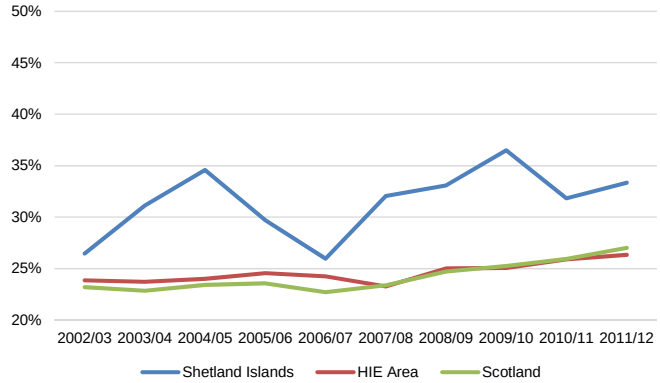
Figure 1.16 % S4 Pupils with 5 or more SCQF Level 5 or above awards



Source: SNS

Similar to the trends at the S4 level, S5 and S6 pupils in Shetland are likely to achieve higher levels of educational attainment (five awards at SCQF level 6 or above, i.e. Highers) than their HIE area or Scottish counterparts, **Figure 1.17**.

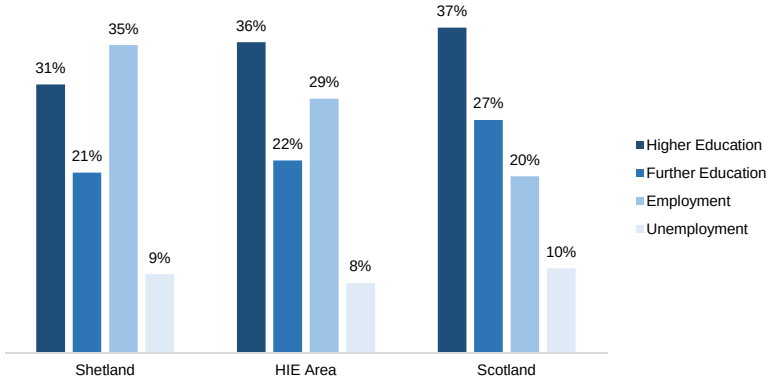
Figure 1.17 % S5/S6 Pupils with 5 awards at SCQF Level 6 or above



Source: SNS

Figure 1.18 outlines school leaver destinations for Shetland, the HIE area and Scotland. The most common destination for Shetlands school leavers is to go straight into employment, compared to the HIE area and Scotland where higher education is the most common destination.

Figure 1.18 School Leaver Destinations



Source: SNS

This could be down to a number of factors. Firstly, there is a lack of access to Higher and Further Education provision in Shetland compared to the rest of the country, and those school leavers not willing to leave the islands may prefer to enter employment instead.

Secondly, the structure of the Shetland economy shows a lower proportionate share of traditionally 'higher value' jobs that require higher levels of qualifications such as 'finance and insurance' and 'professional, scientific and technical' and a greater prevalence of jobs where higher levels of qualifications are not a prerequisite such as 'transport and storage', 'agriculture, forestry & fishing' and 'construction'. This can be seen in the location quotient analysis in **Table 1.10**, above.

From the data, there appears to be a direct correlation between the proportion of school leavers in Shetland going into Higher and Further Education and the qualification levels of the workforce – both are lower than the national levels.

1.8 1.8 Benefits

Table 1.21 outlines the total number benefits claimants and the type of benefits they claims in Shetlands, the HIE area and Scotland. Data is unavailable at the Scalloway level.

Overall, Shetland has lower number of benefit claimants than the HIE area and Scotland, perhaps reflecting the low levels of unemployment and deprivation outlined above.

Table 1.21: Benefits claimants by type, February 2013

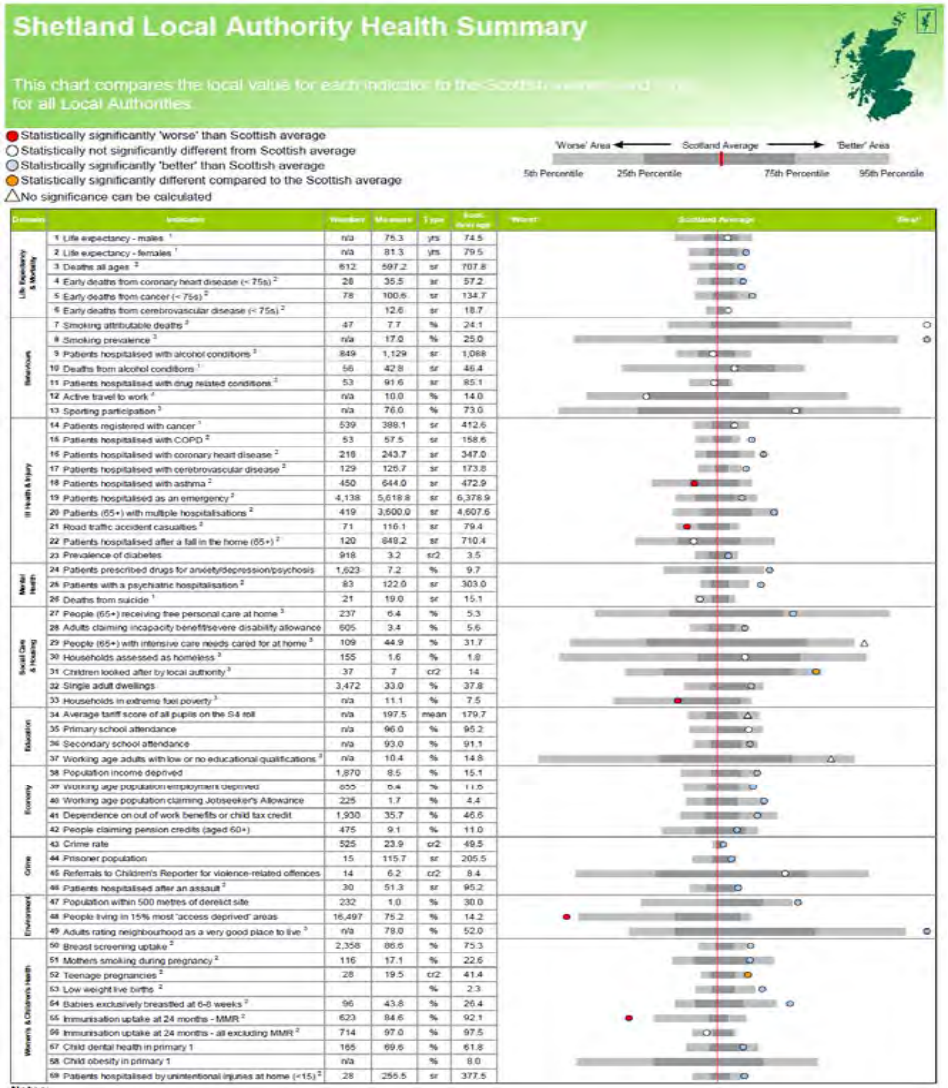
	Shetland		HIE Area		Scotland	
	No.	Rate	No.	Rate	No.	Rate
Carers Allowance	70	0.51%	2,550	0.91%	27,610	0.84%
Disability Living Allowance	160	1.16%	3,700	1.32%	42,110	1.28%
Incapacity Benefit	270	1.96%	6,560	2.35%	102,120	3.09%
Income Support/Pension Credit	100	0.73%	2,850	1.02%	41,920	1.27%
Job Seekers Allowance	220	1.60%	8,310	2.97%	138,590	4.20%
Severe Disablement Allowance	~	n/a	30	0.01%	360	0.01%
Widows Benefit	20	0.15%	260	0.09%	2,470	0.07%
Multiple Claimants	490	3.56%	14,020	5.02%	205,930	6.24%
Total	**1,330**	**9.66%**	**38,320**	**13.71%**	**578,680**	**17.54%**

Source: Work and Pensions Longitudinal Study (WPLS)

APPENDIX A: SOCIO-ECONOMIC BASELINE

1.9 1.9 Health

The following information sheet is taken directly from the Scottish Public Health Observatory (http://www.scotpho.org.uk/) and provides an assessment of the health of Shetlands population relative to Scotland.



Overall, Shetland performs better than the national average on health with Shetland being 'statistically significantly2 'better' than national average' on 29 of the 59 health indicators gathered by ScotPHO.

Other health indicators that the Shetland Islands performs better include:

- deaths all ages;
- early deaths from coronary heart disease and cancer(< 75s);
- smoking prevalence;
- patients hospitalised with COPD, coronary heart disease and cerebrovascular disease;
- patients hospitalised as an emergency;
- patients (65+) with multiple hospitalisations;
- patients with a psychiatric hospitalisation;
- patients hospitalised after an assault;
- breast screening uptake;
- mothers smoking during pregnancy;
- low weight live births; and
- babies exclusively breastfed at 6-8 weeks.

On the other hand there are a few indicators that are 'statistically significantly 'worse' than national average' including:

- patients hospitalised with asthma;
- road traffic accident casualties; and
- immunisation uptake at 24 months – MMR

[2] As defined by ScotPHO

APPENDIX A: SOCIO-ECONOMIC BASELINE

2. Sector Overviews

The following sections presents data for industry sectors relevant to the use of the harbour infrastructure at the Shetland, HIE area and Scotland levels. Please note that data for Scalloway is suppressed at the industry sub sector level and therefore has been omitted from the analysis, however, we have considered the more qualitative implications for Scalloway.

1.102.1 Fishing and Aquaculture Industries

Tables 2.1, 2.2, and **2.3** present the employment figures for fishing, aquaculture and fish processing. Figures are rounded to the nearest hundred and many figures are non-disclosable at lower levels of analysis.

Although we are unable to provide data tables at the Scalloway level, our review shows that the majority of fishing and aquaculture sub-sectors employ less than 50 employees and overall there has been an increase in employment within this sector of 30% since 2003. The official data figures show that there is no employment in fishing Scalloway, however, feedback from consultations indicated that there are 8 large and 15 small fishing boats based at Scalloway harbour. Why this is the case is unclear, however, since 82% of fishing jobs are concentrated in a single datazone in Lerwick it could be that the Scalloway jobs are registered there.

Employment in the fishing and aquaculture industry in Shetland as a whole has seen a modest increase of 10% since 2009, with the marine aquaculture sector accounting for much of the increase, **Table 2.1**.

Table 2.1 Shetland Employment

	2009	2010	2011	2012	% Change
Fishing and aquaculture	500	700	600	800	60%
Fishing	300	400	300	300	0%
Marine fishing	300	400	300	300	0%
Freshwater fishing	0	0	0	0	-
Aquaculture	300	300	300	400	33%
Marine aquaculture	200	300	200	400	100%
Freshwater aquaculture	0	0	0	0	-
Processing and preserving of fish, crustaceans and molluscs	500	600	500	400	-20%
Total	**1,000**	**1,300**	**1,000**	**1,100**	**10%**

Source BRES

Employment in the HIE area has seen an increase in employment of 14% since 2009, with increases across all sub-sectors - aquaculture, fishing and the processing of fish, **Table 2.3**.

Table 2.2 HIE Area Employment

	2009	2010	2011	2012	% Change
Fishing and aquaculture	2,600	3,200	2,600	3,100	19%
Fishing	1,400	1,700	1,300	1,700	21%
Marine fishing	1,400	1,700	1,300	1,600	14%
Freshwater fishing	0	0	0	0	-
Aquaculture	1,200	1,500	1,300	1,400	17%
Marine aquaculture	1,000	1,300	1,100	1,200	20%
Freshwater aquaculture	200	200	200	200	0%
Processing and preserving of fish, crustaceans and molluscs	1,800	2,000	2,000	1,900	6%
Total	**4,400**	**5,200**	**4,600**	**5,000**	**14%**

Source: BRES

Overall, employment has grown in Scotland since 2009 by 6%, however, there has been a decrease since a peak of 13,900 jobs in 2010. Fishing and aquaculture have grown over the period which has been offset slightly by the processing of fish sub-sector which lost jobs, **Table 2.3**.

Table 2.3 Scotland Employment

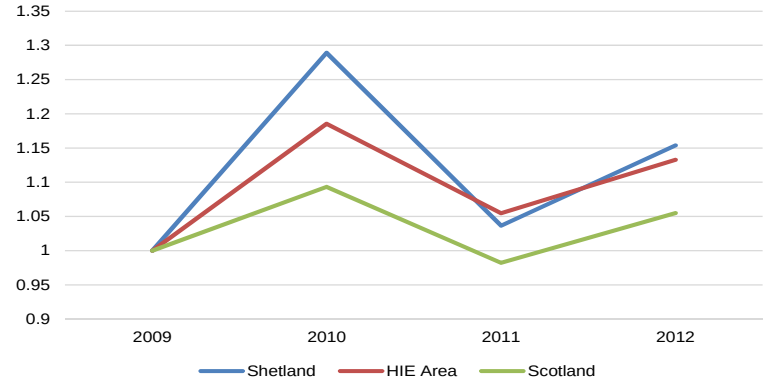
	2009	2010	2011	2012	% Change
Fishing and aquaculture	4,900	6,000	4,800	5,900	20%
Fishing	3,400	4,300	3,300	4,200	24%
Marine fishing	3,300	4,200	3,200	4,100	24%
Freshwater fishing	100	100	100	100	0%
Aquaculture	1,500	1,700	1,500	1,700	13%
Marine aquaculture	1,200	1,400	1,300	1,400	17%
Freshwater aquaculture	300	300	300	300	0%
Processing and preserving of fish, crustaceans and molluscs	7,800	7,900	7,600	7,500	-4%
Total	**12,700**	**13,900**	**12,500**	**13,400**	**6%**

Source: BRES

APPENDIX A: SOCIO-ECONOMIC BASELINE

Figure 2.1 shows the change in employment across the comparator areas. All areas have remained relatively stable but shown modest signs of annual growth

Figure 2.1 Shetland, HIE Area & Scotland Fishing, Aquaculture and Fish Processing Employment 2009 = 1



Source: BRES

Table 2.4 shows employment location quotients for Shetland and the HIE area compared to Scotland. Location quotients show the relative dependency of an area on particular industry sectors relevant to the national average and are calculated by taking the proportion of jobs in each sector and comparing them to Scotland e.g. Fishing & Aquaculture = 1.47% of HIE jobs, but only 0.24% of Scottish jobs giving HIE an LQ of 6 (i.e. 1.47/0.24).

The location quotient analysis shows that all areas are more dependent upon this industry to support employment when compared to Scotland. Although data is not presented below, a qualitative review identifies that aquaculture and the processing of fish is particularly important in Scalloway.

Table 2.4: Location Quotient against Scotland

	Shetland	HIE Area
Fishing and aquaculture	23.0	6.0
Fishing	15.0	4.5
Marine fishing	15.2	4.5
Freshwater fishing	7.6	4.2
Aquaculture	42.7	9.7
Marine aquaculture	50.3	10.1
Freshwater aquaculture	5.0	7.4
Processing and preserving of fish, crustaceans and molluscs	9.4	2.9

Source: BRES

Key sectoral analysis at the Shetland level:

- in 2009 the combined sectors of fish catching, aquaculture and processing accounted for 1,040 jobs, 834 FTEs and including multipliers equals one quarter of all local jobs;

- fisheries are also important socially, supporting vitality and viability of remote communities;
- in 2009 seafood to the value of £73.2m was landed in Shetland, a significant increase in values due to higher prices;
- the number of licensed fishing vessels has fluctuated over years – 216 in 1971, 91 in 1991, 208 in 2009;
- total employment in fish processing has fallen since 2001 from 657 jobs to 297, turnover of fish processing companies has increased steadily from £25m in 1991 to £133m in 2009;
- 34 companies involved in shellfish aquaculture, 20% of Total Scottish companies; employment has remained steady after peaking at 136 jobs in 2006;
- Finfish – in 2009 Shetland produced 30% of Total Scottish salmon output; and
- fisheries industry is the backbone of the Shetland economy, it is the highest value sector.

1.112.2 Energy including Oil and Gas and Renewables

Tables 2.5, 2.6, and **2.7** present employment in the Energy production industry including Oil and Gas and Renewables.

Data Note:
Data at the Shetland and HIE level is very narrow and does not show any real trends or patterns and the available data present a number of problems, as they would appear to significantly under report employment in Shetland and the HIE area. Based on data available in the BRES, there is little employment in oil and gas extraction in Shetland, figures that we know are wrong, given that there is a large BP oil and gas terminal on the north of the island.

There would appear to be two problems; firstly, since oil and gas extraction takes place on the open water, the employment it generates is not contained within the standard geographies that we use and is therefore assigned in a different way, presumably they are registered where the companies head office is located. The fact that 98% of oil and gas employment is concentrated in Aberdeen and Aberdeenshire supports this hypothesis.

Secondly, it is often quoted that the oil and gas industry supports around 150,000 jobs in Scotland, and the c. 62,000 figure presented in **Table 2.7** for the combined energy and renewables sector is significantly below this. These figures appear to be based upon a report by Oil and Gas UK which estimates Total employment being between 99,000 and 158,000+, including between 1,000 and 2,000 in Orkney and Shetland.

However these job estimates include both indirect employment, in areas such as manufacturing, construction and finance and insurance, and induced employment impacts, which is additional employment created by the spending of employees working in the sector.

Table 2.5 Shetland Employment

APPENDIX A: SOCIO-ECONOMIC BASELINE

	2009	2010	2011	2012	% Change
Mining of hard coal from deep coal mines (underground mining)	0	0	0	0	n/a
Mining of hard coal from open cast coal working (surface mining)	0	0	0	0	n/a
Mining of lignite	0	0	0	0	n/a
Extraction of crude petroleum	0	0	0	0	n/a
Extraction of natural gas	0	0	0	0	n/a
Support activities for petroleum and natural gas extraction	0	0	0	0	n/a
Support activities for other mining and quarrying	0	0	0	0	n/a
Manufacture of coke oven products	0	0	0	0	n/a
Mineral oil refining	0	0	0	0	n/a
Other treatment of petroleum products (excluding mineral oil refining & petrochemicals manufacture)	0	0	0	0	n/a
Treatment and disposal of hazardous waste	0	0	0	0	n/a
Production of electricity	100	100	100	0	-20%
Transmission of electricity	0	0	0	0	n/a
Distribution of electricity	100	100	100	0	-10%
Trade of electricity	0	0	0	0	n/a
Manufacture of gas	0	0	0	0	n/a
Distribution of gaseous fuels through mains	0	0	0	0	n/a
Trade of gas through mains	0	0	0	0	n/a
Steam and air conditioning supply	0	100	100	0	-80%
Water collection, treatment and supply	0	0	0	0	-72%
Environmental consulting activities	0	0	0	0	175%
Engineering related scientific and technical consulting activities	0	0	0	0	10%
Total	**200**	**300**	**300**	**200**	**-10%**

Source: BRES

Table 2.6 HIE Area Employment

	2009	2010	2011	2012	% Change
Mining of hard coal from deep coal mines (underground mining)	0	0	0	0	n/a
Mining of hard coal from open cast coal working (surface mining)	0	0	0	0	n/a
Mining of lignite	0	0	0	0	n/a
Extraction of crude petroleum	0	0	0	0	388%
Extraction of natural gas	0	0	0	0	n/a
Support activities for petroleum and natural gas extraction	100	0	0	100	84%
Support activities for other mining and quarrying	0	0	0	0	n/a
Manufacture of coke oven products	0	0	0	0	n/a
Mineral oil refining	0	0	0	0	-67%
Other treatment of petroleum products (excluding mineral oil refining & petrochemicals manufacture)	0	0	0	0	n/a
Treatment and disposal of hazardous waste	1,000	1,000	1,000	1,000	-6%
Production of electricity	300	900	400	200	-30%
Transmission of electricity	0	0	0	0	-100%
Distribution of electricity	500	500	500	400	-11%
Trade of electricity	0	0	0	0	n/a
Manufacture of gas	0	0	0	0	n/a
Distribution of gaseous fuels through mains	100	100	100	100	44%
Trade of gas through mains	0	0	0	0	n/a
Steam and air conditioning supply	0	100	100	0	-77%
Water collection, treatment and supply	500	500	400	300	-27%
Environmental consulting activities	0	0	100	100	96%
Engineering related scientific and technical consulting activities	500	500	600	600	25%
Total	**3,000**	**3,600**	**3,100**	**2,900**	**-3%**

Source: BRES

APPENDIX A: SOCIO-ECONOMIC BASELINE

Table 2.7 Scotland Employment

	2009	2010	2011	2012	% Change
Mining of hard coal from deep coal mines (underground mining)	0	0	0	0	143%
Mining of hard coal from open cast coal working (surface mining)	1,100	1,500	1,300	1,800	57%
Mining of lignite	0	0	0	0	n/a
Extraction of crude petroleum	7,500	7,100	7,500	8,400	12%
Extraction of natural gas	300	300	400	700	137%
Support activities for petroleum and natural gas extraction	18,000	18,700	18,300	18,600	4%
Support activities for other mining and quarrying	0	0	0	0	650%
Manufacture of coke oven products	0	0	0	0	n/a
Mineral oil refining	100	0	100	400	796%
Other treatment of petroleum products (excluding mineral oil refining & petrochemicals manufacture)	100	100	100	0	-40%
Treatment and disposal of hazardous waste	1,700	1,400	1,500	1,500	-11%
Production of electricity	5,300	7,600	5,100	3,700	-30%
Transmission of electricity	1,200	1,200	400	200	-83%
Distribution of electricity	4,100	4,300	5,600	4,800	17%
Trade of electricity	200	200	100	0	-82%
Manufacture of gas	200	200	100	100	-46%
Distribution of gaseous fuels through mains	5,500	5,400	6,400	5,800	5%
Trade of gas through mains	0	100	200	0	113%
Steam and air conditioning supply	0	100	100	0	-13%
Water collection, treatment and supply	3,700	3,600	3,400	3,200	-14%
Environmental consulting activities	300	500	500	700	124%
Engineering related scientific and technical consulting activities	10,400	11,200	12,400	12,300	18%
Total	**59,700**	**63,500**	**63,400**	**62,400**	**5%**

Source: BRES

Oil and Gas

Key sectoral analysis at the Shetland level:

- oil and gas was first produced in the UK in the 1960s
- the UK Government projects that even if its target to source 15% of energy from renewables in 2020 is achieved, we will still rely on oil and gas for 70% of our energy needs. Any oil and gas that is not produced in the UK will be imported, at significant extra cost to the economy. We are fortunate, therefore, that 40% of the UK's oil and gas reserves are still to be extracted and given the right business conditions which promote investment, the industry can continue to supply a significant proportion of our needs to 2020 and beyond http://www.oilandgasuk.co.uk/knowledge_centre.cfm
- there was capital investment of £11.4 billion in the UK's oil and gas reserves in 2012, this is the highest for 30 years; in 2013 investment is estimated to reach a record £13.5 billion.
- key trends form the Opito LMI survey 2011:
    - the future looks optimistic with 81% of companies who responded expect their business to grow over the next five years and 44% predicting growth in the size of their workforce in 2011
    - over 50% of respondents identified attracting appropriately skilled staff as the number one challenge facing their company

- in October 2011 approval was given by UK Government to proceed with Phase 2 development of the giant Clair field with capacity to provide c. 640m barrels of oil. This will be a hub for future expansion, subject to further appraisal. It is planned to come on-stream in 2016, continuing till 2050. In addition to the 600 people already working on the project, it will provide hundreds of UK engineering, drilling and oilfield service jobs;
- performance across the Oil and Gas sector (2012) – Total direct, indirect and induced employment of 440,000 across the UK, of which around 45% is in Scotland, c. 200,000 jobs. Potentially 50 new field developments, of which 8 are in West Shetland containing 22% of sanctioned reserves in the UK; there is a forecast surge in investment in both new field and brownfield developments;
- performance across the Oil and Gas sector (2013) – 450,000 jobs across UK (likely to be an underestimate as will exclude lots of renewables jobs that are classified by SIC elsewhere) – c. 50% in Scotland; 36,000 direct (includes 12,500 offshore), 200,000 supply chain (includes 45,000 offshore), 112,000 induced, and 100,000 exporting activities;
- West Shetland believed to have the UKCS most undeveloped resources;
- renewed confidence in UKCS by major companies – investment has trebled between 2009 and 2013 and now investing heavily in large, new and brownfield developments, especially West Shetland;
- BP is doubling the Sullom Voe terminal workforce to c. 1,000 over the next decade. Urgent recruitment drive, especially engineers;
- lifespan for Sullom Voe is now planned for beyond 2040;
- Petrofac contracted to build Total's new Shetland Gas Plant – currently have c. 1,400 workers on site;
- decommissioning – range of facilities across the North Sea and Atlantic, expected to be 30 year £50bn industry – Shetland very well placed to secure lots of this activity due to location, skills and infrastructure;
- Scottish Skills Investment Plan for Energy Sector, 2011:
    - estimated demand of 52,000 to 95,000 job opportunities (replacement and new demand) up to 2020
    - demand in Oil and Gas is front loaded i.e. more need before 2015 than after:
        - replacement demand = 20,000 – 30,000 direct and indirect, no major change in skills
        - additional demand = 10,000 to 2015 – anticipated increase in activity in North Sea over next few years
    - over the next 10 years investment is expected at a significant scale - £60bn in Oil & Gas, £30bn in offshore wind, €100bn potential SuperGrid investment
    - main skills needed are engineers, leadership/management, project managers, welders, turbine technicians and divers
    - engineering sectors were more likely than average to report issues in attracting skilled staff
    - majority of jobs will be at technician level (SVQ3) – apprentices pa = 170-610; graduates pa = 40-150
    - vast majority of demand will be filled by people already in the labour force
- Scottish Oil & Gas supply chain comprises c. 2,000 companies providing direct employment for around 100,000 people

Renewables

APPENDIX A: SOCIO-ECONOMIC BASELINE

The 2020 Renewable Energy Roadmap[3] sets out the Government's ambition to commit to addressing the challenges of climate change and the growth of a low carbon economy. It has set out ambitious targets for 2020 which include:

- 100% electricity demand equivalent from renewables;
- 11% heat demand from renewables;
- 30% overall energy demand from renewables; and
- 500 MW community and locally-owned renewable energy by 2020.

In tandem with this, Government is also seeking to reduce demand for energy. The Energy Efficiency Action Plan[4] established a target to reduce total final energy demand in Scotland by 12% by 2020, covering all fuels and sectors.

The Government believe that by achieving these targets could provide:

- up to 40,000 jobs[5] and £30b investment to the Scottish economy;
- significant displacement and reduction in carbon emissions;
- a strengthening of future energy security through the harnessing of sustainable indigenous resources; and
- a transformational opportunity for local ownership and benefits.

It is therefore forecasts that there could be a major economic prize for Scotland if these targets and forecasts are realised, for example:

- demand in offshore wind will rise incrementally to 2015, but with a large step change in demand around that time
    - replacement demand = up to 28,000 jobs, scale of opportunity is dependent on capacity installed in Scottish waters and development of robust industry in Scotland servicing global markets
    - additional demand = up to 5,300 jobs (direct only) – uncertainty relates to the level of capacity in Scottish waters

In terms of a locational dimension, the Government has not indicated where these development opportunities will come from, however, Shetland is perceived as a key potential locations for both wind and tidal power with the west and south-west coasts specifically identified as being suitable for tidal power generation.

In terms of scale, analysis of SIC codes is limited due to the lack of dedicated codes to capture activity in the renewables sector. Many renewables jobs will be allocated under other energy codes or may fall under other codes outside this definition, such as construction or manufacturing.

Furthermore, a large proportion of renewable power generation is carried out by large energy companies who cover a large range of business activities and locations giving further difficulties in attributing renewables employment.
It is estimated that around 75% of employment in the wider energy sector is concerned with the production of energy, with the remainder concerned with the transmission and

[3] Scottish Government 2011
[4] Conserve and Save: Energy Efficiency Action Plan Scottish Government 2010
[5] Caution is required in the interpretations of these forecasts – for more details see SDS SIP Energy

distribution (sub stations, distributing power to the grid – these are outwith the definition of oil and gas and renewables) . Therefore there are around 45,000 jobs involved in energy production in Scotland, of which oil and gas take up between 27,700 and 32,000, leaving a remainder of c. 15,000, within which renewable energy will comprise a large number of these jobs.

The most recent report by Scottish Renewables[6] estimates that there are currently over 11,000 jobs in renewable energy in Scotland comprising:

- 10,227 Full Time Equivalent (FTE) posts in project design, development, operation and its supply chain.
- 750 posts in renewable energy development and research in our Further and Higher Education institutions, and
- 50 employees involved in renewables in the public sector.

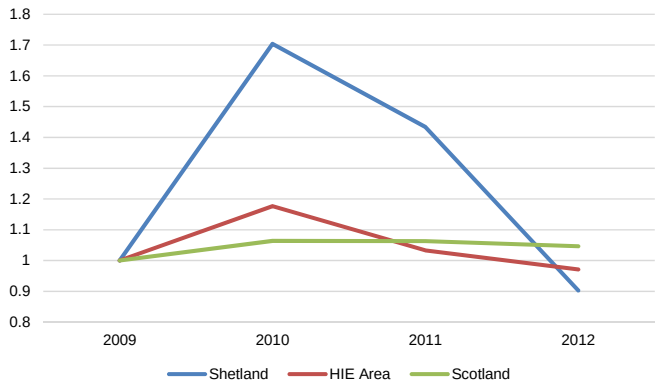
They also rpeort that this underestimates actual employment once supply chains and induced employment is factored into the equation.

Current renewables capacity on Shetland is around 10.3MW with 61% provided by the Lerwick District Heating Scheme, a waste incinerator, and 36% from the Burradale windfarm. The remaining 3% comes from a variety of small schemes.

It is estimated that potential for renewables is far above this, with a potential 10,500 gigawatt hours per annum (GW/y) of energy available with around 2,200 GW/y available for a more modest level of development that would protect the Shetlands natural environment[7].

Figure 2.2 shows annual changes set against the baseline

Figure 2.2 Shetland, HIE Area & Scotland Energy (including Renewables) Employment 2009 = 1



1.122.3 Provision of General Cargo/ Port Facilities/ Logistics

[6] http://www.scottishrenewables.com/static/uploads/publications/final_sr_jobs_report_21032012_-web.pdf
[7] Renewable Energy Development in Shetland: Strategy and Action Plan 2009

APPENDIX A: SOCIO-ECONOMIC BASELINE

The following tables show levels of employment in port facilities across the comparator areas.

The most striking aspect of Scalloway employment is that there are no jobs registered, except for 'service activities incidental to water transportation', despite having an operational port with a wide range of facilities. Presumably these jobs are classified under other SIC codes or are registered in another location similar to fishing above.

Employment in port facilities is down considerably in recent years across Shetland, mostly due to a steep decline in water transport jobs, **Table 2.8**

Table 2.8 Shetland Employment

	2009	2010	2011	2012	% Change
Water transport	300	100	100	100	-57%
Sea and coastal passenger water transport	n/d	n/d	n/d	n/d	-70%
Sea and coastal freight water transport	n/d	100	0	n/d	-25%
Operation of warehousing and storage facilities for water transport activities	0	0	0	0	n/a
Service activities incidental to water transportation	n/d	100	100	100	8%
Cargo handling for water transport activities	0	0	0	0	n/a
Total	**400**	**200**	**200**	**300**	**-34%**

Source: BRES

There has also been a decline of 15% in the HIE area, with declines of similar absolute numbers across all sub-sectors, **Table 2.9**.

Table 2.9 HIE Area Employment

	2009	2010	2011	2012	% Change
Water transport	1,100	1,000	800	900	-19%
Sea and coastal passenger water transport	800	700	600	600	-16%
Sea and coastal freight water transport	300	200	100	200	-21%
Operation of warehousing and storage facilities for water transport activities	0	n/d	n/d	n/d	n/a
Service activities incidental to water transportation	800	600	800	700	-10%
Cargo handling for water transport activities	n/d	n/d	n/d	n/d	-30%
Total	**1,800**	**1,500**	**1,700**	**1,600**	**-15%**

Source: BRES

Scotland as a whole has also seen a decline in port employment, but this has been far less that the other areas, **Table 2.10**.

Table 2.10 Scotland Employment

	2009	2010	2011	2012	% Change

Water transport	2,400	2,300	2,000	2,200	-9%
Sea and coastal passenger water transport	1,600	1,600	1,400	1,500	-6%
Sea and coastal freight water transport	700	500	400	600	-14%
Operation of warehousing and storage facilities for water transport activities	0	n/d	0	n/d	n/a
Service activities incidental to water transportation	3,600	2,800	3,500	3,600	0%
Cargo handling for water transport activities	200	100	200	200	-28%
Total	**6,100**	**5,100**	**5,500**	**5,900**	**-4%**

Source: BRES

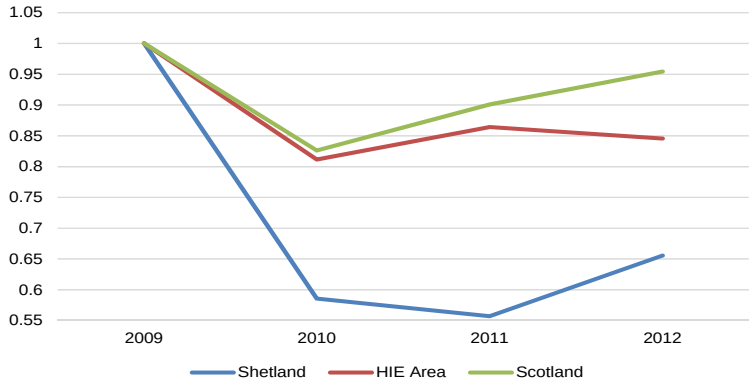
Table 2.11 shows the location quotient for Shetland and the HIE area, identifying that both areas, and Shetland in particular have a greater proportionate representation within industry sectors relating to port facilities for employment than Scotland as a whole.

Table 2.11 Location Quotient against Scotland

	Shetland	HIE Area
Water transport	9.09	4.64
Sea and coastal passenger water transport	6.40	4.76
Sea and coastal freight water transport	17.41	4.18
Operation of warehousing and storage facilities for water transport activities	0.00	7.72
Service activities incidental to water transportation	7.22	2.33
Cargo handling for water transport activities	0.00	0.93

Figure 2.3 shows annual changes set against the baseline

Figure 2.3 Shetland, HIE Area & Scotland - Port Facilities Employment 2009 = 1



Key sectoral analysis at the Shetland level:

- Lerwick Port Authority (LPA) is flourishing – improved access, extended deep water facilities:
  - LPA employs 53 people, 48 FTEs
  - LPA 2012 – 163 properties and 112 tenants, £10.4m gross annual turnover
  - 2,512 vessels first half 2013, which represents a 9% increase in ship tonnage from the same number of vessels
  - 4,000 m of quays – cargo increased 18% over past year to 530,825 tonnes
  - more movement related to Sullom Voe – shipments related to construction of new gas plant at Sullom Voe
  - two additional quays will be completed in 2013/14
  - LPA serves four main sectors – offshore oil & gas (including decommissioning); ferries and freight; fishing; and cruise ships/yachts
- Scalloway Harbour:
  - footprint 50,000 sqm, c.12.5 acres/5 hectares, Modern berths and facilities, can take vessels up to 130m, 7m draught, Fresh water, diving services, ship repair, chandlery, fuel, Has mobile cranes, can lift up to 250 tonnes capacity
  - harbour office – controls land and sea traffic; manages the fish market, provides shore power, has fuelling station
  - ideally placed for Oil & Gas and renewables development off West Coast of Shetland
  - regularly gets offshore support vessels
  - harbour access channel recently widened

1.132.6 Tourism and Leisure

Tourism and Leisure is an important industry for Scalloway and Shetland which, given its location is generally facilitated through port facilities.

The figures for tourism employment in Scalloway show that employment has remained relatively stable over the past few years with a rise in hotel employment and a fall in pub and club employment. Overall there has been a slight decrease but small in absolute terms.

Employment in the tourism industry in Shetland as a whole has also remained stable over the past few years with notable rises in both licensed and unlicensed restaurants, **Table 2.12**.

Table 2.12 Shetland Employment

	2009	2010	2011	2012	% Change
Hotels and similar accommodation	300	300	300	300	2%

Holiday centres and villages	0	0	0	0	-50%
Youth hostels	0	0	0	0	-
Other holiday and other short-stay accommodation	0	0	0	0	80%
Camping grounds, recreational vehicle parks and trailer parks	0	0	0	0	133%
Licensed restaurants	100	100	100	100	29%
Unlicensed restaurants and cafes	100	100	100	100	52%
Take away food shops and mobile food stands	100	100	100	100	-4%
Licensed clubs	100	100	100	100	2%
Public houses and bars	100	100	200	100	0%
Tour operator activities	0	0	0	0	-
Activities of tourist guides	0	0	0	0	-
Other reservation service activities	0	0	0	0	-31%
Museum activities	n/d	0	0	n/d	21%
Operation of historical sites and buildings and similar visitor attractions	0	0	0	0	-100%
Botanical and zoological gardens and nature reserve activities	0	0	0	0	0%
Operation of sports facilities	n/d	n/d	200	n/d	-7%
Other sports activities	0	0	0	0	50%
Activities of amusement parks and theme parks	0	0	0	0	-
Other amusement and recreation activities	n/d	n/d	n/d	n/d	-35%
Total	**1,200**	**1,100**	**1,200**	**1,200**	**3%**

Source: BRES

Employment in the HIE area has remained relatively stable over the past few years, however, there have been declines are the sun sectors of pub and club entertainment respectively. This has, however, been offset by increases in sport facilities and other holiday accommodation employment, **Table 2.13**.

APPENDIX A: SOCIO-ECONOMIC BASELINE

Table 2.13 HIE Employment

	2009	2010	2011	2012	% Change
Hotels and similar accommodation	11,100	10,000	11,600	11,400	3%
Holiday centres and villages	200	200	200	100	-17%
Youth hostels	100	100	100	100	1%
Other holiday and other short-stay accommodation	700	800	900	900	29%
Camping grounds, recreational vehicle parks and trailer parks	400	400	400	500	19%
Licensed restaurants	2,900	2,800	2,300	2,700	-7%
Unlicensed restaurants and cafes	1,500	1,500	1,400	1,600	10%
Take away food shops and mobile food stands	1,100	1,100	900	1,000	-10%
Licensed clubs	800	700	700	500	-43%
Public houses and bars	2,500	2,100	2,100	1,800	-27%
Tour operator activities	100	100	100	100	75%
Activities of tourist guides	0	0	0	0	15%
Other reservation service activities	300	300	300	200	-17%
Museum activities	400	300	400	500	21%
Operation of historical sites and buildings and similar visitor attractions	200	100	400	400	135%
Botanical and zoological gardens and nature reserve activities	400	400	400	400	-3%
Operation of sports facilities	1,400	1,500	1,800	1,900	36%
Other sports activities	200	200	200	200	44%
Activities of amusement parks and theme parks	0	0	0	0	-67%
Other amusement and recreation activities	400	400	300	100	-64%
Total	**24,700**	**23,100**	**24,700**	**24,700**	**0%**

Source: BRES

Overall, Scotland has seen a drop in tourism related employment, with a fall in pub and club employment making up the bulk of the drop. Considerable rises in the operation of historical sites and other sports activities have offset this to some extent, **Table 2.14**.

Table 2.14 Scotland Employment

	2009	2010	2011	2012	% Change
Hotels and similar accommodation	49,200	46,500	53,400	50,100	2%
Holiday centres and villages	600	600	600	600	-1%
Youth hostels	500	500	500	500	-8%
Other holiday and other short-stay accommodation	1,800	1,800	2,100	2,000	10%
Camping grounds, recreational vehicle parks and trailer parks	2,200	2,100	2,300	2,300	6%
Licensed restaurants	33,000	33,600	29,000	30,900	-6%
Unlicensed restaurants and cafes	17,500	18,400	17,300	19,300	10%
Take away food shops and mobile food stands	16,400	16,400	13,500	14,700	-11%
Licensed clubs	10,100	8,200	8,400	6,800	-33%
Public houses and bars	31,500	28,000	27,400	23,700	-25%
Tour operator activities	1,600	1,700	1,600	1,400	-15%
Activities of tourist guides	0	0	0	0	9%
Other reservation service activities	900	1,000	1,100	1,100	23%
Museum activities	4,100	3,800	4,500	4,400	7%
Operation of historical sites and buildings and similar visitor attractions	1,000	700	2,400	2,200	115%
Botanical and zoological gardens and nature reserve activities	2,100	1,700	1,900	1,800	-13%
Operation of sports facilities	13,400	12,100	12,400	13,400	0%
Other sports activities	2,000	2,300	2,900	3,800	94%
Activities of amusement parks and theme parks	600	700	600	500	-12%
Other amusement and recreation activities	2,300	3,200	3,000	2,000	-12%
Total	**190,700**	**183,400**	**185,100**	**181,500**	**-5%**

Source: BRES

The location quotient analysis shows that all areas have a proportionately high number of employees with tourism related sub-sectors, **Table 2.15**.

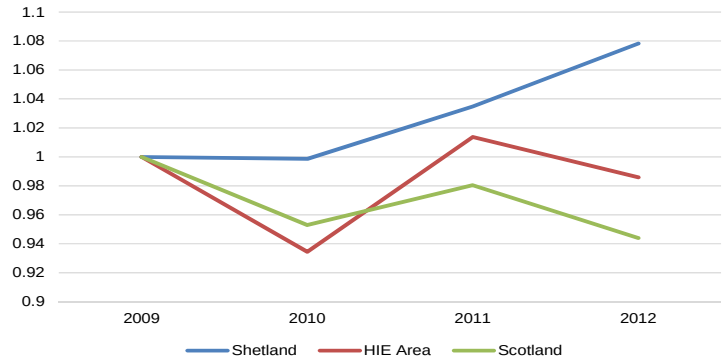
Table 2.15: LQ against Scotland

	Shetland	HIE
Accommodation	1.15	2.64
Food and Beverage Service Activities	0.93	0.93
Tour Operators Activities	0.70	1.62
Museums and Other Cultural Activities	1.80	1.77
Sports, Amusement and Recreation Activities	2.59	1.35

Figure 2.4 shows annual changes set against the baseline

APPENDIX A: SOCIO-ECONOMIC BASELINE

Figure 2.4 Shetland, HIE Area & Scotland - Tourism Employment 2009 = 1



Key sectoral analysis at the Shetland level:

- Scalloway Hotel has a good quality restaurant;
- There is a good range of facilities and attractions in Scalloway;
- Shetland Tourism Plan 2011-14:
  - Shetland is a high cost but niche destination – there is significant competition from other places so need to deliver quality experience and value for money
  - need to enhance the online presence of tourism industry in Shetland
  - need to attract more visitors, and also increase spend per head
  - need to become less seasonal and expand the calendar with more activities, events and festivals
  - Action 4: Broaden the range of products – includes 'investigate opportunities for sport-based holidays in Shetland' (inc. marinas)
- Skills Investment Plan for Tourism Industry in Scotland, Mar 2013, SDS:
  - Tourism industry = £2.9bn direct GVA = 2% Scottish economy
  - Including indirect/wider impacts = £15.8bn = 10.4% Scottish GVA
  - 185,900 people employed in Scotland in 2011 (7.6% total Scottish employment), over half on part-time basis
  - 48% of all jobs are classed as 'elementary'
  - 13,040 tourism businesses = 9% Scottish Total, by sub-sector largest = restaurants/other food (45%), bars (26%) and hotels (14%)
  - key growth areas to 2020 = golf, business tourism, sailing, cruise, activities/ adventure tourism, and mountain biking
  - growth forecast = annual visitor spend of £5.5bn-£6.5bn by 2020 = additional £1bn from 2011 base.

Summary

There are a number of industry sectors and their component sub-sectors that are dependent upon the continued operation of the infrastructure at Scalloway harbour. These sectors have performed well in light of the recent global financial collapse, and would highlight that in particular, the location quotient analysis shows how dependent Shetland is on these sub sectors to support and grow the employment base.

Appendix B
Consultation & Engagement

1.1 Consultation and Engagement

Robust consultation and engagement with key public and private sector stakeholders was undertaken to inform Development Masterplan process. The methodology and approach to this was based on a number of consultation and engagement exercises, notably:

- Consultation workshop (X2) with key stakeholders
- One to one discussions with key stakeholders
- Additional phone/ teleconference interviews

1.1.1 Consultation Workshops

Two consultation workshop events were held on location in the Scalloway Public Hall on the following dates:

- 27th September 2013
- 15th November 2013

There was strong attendance in both events (circa 20 at each event) and included representatives from the following:

- Site tenants and key sector/ business interests:
  - Marine engineering and Logistics
  - Fishing and aquaculture
  - Tourism
- Shetland Island Council Councillors (Harbour Board)
- Highlands and Islands Enterprise
- Local community groups and tourism organisations
- Shetland Fishermans Association
- North Atlantic Fisheries College

1.1.2 A series of Development Planning Interviews were also undertaken on location in on both visits (26th and 27th September/ 14th and 15th November) and these included interviews with:

- Shetland Island Council including:
  - Economic Development
  - Planning
- Highlands and Islands Enterprise
- Scalloway Harbour Office
- Additional businesses on the ground

1.1.3 One to One Discussions

Independent of one to one consultations undertaken on site in Scalloway and Shetland, as well as elsewhere, a series of teleconference/ telephone interviews were undertaken with key stakeholders. This included:

- Scottish Government
- Lerwick Port Authority
- Key industry sector actors:
  - Renewables
  - Cargo shipping and freight logistics
  - Oil and Gas emergency response units
  - Further interviews with key sectors in fishing, aquaculture, marine supply sectors.
- Highlands and Islands Enterprise:
  - Energy and Low Carbon

Appendix C
Environmental Considerations

Policy	Option A	Option B	Option C	Option D
MSP NOISE 1: Minimising Levels of Noise Including Underwater Noise	No impacts	Some element of noise underwater during the construction phase in terms stock pilling. Noise assessment will be required.	Some element of noise underwater during the construction phase in terms stock pilling. Noise assessment will be required.	Some element of noise underwater during the construction phase in terms stock pilling. Noise assessment will be required.
MSP SHIP1: Safeguarding Navigation Channels and Port Areas	No Impacts	Construction phase impacts / longer term gain. Will need to manage port activities in the context of construction phase.	Construction phase impacts / longer term gain. Will need to manage port activities in the context of construction phase. Noise assessment will be required.	Construction phase impacts / longer term gain. Will need to manage port activities in the context of construction phase. Noise assessment will be required.
MSP HER3: Development near to European Protected Species	No Impacts	Ecological Surveys i.e. Otter will need be undertaken	Ecological Surveys i.e. Otter will need to be undertaken	Ecological Surveys i.e. Otter will need to be undertaken
MSP HER10: Safeguarding Seascape Character and Visual Amenity	No Impacts	LVIA should be undertaken to address potential impacts and sensitive design pursued to ensure fit with surrounding area	LVIA should be undertaken to address potential impacts and sensitive design pursued to ensure fit with surround area	LVIA should be undertaken to address potential impacts. Sensitive design pursued to ensure fit with surrounding character area.
MSP HIS3: Safeguarding Locally Important Heritage Assets	No Impacts	Consider Scalloway Castle SAM. Least obtrusive of the options B, C and D. Sensitive design, scale and colour.	Consider Scalloway Castle SAM Consider Scalloway Castle SAM, particularly in terms of sight lines and amenity value of the Castle.	Consider Scalloway Castle SAM, particularly in terms of sight lines and amenity value of the Castle.
MSP COM1: Community Considerations	No Impacts	Consultation (PAC) likely to be required with local community	Consultation (PAC) likely to be required with local community	Consultation (PAC) likely to be required with local community
MSP REC1: Safeguarding Marine Recreation	No Impacts	Need to make sure that there are no adverse effects on marinas and ensure that rights of access are maintained during the construction	Need to make sure that there are no adverse effects on marinas. Rights of access will need to be maintained during consturciton.	Need to make sure that there are no adverse effects on marinas. Greater impact on marine leisure tourism in the harbour area during construction period, will need to

		phases.		ensure rights of access are maintained during construction.
MSP AQ2: Fish farm Management Agreements	No Impacts	Option not likely to impact on FFMA in the surrounding area	Option not likely to impacts on FFMA in the surrounding area	Option not likely to impacts on FFMA in the surrounding area
MSP NRG3: Wave and Tidal Development Proposals	No Impacts	No significant impacts envisaged, port assets improved that will benefit this policy	No significant impacts envisaged, port assets improved that will benefit this policy	No significant impacts envisaged, port assets improved that will benefit this policy
MSP TR1: Tourism and Leisure Developments	No Impacts	Will need to ensure that new development does not adversely impact on marinas in the harbour area.	Will need to ensure that new develop does not adversely impact on marinas in the harbour area.	Will need to ensure that new develop does not adversely impact on marinas in the harbour area.
MSP TRANS1: Port and Harbour-related Development	May not contribute to achieving this policy as the Do Nothing Scenario may not provide the physical assets required to meet harbour and port related development	Long term benefits in terms of improving the economic potential of the port and harbour area, in terms of capturing greater market share	Long term benefits in terms of improving the economic potential of the port and harbour area, may result however in some conflicts between users in terms of loss of aquaculture	Long term benefits in terms of improving the economic potential of the port and harbour area. Greater scope for impacts on fishing and aquaculture uses in both the construction and operational phases.

Appendix D
Funding Review

Funding Review

A number of these funding streams are currently coming towards the end of the programme/project life (for European Programmes usually a seven year period i.e. 2007-2013) and are closed to new applications. While some new programmes are being developed for the forthcoming period (which in the case of the Structural Funds programmes, 2014-2020) there is little detail available regarding new funding priorities. It should also be noted, however, that Structural Funds Programmes will be required to demonstrate close fit with Europe 2020, the European Union's new strategy in which five key priority areas are identified for intervention: employment, innovation, education, poverty reduction and climate/energy.

Highlands and Islands Enterprise

Highlands and Islands Enterprise (HIE) provides strategic support for the six key sectors identified within the Scottish Government's Economic Strategy: Creative Industries; Energy; Business Services; Food and Drink; Life Sciences; and Tourism.

HIE looks to fund projects that will:

"***accelerate private sector-led business investment, which target wealth creation through increased employment and enhanced quality of jobs, and which improve productivity and efficient use of resources***"[1].

There is therefore scope to attract HIE support for the new pier proposals as a key infrastructure asset to support the energy sector and also help diversify the employment/business base on Shetland.

Funded Projects

Examples of recently funded projects include:

- Wick Harbour (Currently ongoing)
  - Contributed £200,000 of total £450,000 for renewables sector
- Scrabster Harbour (2011 – 2013)
  - Contributed £5 million of £20 million; for renewables sector
- Barra Harbour (2013 – ongoing)
  - Contributed £125,000 of a total £1.5 million; Fish processing and exporting

[1] http://www.hie.co.uk/business-support/funding/

- Stornoway Inner Harbour Regeneration (2013)
  - Contributed £883,450 of £992,450 total; Tourism
- Lochboisdale Harbour Regeneration Project (Currently ongoing)
  - Contributed £5.2 million of £10m; Commercial use And wider regeneration.

Although at an early stage, there is also a need to identify other business growth and development opportunities that could be facilities by the new pier development. It is recommended that further discussion is undertaken with HIE to identify further opportunists for support and collaboration.

EU Funding

Whilst the EU funding Programmes are still out to consultation we have provided a breakdown of possible funding streams below. In particular, we would highlight that, moving forward there will be much more of a focus on an integrated approach to sustainable development. Projects that can demonstrate a broad fit across different programmes and funding sources are more likely to receive awards from complimentary funding streams.

The following EU programmes (2014 – 2020) are currently out to consultation, therefore there is no clear indication or confirmation about future funding priorities. That being said, based on the previous Programmes and early consultation work, there are three key funding Programmes that might be appropriate for the Scalloway Harbour development, considered below.

European Maritime Fisheries Fund

The European Maritime Fisheries Fund (EMFF) has a number of key objectives, including:

- help fishermen in the transition to sustainable fishing;
- support coastal communities in diversifying their economies;
- finance projects that create new jobs and improve quality of life along European coasts; and
- make it easier to access financing.

Through the development of new pier facilities that will enable an increased number and increased size of fishing vessels to operate from Scalloway Harbour, as well as providing upgraded and improved onshore facilities (fish market) – the development options will help the longer term sustainability of the sector in Scalloway.

There is therefore a potentially strong strategic fit and link with the EMFF.

LEADER

LEADER is a bottom up programme which helps support the delivery of the Local Development Strategies of local authority areas within Scotland. There are 20 Local Action Groups (LAGs) across the country, which are responsible for selecting projects and administering funding. Scalloway would be eligible to apply for support from the Shetland LEADER LAG.

Applications for Shetalnd LEADER for 2007-2013 are now closed, however consultation work is underway for the following programme period (2014-2020) to determine the priorities that will inform the Shetland LEADER 2014-2020 Programme's Local Development Strategy.

For the programme period 2007-13 in total LEADER delivered support amounting to £52m (£2m to Shetland). It should be noted that an additional £19.2m Convergence Funding was awarded to seven LAGs in the Highlands and Islands (including Shetland) to account for the remote location and previous status of being a disadvantaged area.

In particular LEADER funds projects which demonstrate a strong fit with the Local Development Strategy, and has historically prioritised innovative actions, especially those involving community empowerment and capacity building. It also has supported business networks to build knowledge and skills, and encourage innovation and co-operation.

While the detail of the future LEADER Programme is not expected to emerge much before the end of 2014, there is likely to be some scope to attract support for the development of onshore facilities.

The prospects for success will be enhanced if the new uses were linked in some way to:

- community-based initiatives;
- encouraging diversification of the rural economy, particularly in favour of new and/or growing sectors such creative industries; and/or
- the development of the social economy.

While LEADER does not normally have large pots of funding available to support capital investment, it could make a contribution to the refurbishment costs. Beyond this LEADER funding could be applied for to support the costs of market demand or feasibility studies for the development of commercial facilities.

European Regional Development Fund (ERDF)

The ERDF Regional Operational Programme for the Highlands and Islands of Scotland 2007-2013 is structured around four key priority axis[2]:

1. Enhancing business competitiveness, commercialisation and innovation (approx. 41% of total funding);
2. Enhancing key drivers of sustainable growth (approx. 32% of total funding);
3. Enhancing the sustainable growth of peripheral and fragile communities (approx. 25.% of total funding); and
4. Technical assistance (approx. 2.5% of total funding).

Priority Axis 3 focuses on those communities based on islands or remote mainland areas where access to services is limited. Transport is identified within this priority.

Details of funding priorities and key thematic areas of intervention for the next programme period (2014-2020) are yet to be announced; over 2007-2013 a total of £73m funding was made available for Axis 3 projects.

There is potential for the development to access Priority 3 funding, in particular due to linkages with the energy oil and gas and possibly renewables sector. Cromarty Firth Port Authority is a recent example of an ERDF funded project within Scotland. A £2.6m contribution was awarded for capital works costing a total of £20 million (an intervention rate of around 13%), including the reclamation of land, in a project focused primarily on developing the harbour to support growth in the energy sector.

Coastal Community Fund (CCF)

The main objective of CCF is to encourage economic development within UK coastal communities through funding to support sustained economic growth and job creation. The funding is provided by the Crown Estate and the Big Lottery Fund.

The funding timescale was originally 2013-15, however, the Government has extended it to 2016. Applications for 2013/14 are now closed with Scottish allocations being announced in December 2013. Further detail regarding applications for 2014/15 has recently been announced.

A total of £2.85m will be available for projects based within the Highlands of Scotland in 2014/15 with a further £1.95m available for the rest of Scotland. In the first year of funds,

2 http://ec.europa.eu/regional_policy/country/prordn/details_new.cfm?gv_PER=2&gv_PAY=UK&gv_reg=ALL&gv_PGM=1015&gv_defL=7&LAN=7

eighteen projects received a total of £3.55m funding ranging from a low of c. £50,000 to a high of c.£370,000 with an average funding amount received being c.£190,000.

The funding stream has proved popular and therefore competition between projects is high. In year one a higher the number of applications submitted significantly outstripped the available funding which meant a need for prioritisation. This was based on the following criteria[3]:

- clear, evidential outputs;
- job creation (particularly direct and indirect jobs within the project timescale);
- ability to deliver outcomes within the project timescale; and
- sustainability of activity and longer term impact.

[3] http://www.biglotteryfund.org.uk/global-content/programmes/uk-wide/coastal-communities

Sullom Voe Harbour
Development Masterplan

IronsideFarrar / EKOS

8150 / October 2014

Contents


THORA
TIRRICK
LERWICK

Introduction 01

1.1 Introduction

Sullom Voe and associated land at Sella Ness offer strategic economic opportunity for the Shetland economy and Scotland. The port and associated facilities are located adjacent to the Sullom Voe Oil Terminal and create strategic value by virtue of their location, deep water capability, scale and service support potentially across a number of sectors.

New developments in the West of Shetland basin has led to the identification of major new oil and gas fields (Foinaven / Schiehallion / Loyal / Clair / Laggan / Tormore) with significant new activity in field exploration and development. Floating production, storage and offloading (FPSO) STOL vessels have been used in the development of the Foinaven and Schiehallion fields, while the giant Clair field is being developed around fixed platforms and a Sullom Voe pipeline.

Sullom Voe offers sheltered water, providing suitable marine access for large vessels; its location is beneficial in relation to large oil and gas transhipment from the terminal and additionally offers short access times to oil and gas fields in the west of Shetland. The site is well located for future potential renewable energy development sites. In addition, Scatsta airport is an important asset in the area acting as an essential base for energy sector related air transport.

Sullom Voe is a strategic national asset for the energy sector in the UK. It is also a key facility within SIC's Port and Harbours portfolio. In conjunction with Scalloway and Lerwick, the three ports are critical assets for the economy of Shetland, providing important shore access and harbour facilities to meet the needs of the key sectors which constitute the Shetland economy.

1.2 Consultancy Brief

Ironside Farrar and Ekos Economic Consultants have been commissioned by Shetland Island Council (SIC) and Highlands and Islands Enterprise to undertake a development planning study in respect of Sullom Voe and adjacent lands, Shetland. The study addresses the port, harbour and adjacent land.

The aim is to review development options and develop a masterplanning strategy that will maximise the value of the area's key assets to ensure that the opportunities for Sullom Voe are optimised and the area can continue to maximise its contribution to the Shetland economy.

The Development Masterplan for Sullom Voe and surrounding areas includes a detailed review of the key assets that constitute the harbour and surrounding lands. Key assets include the construction jetty and adjacent lands, Sella Ness Tug Jetty and associated land facilities, the Sella Ness Industrial Estate, Scatsta Airport and adjacent lands. These facilities provide the key assets that constitute the strategic opportunity for future development.

The masterplan has been developed in close consultation with stakeholders i.e. industry and business sectors, local community and the public sector and is supported by market research and sector analysis into future needs. Detailed sectoral studies have been undertaken to better understand key market needs associated with the energy sector (namely oil and gas and the renewable energy sectors) as well as opportunities to expand other supporting potential industrial uses. The objective of the process is to identify the strategic opportunity for Sullom Voe and surrounding lands, and to set out the interventions and private sector opportunities necessary to provide a growth model that can continue to make a significant contribution to the local economy.

The Development Masterplan outputs will inform potential investment decisions in the short-medium and longer term, and will be aligned with early actions for discussion within the Council and with partner interests.

1.3 Development Background and Context

Development at Sullom Voe has involved a number of phases the most significant being linked to oil and gas development of the North Sea and development of the Sullom Voe Oil Terminal.

Sullom Voe forms a sheltered deep water inlet between Delting and Northmavine that leads out into Yell Sound. Named after the tiny settlement of Sullom on its east shore it was a quiet backwater, home to a few fishing settlements, until the onset of World War II.

The first major development was an RAF flying boat base to support air reconnaissance in the North Atlantic with the development of an airfield built at RAF Scatsta and associated support facilities at Graven. The discovery of North Sea oil required a transhipment terminal with oil from the Brent and Ninian Fields being piped to Sullom Voe where the terminal and a sheltered port facility were constructed for oil and gas treatment, storage and transhipment by tankers. The terminal operated by BP on behalf of a range of partners and field developers was completed in 1981 and covers some 1000 acres,

Sullom Voe Terminal's primary purpose was to handle production from 38 oilfields in the East Shetland basin. Its role and capability is to take hydrocarbons from offshore, to stabilise the oil, split the hydrocarbon into oil and gas and to then export the stabilised crude oil by tanker to refineries around the globe. Production is now received through the Brent, Ninian and Clair pipelines and by shuttle tanker from the West of Shetland. Sullom Voe was built for the production of around 1.3 million barrels a day and reached a major milestone in 2010 handling its eight billionth barrel of oil.

New investment is being made in the West of Shetland area with a further injection of investment in the Clair and Schiehallion oil fields leading to a full upgrade of the Terminal. A phased programme of upgrading of the terminal will extend through to 2020. Investment at the terminal will support BP's plans to invest £3 billion on the development of the Schiehallion project and a further £4.5 billion on the Clair oil field. Clair is a major field with between seven to eight billion barrels of oil and is expected to come on-stream in 2016.

Total are approaching the completion of a Gas Production Plant as part of the Sullom Voe Gas Plant (SGP) project to meet gas supply infrastructure and treatment needs from the Laggan / Tormore fields. In the near future Sullom Voe Terminal will start a project to build a Gas Sweetening Plant as part of the BP Sullom Voe (SVT) project for the treatment of the gasses produced from Schiehallion / Foinovan / Clair ridge Fields. This involves the removal of hydrogen sulphide to allow the gas to be used at Sullom Voe and exported to the Magnus field—where it is injected into the reservoir to increase recovery (EOR scheme).

Introduction 01

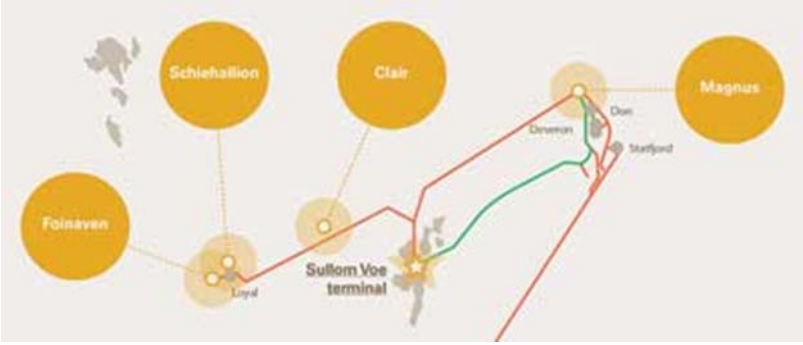


Fig 1. Sullom Voe and BP-operated Shetland area fields.

BP anticipates some 1000-1500 people will be based at Sullom Voe throughout the development process of these major upgrades, more than doubling the current 220 staff and 300 contractors based at the terminal and with a probability of significant peaks in contractor activity to deliver key milestones and programmes.

Investment at Sullom Voe Oil Terminal has spin off impacts throughout Shetland and specifically at Sella Ness in relation to the development of service plots; need for laydown area; temporary accommodation facilities; and Scatsta airport in terms of charter flights and fixed wing helicopter journeys to offshore rigs.

BP's best understanding in terms of forward vision for the terminal is that it will continue to be a critical element of infrastructure that needs to be operating efficiently, online and capable of running at lowest possible cost. This strategy should see its life extended through to 2030 and 2040.

In developing a future strategy for Sullom Voe and the harbour and land assets there is a need to assess current and future activity with the view to maintaining a market–ready flexibility whilst ensuring strategic assets are safeguarded and managed to maximise economic and opportunity value going forward. The Development Masterplan seeks to ensure a strategy that is complimentary to development in other ports and harbours in Shetland.

Figure 2: Study Area

1.4 Study Area

The study area extends to the whole of the Sullom Voe Harbour Area which includes Sella Ness, the (SVT: Construction Jetty Area) and Scatsta Airport including adjacent land.

The Shetland Islands Council as Harbour Authority is responsible for the port of Sullom Voe and its operation which extends east to include the Sella Ness harbour area. Currently, a number of leases are in place for land around the Harbour Area including at Scatsta and the Sella Ness Industrial Estate.

Sullom Voe is one of the biggest oil ports in the world. The port and harbour area is located at the Northern end of the largest of the Shetland Islands and is one of the largest oil terminals in Europe.

Sella Ness Industrial estate is located immediately east of the port area while Scatsta airport is located south of the harbour area. There are a number of residential and industrial units located east of the B9076. The closest settlement is Brae, located approximately 5 miles south of Sella Ness.

Introduction | 01

Policy Context Review 02

2.1 Shetland Context

The population of Shetland was approximately 23,000 in 2011 dispersed around 16 inhabited islands. The key sectors of the economy include fishing, aquaculture and agriculture, oil servicing, knitwear, tourism and the creative industries. Lerwick is the main centre.

Key transport connections include ferry services to the mainland, as well as regional flights to Aberdeen, Glasgow, Edinburgh, and Inverness. The Shetland economy topped £1 billion in 2010/11, an increase of 27% since 2003.

Sullom Voe Harbour is in the North Mainland and was developed substantially in response to oil development and establishment of the Sullom Voe Oil Terminal in the 1980's. Sullom Voe Harbour forms one of three primary ports/harbours in Shetland. Development planning needs to be complimentary to facilities at Port of Lerwick (Ro Ro/ Lo Lo links to Aberdeen, Kirkwall) and Scalloway. Ports and harbours are essential to the economy of Shetland and its future. It is important that all and any development takes due account of the context of port needs across the Shetland economy in making recommendations for the Development Masterplan.

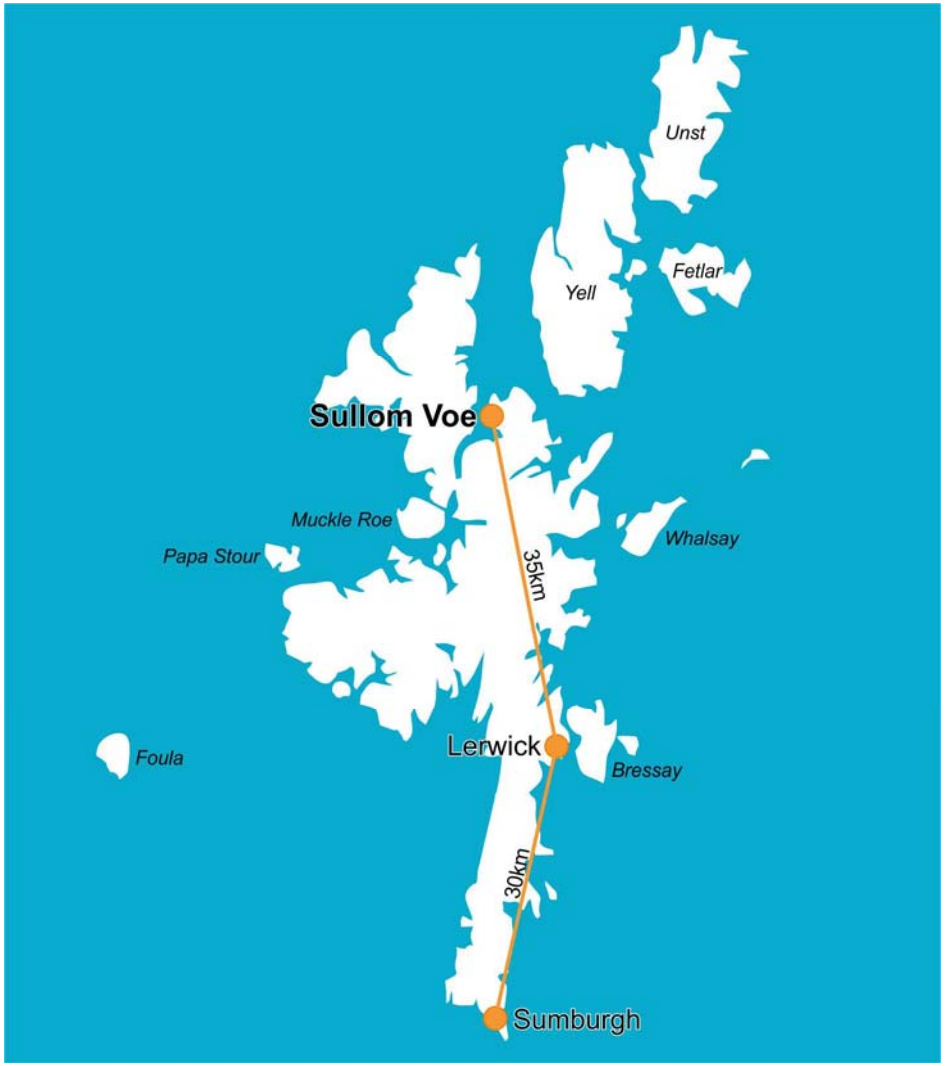


Figure 3: Shetland Context

2.3 National Planning Framework

The National Planning Framework (NPF) 2 was published by the Scottish Government in June 2009. The second National Planning Framework (NPF2) takes forward the spatial aspects of the Scottish Government's committed to creating a more successful Scotland. NPF2 is concerned with how Scotland will develop over the next 20 to 25 years and where things need to happen to make that possible.

NPF2 articulates the spatial consequences of policies for economic development, climate change, transport, energy, housing and regeneration, waste management, water and drainage, catchment management and the protection of the environment. It identifies key strategic infrastructure projects as national developments and reflects the ambitious emissions targets which will see us move to a low carbon economy. It embodies the Scottish Government's continuing commitment to realising the potential of places, highlighting economic and environmental opportunities in each and every part of Scotland.

Sullom is identified as a strategic location within NPF2 for its sheltered deep water which offers the potential to create a ship-to-ship and shore-based oil transfer facility.

A new National Planning Framework (NPF3) is currently at Main Issues Report Stage. The MIR has identified a series of objectives that will seek to make Scotland:

- A Low Carbon Place
- A Natural Place to Invest
- A Successful and Sustainable Place
- A Connected Place

Within these objectives there is a strong emphasis on internationalisation, key growth sectors including tourism, renewable energy and 21st century infrastructure including ports. The future opportunities in the oil and gas sector are identified in draft NPF3 specifically in relation to the West of Shetland and the North Sea as well as the economic importance of the Sullom Voe facility and the Total Gas Plant as key assets.

2.4 National Renewables Infrastructure Plan

The National Renewables Infrastructure Plan (N-RIP), published by Highlands and Islands Enterprise (HIE) and Scottish Enterprise, highlights the transformational economic opportunities associated with the renewable energy sector describes a number of sites identified for investment that will play a key role in the expansion of the offshore renewables market. Sella Ness has been identified as a medium term potential offshore renewable site, as designated outside Stage 1 sites that could support the industry. It is anticipated that NRIP3 will focus on opportunities for assembly and operations and maintenance of off-shore arrays and that Sullom will be identified as having a potential role in these areas.

2.5 Scottish Planning Policy

Scottish Planning Policy (SPP) – sets out the Scottish Government's planning policy guidance on a wide range of topic areas, including transport, protection of the environment, climate change, minerals, landscape and natural heritage.

2.6 National Transport Strategy

Ports have been identified as a key sector in terms of economic health in the NTS 2006, specifically in the areas of cargo movement, the ferry industry and tourism i.e. cruise liner, leisure craft. This is reaffirmed in the National Strategic Project Review, particularly in the context of supporting international connections and in terms of cohesiveness for remoter communities. It identifies the importance of 'Lifeline' ports serving the Island communities (carrying both freight and passengers).

Shetland Ports

Port of Lerwick and Scalloway Harbour together with Sullom Voe Harbour form the three primary ports on the Shetland Mainland.

Port	Capacity and Operations	Tonnage
Port of Lerwick	Multi-functional primary port combining all key sectors (oil & gas/ freight / fishing/lifeline services/ general cargo) and with major expansion and re-investment currently in progress.	
Scalloway Harbour	Multi-functional secondary port combining key sectors (fishing / freight / services support) with opportunity for expansion to service West of Shetland	
Sullom Voe	Strategic port linked to Sullom Voe Oil Terminal (oil) and operational base for tugs / support services	

Shetland Airports

Lerwick and the various airports are also important in terms of future development strategies for Shetland. The three airports in relation to Shetland include:

Airport	Flights	PAX 2011
Scatsta	Oil Charter Flights/ Helicopter base	288,000
Sumburgh	Kirkwall, Aberdeen, Glasgow, Edinburgh and Inverness	144,000
Tingwall	Fair Isle, Out Skerries, Foula, Papa Stour	5,000

2.7 Shetland Marine Spatial Plan

The Shetland Marine Spatial Plan was prepared to ensure that use of the resources of the marine and coastal environment off Shetland is sustainable. It has 3 key objectives:

SOC (Society): Ensure a high quality, fully functioning marine and coastal ecosystem through sustainable use for the health, cultural benefit and prosperity of local communities;

ENV (Environment): Protect and enhance Shetland's marine waters and coastal environment, in particular where there are locally, nationally or internationally important biodiversity and geodiversity features, whilst taking account of natural changes; and

ECON (Economic): Promote sustainable marine development and identify in consultation with marine stakeholders the differing priorities for sustainable use (for example fishing, aquaculture, recreation & tourism, marine renewables and nature conservation).

It identifies the importance of the marine and coastal environment to the Shetland Economy, which is estimated to support 3,102 jobs, over 144 businesses and £302 million turnover annually. The key sectors identified are:

- Oil and Gas Terminal
- Oil Supply Services
- Fish Catching
- Aquaculture
- Tourism
- Ports and Harbours
- Fish processing
- Marine Engineering
- Sea Transport
- Support Service Industries

2.8 Shetland Structure Plan 2001-2015

Approved by Scottish Ministers in 2001, the Shetland Structure Plan establishes a land use planning framework for Shetland until 2015. The Structure Plan has 4 key aims:

- To maximise the competitiveness of the Shetland economy
- To protect and promote the vitality and viability of existing settlements
- To protect and enhance the natural and built environment
- To promote social inclusion

The Plan recognises the important role that ports, harbours, ferry terminals and bridges have to the economy and the daily life of Shetland. It promotes policies for the safeguarding of these assets from inappropriate development that will limit their potential.

2.9 Shetland Local Development Plan (Emerging) 2012

The current statutory land use plan is the Shetland Local Plan 2004. The emerging plan has been sent to Scottish Government for Examination and is expected to be approved. The key considerations for Sullom Voe harbour relate to Business and Industry, specifically Policy SGED1 which deals with Industrial areas and Sites with Development Potential. In terms of Sullom Voe, the key considerations are three sites which have been designated as Sites with Development Potential:

- ***NM 004 Scatsta -*** Site is designated for proposed industrial use.
- ***NM 005 Sella Ness -*** Site is designated for proposed Industrial use and is to be progressed for employment use.
- ***NM 020 Sella Ness -*** Site is proposed for Industrial use and includes the Industrial Estate. The site is to be progressed for general industrial use.

The development of new, or extensions to existing, business and industrial enterprises in Use Classes 4, 5 and 6 will be supported within the defined industrial areas, sites with development potential for business and industry and brownfield sites. The Action Programme identifies the indicative timescales for the development of the sites with development potential for business and industry.

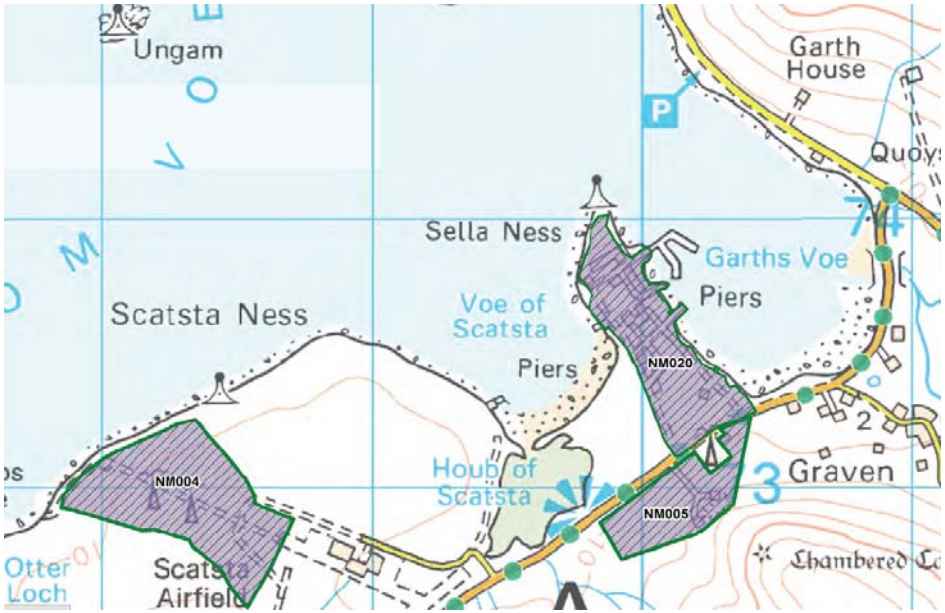


Figure 4: Shetland Local Development Plan (Emerging) 2012

2.10 Environmental Considerations

Sullom Voe SAC

Sullom Voe SAC encompasses the entire harbour area and is designated for its statutory qualifying interests including reefs, lagoons, shallow inlets and bays. There are environmental sensitivity considerations with respect to this designation in terms of any future development at Sella Ness and Sullom Voe.

Voxter Voe and Valayre Quarry SSSI

An area located south in the Voe immediately north of Brae, hugging the inner part of Voxter Voe and the adjacent coastline. The designated site extends to an area of 24.52ha and is designated for its structural and metamorphic geology (Moine).

Cultural Heritage

There are memorials at the Rangatera car park (2nd World War) on the approach road to Sullom Voe Terminal and the Mossbank junction with the A970 (the Delting Disaster of 21st December 1900) A Cairn is located approximately 1 km southeast of the Sella Ness Pier.

Airport Safeguarding Area

Scatsta Airport is located immediately south of the Sella Ness Port and Industrial Estate. This is an important consideration for future development proposals particularly in relation to height restrictions.

Flooding

Coastal Flooding issues could potentially arise for any development surrounding the port area, due to the land generally being below the 5m contour.

Marine Environmental High Risk Areas (MEHRAs)

Environmental requirements of any regions in which their ships will operate. Routeing measures aim to encourage ships to follow routes which reduce likelihood of vessel colliding, running ashore or getting into difficulties.

Pipeline and Cable

The oil and gas pipelines enter the harbour with land falls to the North (Clair (oil) / Schiehallion / Foinovan / Magnus Gases in and out for MEOR) and East (Brent / Ninian) of the Sullom Voe Terminal Facility. Gas and telemetry pipelines also travel North (to/from the Laggen / Tormore facility) and East (out to the FLAGS Gas Pipeline (Far North Liquids and Associated Gas System)) from the Total Sullom Voe Gas Plants (SGP) .

Ecology

The Voe area is a habitat frequently used by Otters, which are European protected species. There will be a need for survey requirements in respect of any future development proposals. The SMSP has also identified large colonies of birds in the area, particularly Arctic and Great Skua colonies. Wintering birds are also present, including important species of Elder Duck. Significant seal populations are present in the harbour area particularly on Ungam island in the middle of the Voe. SOTEAG has extensive baseline survey data associated with both marine and terrestrial habitats, protected species and ecological sites of interest. Any future ecological surveys should be coordinated with SOTEAG data and reflect SICs Marine Spatial Plan.

Wrecks

There are 4 recorded wrecks in Garths Voe with further recorded in the wider Sullom Voe Harbour Area.


LERWICK

Socio Economic Baseline 03

3.1 Introduction

A detailed socio-economic baseline analysis has been prepared. The full review is provided at Appendix A – this section provides an overview of key areas that may impact on future strategies and development of Sullom Voe. It should be noted:

- Analysis at the Sullom Voe level is taken from the datazone (SIMD S01005517) within which the Sullom Voe oil terminal is located, which is the lowest level of analysis available.
- There are some reporting restrictions on disclosing data at the Sullom Voe level i.e. where very small numbers could lead to identification of individuals. We are therefore only able to report data values for Sullom Voe for some topic areas – where this is the case we have presented analysis of the scale of change rather than the quantified value.

In considering the socio-economic profile and past trends we have presented data for three comparator areas: Shetland, HIE area and Scotland, and have provided historic trend analysis. The HIE area is made up of the six Local Authority areas of Argyll & Bute, Eilean Siar, Highland, Moray, Orkney and Shetland. Trend series data varies by topic area dependent on the availability of comparable historic data e.g. BRES was introduced in 2008 replacing ABI and uses different definitions making retrospective analysis before 2008 problematic.

3.2 Population

The total population of the Sullom Voe area is 912, which is slightly down 1% since 2001 compared to increases of 2% in Shetland, 3% in the HIE area and 4% across Scotland as a whole. The structure of the population surrounding Sullom Voe differs from the comparators with a greater proportion of males, children and people of working age, presumably due to working age families moving to take employment at the oil terminal.

Future population projections are unavailable at the Sullom Voe level, but for the comparator areas, Shetland is forecast to see 1% increase over the next 25 years, set against much bigger increases for both HIE and Scotland, at 7% and 10% respectively.

3.3 Business Base

Business base data is not available for the Sullom Voe area after 2008, but from 2003 - 2008 the number of businesses declined in the area by 16% (albeit from a small starting point), compared with a 1% rise in Shetland, 10% for HIE and 8% across Scotland.
More recent data is available for the three comparator areas. Between 2009 and 2013 there was a 6% increase in the number of businesses in Shetland, compared with 1% increase at both the HIE and Scotland levels.

In 2013 there were 1,685 businesses in Shetland, an increase of 6% from the 2009 base of 1,585.

The key business sectors in Shetland in 2013 were ‘agriculture, forestry and fishing’ (32%), ‘construction’ (9%), ‘retail’ (7%), ‘professional, scientific and technical’ (7%) and ‘production’ (6%) which each recorded over 100 businesses.

Between 2009 and 2013 the major changes in the Shetland business base were in three sectors which together generated 18% increase – ‘agriculture, forestry and fishing’, ‘professional, scientific and technical’ and ‘health’.

3.4 Employment and Unemployment

The employment profile for the Sullom Voe area shows a significant increase of 300 jobs (44%) between 2009 and 2012, compared with reductions in Shetland (-12%), HIE (-4%) and Scotland (-4%). The key factors contributing to the increase are employment at Scatsta airport and significant employment in constructing the new Shetland Gas Plant.

Unemployment in Shetland is generally lower than both the HIE area and Scotland as a whole, however, in the Sullom Voe area, unemployment is consistently higher than Shetland, although rates have converged in the last year to around 1% on the claimant count measure.

3.5 Housing

Sullom Voe has seen a decline in the number of housing units in the area by 8% over the last decade compared to rises of 6.2% in Shetland, 8.1% in the HIE area and 5.7% in Scotland as a whole. Housing in the Sullom Voe area is 48% semi-detached and 51% detached, and vacancy rates have decline over time, down from 9% in 2007 to 3% in 2012.

Further housing details are unavailable at the Sullom Voe level, but examining the Shetland level, the average house price in 2011 was £115,250, £16,373 below the HIE area average and £31,750 below the Scottish average. In common with the rest of the country, Shetland saw a sharp decline in house sales from 2007 with the onset of the global recession, but at 31%, this fall was much lower than the 45% recorded at the HIE area level and 59% at the Scotland level. Furthermore, by 2011 house sales had recovered in Shetland to 95% of their 2007 volume, whilst they have stagnated in the comparator areas.

3.6 Skills and Qualifications

Data for skills and qualifications is unavailable at the Sullom Voe level.

Over one third (35%) of the working age population in Shetland have higher education level qualifications, however, in comparison with Scotland, Shetland has both less people with no qualifications and less highly skilled people than the Scottish average Pupils in Shetland have historically had a higher level of educational attainment in exam results than their counterparts in the rest of Scotland. S4, S5 and S6 pupils are around ten percentage points more likely to achieve higher levels of educational achievement than their comparators across Scotland, however, the most common destination for Shetland school leavers is to go straight into employment, compared to the HIE area and Scotland where higher education is the most common destination. The destination choices of school leavers could be down to a number of factors. Firstly, there is a lack of access to Higher and Further Education provision in Shetland compared to the rest of the country, and those school leavers not willing to leave the islands may prefer to enter employment. Secondly, the structure of the Shetland economy shows a lower proportionate share of traditionally 'higher value' jobs that require higher levels of qualifications and a greater prevalence of jobs where higher levels of qualification are not a prerequisite.

Flight arriving at Scatsta March 2014

Site Appraisal | 04

4.1 Introduction

The Port of Sullom Voe is owned and operated by Shetland Islands Council as Harbour Authority. It is located to the north of the Shetland mainland approximately 5 miles north of the village of Brae.

Sullom Voe Harbour area including Sella Ness and the oil terminal is accessed by the B9076, which connects to the A970 at Brae or the A968 west of Mossbank. These roads form the main route south to Lerwick, Scalloway and Sumburgh airport. The access road runs west from the B9076 which skirts Garths Voe and provides access to the BP terminal. There exists a single access road to the Sella Ness Pier and Industrial Estate, which is served by an internal road network.

There study area included three inter-related but distinct sites and that include:

- Sella Ness Port and Industrial Estate (4.2)
- Sullom Voe Terminal (SVT) and Construction Jetty Facility (4.3)
- Scatsta Airport and adjacent lands (4.4)

Sullom Voe Harbour including Sella Ness is owned by Shetland Island Council and is within the Ports and Harbours operations portfolio. Sullom Voe Terminal (SVT) was transferred by the Council to the Shetland Charitable Trust (SCT) and then leased back and subsequently sub-leased to the SVT operators. The lease is due for renewal/renegotiation some time prior to its termination date of 31 August 2025.

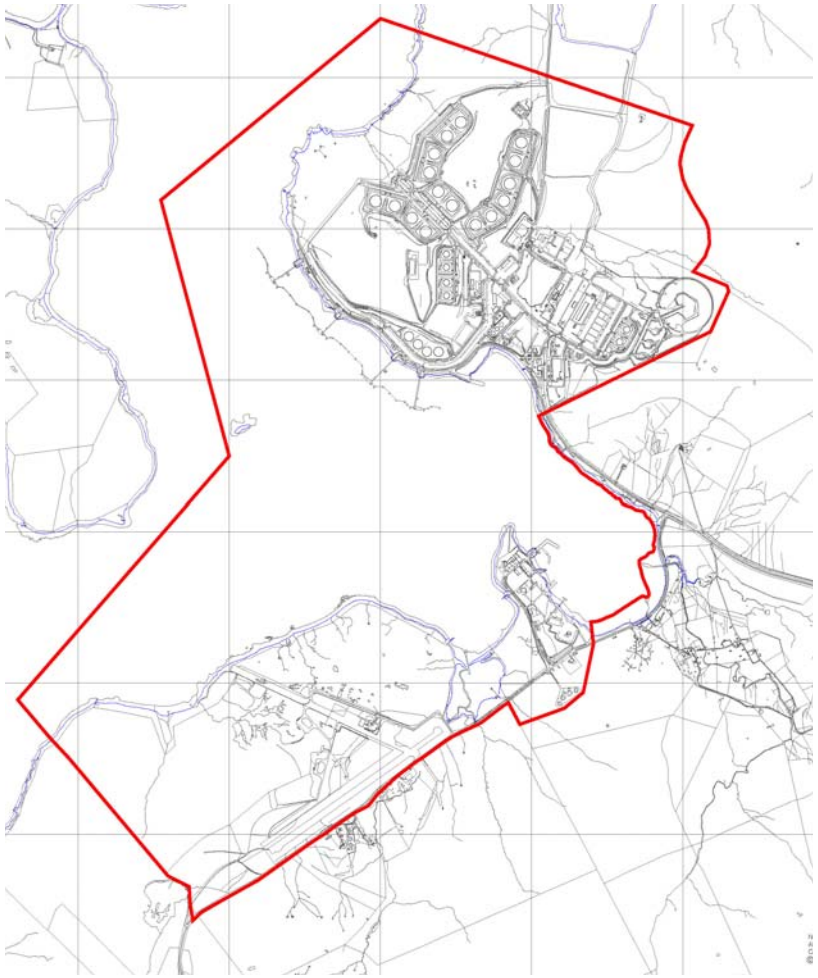


Figure 5: Areas of Study

4.2 Sella Ness Port and Industrial Estate

Sella Ness Port and Industrial Estate (19.7 ha) is located to the east of Sullom Voe, immediately south of Garths Voe. The peninsula is divided between Sella Ness Port (Sullom Voe Harbour Authority) and the Industrial Estate. The port comprises the following:

- Port Administration Building with workshops,
- Sheds for Pilot boats and facilities for SIC marine operations
- Pilot Bunk House
- Warehousing sheds and offices (Leased to BP)
- Oil Spill Response Storage facility
- Associated laydown Space
- Park and Ride Facility
- Tug Jetty (some fendering required for cargo ships).
- LPG cylinder and bottles are locally available

Sella Ness Industrial Estate

The Industrial Estate was developed in the late 1970's/early 1980's by the public sector (SIC /HIE) and included a spine access to serve the harbour with advance industrial units and laydown areas and plots with services and access taken from the east west spine road. Industrial investment for manufacturing/service companies has been limited with the majority of the space utilised as contractor lay-down and 'spill-over' space and typically has had a largely ad hoc mix of uses, layouts and supporting infrastructure. Currently it comprises the following:

- Tulloch Developments
- EMN Plant Ltd (Workshop, offices and open storage).
- TOTAL Accommodation Facility
- McKimms Painting Contractor
- Additional Laydown facilities
- Associated Storage and warehousing

Demand for construction related (including service support /accommodation /leisure facilities) has fluctuated with the level of contract activity at Sullom Voe Oil Terminal and is currently high. Expansion space is limited. Land–uses are typically short-term contract related and of a semi-permanent or temporary nature. The scale and duration of recent investment (Total) has involved creating a more permanent, high standard of infrastructure (roads /parking/services) than previously.

The area is fully serviced with all normal industrial utilities. The access road is adopted along with a limited part of the internal road network. Power is provided by an electrical main with sub-stations. No gas is available.

Sella Ness / Port Area

Sella Ness includes the Shetland Island Council's port Administration Building together with supporting facilities with the harbour providing for SIC Harbour vessels including the fleet of harbour that provide the towage service for vessels at the Port of Sullom Voe. Six tugs (Bonxie, Solan, Tystie, Dunter, Tirrick and Shalder) currently meet SVT towage need with future needs and the nature, scale and towage arrangements subject to ongoing review.

The Sella Ness piers are constructed as concrete finger piers. The facility includes a northwest jetty circa 65m and northeast jetty of circa 88m. Loadings are limited with specific needs agreed with the Harbourmaster however bunker tankers of 20T can easily use the jetties. No heavy load pads or facilities for heavy lift operations exist and the structure would not appear suitable for such operations. Additional facilities include a boat lift; internal and external storage; vessel traffic and pilotage services; engineering and service support. The pier/port area is within the Controlled Health and Safety Zone of SVT. The facility is available 24/7.

No significant new investment has been made since their construction and whilst fit for purpose the scale and service level supports limits significant expansion or diversification of use without major investment. The piers are at / close to capacity in providing facilities for towage and SIC harbour activity. SVT(BP) has their Pollution Response Unit within the port area.

4.3 Sullom Voe Terminal (SVT) and Construction Jetty

The Port of Sullom Voe is a major deep water harbour. The harbour is designed to routinely accept all tankers up to around 365 metres LOA with a draught of up to 22.6 metres.

The Port of Sullom Voe is owned and operated by the Shetland Islands Council as Harbour Authority. It provides sheltered access to the Sullom Voe Oil Terminal and the Sella Ness Industrial estate. The Harbour Authority provides a VTS, Pilotage and Tug service (see above).

Access to the Terminal area, which houses both administrative and terminal staff, is restricted. Canteen facilities have been provided outwith the terminal in the direction of Moss Bank. The Terminal is the landfall base for the Brent and Ninian Pipelines from the North Sea (Magnus) and the West of Shetland Pipeline (WOSP) (Clair and Schiehallion). There are four jetties (one being refurbished another is mothballed), leaving one currently in operation for Brent / Clair with another dedicated to Schiehallion. Developing the port flexibility includes reviewing the offloading flexibility of the jetties to meet future oil and gas sector requirements.

Fig 6: Construction Jetty

The Construction Jetty is located outwith the terminal fence. It has associated land adjacent which is currently used for laydown of approximately 14,000m^2. There is no dedicated heavy lift crane but cranes can be sourced from local companies. The jetty offers 24/7 access

The jetty can accommodate vessels, which are fitted with a bow thrusters up to 120m length. The jetty dimensions are as follows:

- Length 85m berthing face
- Width 21m
- Drafts of 9.5m to 4.5m to South & 8.7m to 5.0m to North
- Ro/Ro Ramp - Width 12m / Length 23.7m / Gradient 1.22 / Sill 1.07m +MHWS
- Heavy lift pad supports 20 tonnes per m2 spread loadings
- Prepared Laydown Areas extending to 14,000m2.

4.4 Scatsta Airport and Adjacent Land

Scatsta Airport

Developed in 1940 as an RAF Base, the airport is located south of Sella Ness and has a north south runway. Construction was undertaken by Shetland County Council (forerunner of SIC) for the Air Ministry Department of Works. Scatsta was planned to have three runways but only two were constructed. Complete in two phases as follows:

- First phase single NE-SW (06/24) runway 3,600 feet long x 150 feet wide which began early 1940. The runway was re-surfaced and widened in the 1990's.
- Second phase consisted of the second longer runway NW/SE (13/31) 4,530 feet long x 150 feet wide and connecting perimeter tracks.

Scatsta has a CAA Ordinary Licence that allows flights for the public transport of passengers or for flying instruction as authorised by the licensee (BP Exploration Operating Company Limited). Serco are responsible for the operations of the airport which is currently operating near capacity.

The airport carried over 288,000 passengers in 2011, double the amount at Sumburgh. It takes largely chartered passenger flights to bring crew to the terminal/ temporary accommodation and onward to oil rigs in the North Sea/ West of Shetland via helicopter. It is expected that a base of between 6-9 helicopters will be required during the production phases of the oil and gas sector. Estimates indicate that there are up to 100 persons employed at / associated with the airport facility.

North and South of the non-operational runway are significant undisturbed blanket bog areas with significant peat deposits. West of the airport is a quarry which is currently operated by EMN Plant Ltd. An application is currently with Shetland Island Council to extend this permission. There is existing hardstanding in the area (currently operated by Petrofac).

A coastguard station (United States Coast Guard 'Loran' station built 1968) operated from the eastern end of the non-operational runway.

Table 1: Summary of Site Assessment and Development Planning Considerations

Topic	Issue	Comments
Land Availability	Space for laydown	There is land available in the surrounding area specifically council own land east of the B9076, lands west of Scatsta airport, and land adjacent to the construction jetty. There is significant laydown requirement for construction phases of the projects ongoing in the area. In the case of potential renewables development in the longer term, there will be increased demand for land availability.
Marine Access	Draft and LOA	There is maximum depth at quay of 9.0 – 10.6m at the tug jetty. There is concern about the structural soundness of the construction jetty located adjacent to the terminal. The tug jetty may require some fendering requirements.
Built Infrastructure	Plots and utilities	Sella Ness industrial estate has considerable serviced lands and plots associated with current facilities including accommodation units. Longer term this provides required infrastructure for a potential increase/ expansion of industrial uses.
Airport Safeguarding Area	Height Restrictions	Scatsta Airport is located immediately south of the Sella Ness Port and Industrial Estate. This is an important consideration for future development proposals particularly in relation to height restrictions. These include 15m height restrictions and the 13km bird strike zone.
Hazard Management Zones	Health & Safety	Land us planning is determined via the application of the PADHI land use planning guidance and allows determination of land uses within the CDs which HSE will accept.
Peatland	Peat Disturbance	There is significant peatlands in the area surrounding the airport which will need to be considered in consultation with SNH and SEPA in respect of any future development proposals.
Habitat Regulations Appraisal	Appropriate Assessment Need	As the harbour area is located within a European designation (Natura 2000), there will be a need to undertake a Habitat Regulations Appraisal (Appropriate Assessment) with respect to the qualifying interests of the SAC. Development can be taken forward if "it would not adversely affect the objectives of the designation or the integrity of the site; or there is no reasonable alternative solution; and, there are imperative reasons of over-riding public interest, including those of a social or economic nature".
Harbour Revision Order	Works in that seek to improve the economic manner of the harbour	A HRO will be required where developments will seek to improve the economical use of the harbour. Transport Scotland, as the key consenting authority will consider aligning the need for HEO/ HRO with the relevant planning permission/ Marine Licence requirements.
Marine Licence	Works in the marine environment need a marine licence for MS-LOT	Works include: Deposit any substance or object in the sea or, on, or under the sea bed; Construct, alter or improve works (Inc. renewables) on or over the sea or on or under the seabed; Remove substances or objects from the sea bed (>1m^3); Dredging; Deposit or the use of explosives; Incinerate substances or objects.
Planning/ SEA	Zoning/ land allocations	Land Allocation for industrial uses on site. Considered an opportunity as opposed to significant constraint. Site is proposed for Industrial use and includes the Industrial Estate. The site is to be progressed for general industrial use. SEA is not required.

4.5 Site Wider Assessments

Sullom Voe Development Group (SVDP)

A number of studies have been progressed by groups such as the Sullom Voe Development Group (SVDG) addressing the potential for strategic oil storage. SVDG have been in consultations with DECC on issues associated with the UK Compulsory Stock Obligation. Additionally these issues have also been raised by Professor Alex Kemp (2007) and further developed by the SVDG in a Scoping Document – January 2013.

HSE Consultation Zones

Shetland Island Council has been notified by HSE of the need for HSE to be formally consulted on the following types of development which fall into the Consultation Distances. (CDs).

- all residential accommodation
- more than 250 sq.m. of retail floor space
- more than 500 sq.m. of office floor space
- more than 750 metres of floor space to be used for an industrial process
- transport links (railways, major roads, etc)
- a material increase in the number of persons working within, or visiting a CD and then only if the development is within the CD

The planning of land use within Consultation Distances (CDs) is informed by the Health and Safety Executive document entitled "Planning Advice for Developments near Hazardous Installations" (PADHI). The PADHI criteria provides guidance on the nature of planning applications in relation to the hazard with 'advise against' or 'do not advise against' recommendations to the planning authority on the granting of planning permission on health and safety grounds. The planning authority take account of this guidance when making a decision on the planning application and utilise PADHI+ software issued by the HSE to prepare the necessary land use planning assessments.

PADHI utilises four sensitivity levels according to Development Type and density, 1 being least sensitive and 4 being most sensitive. A matrix is used to compare each Development Type with its location (Inner, Middle or Outer Zone) to provide a decision; either Advise Against or Don't Advise Against.

Sullom Voe COMAH Consent

Sullom Voe Oil Terminal (a top tier COMAH site) was granted deemed consent under the COMAH Regulations by virtue of established presence (HSC granted in 1983). The HSE have defined a three part consultation zone around sites comprising an inner, middle and outer zone. The HSE recently reassessed the risks to the surrounding areas from the likely activities resulting from the Hazardous Substances Consent held for this site and a three-part Consultation Distance extending in some instances up to 1200 metres from the site boundary has been lodged with the Council.

Safeguarded Pipelines

The east Mainland area of Shetland contains a number of pipelines associated with the oil industry. The Ninian pipeline makes landfall at Grutwick in Lunna Ness and traverses south west to Culness where it proceeds across Lunna Sound to Firthsness and then in a westerly direction to connect to Sullom Voe Terminal. The Brent pipeline comes ashore at Firth (Firths Voe) and runs parallel with the Ninian pipeline into Sullom Voe Terminal. The west of Shetland pipelines for oil (Clair) and gas (coming from Foinaven and Schiehallion and going to the Magnus EOR system) make landfall at Orca Voe on the north east side of the Sullom Voe Terminal. This system includes the Laggan / Tormore gas and telemetry pipeline infrastructure. COMAH regulations also apply to pipelines (see above) and HSE requirements will be as follows: consultation distance of

- inner zone 50 metres
- middle zone 50 metres
- outer zone 100 metres

Site Appraisal | 04

Market Sector Assessment 05

5.1 Introduction

The Development Masterplan has included a sectoral analysis based on economic data and reviewed through consultation workshops with stakeholders. The focus of the assessment has been to identify within each sector, and sub sector, the key development opportunities and physical requirements with specific regard to facilities and potential development at Sullom Voe. The sectors identified for analysis I include:

- Oil & Gas Exploration / Oil and Gas service and supply support
- Renewable energy, including offshore wind, wave and tidal
- Freight Provision and general cargo / port logistics / ferry services
- Marine Tourism and Leisure
- Fishing Industries and Aquaculture

5.2 Oil and Gas Sector

This sector covers the extraction of oil and gas in the sub-sea from offshore reserves, together with the on-shore supporting services – together made up of exploration, production, surveying, storage, exporting, servicing, safety and emergency response unit operations. There is also a large supply chain dominated by the engineering sectors of fabrication, maintenance and decommissioning.

While the coastal waters around Shetland have major concentrations of production and employment, this is not reflected in regional economic data with employees registered at the company's head office, typically Aberdeen. This therefore distorts the actual jobs and economic value of the oil and gas sector for Shetland.

5.2.1 Market Context

The oil and gas industry (O&G) is the principal source of fuel and power for the UK, meeting 73% of primary energy needs in 2012, with a 2030 forecast at 70%. If current levels of investment are maintained, the UK Continental Shelf (UKCS), which is dominated by production in Scotland, is forecast to meet 50% of UK demand for O&G by 2020, with the remainder imported. O&G is the largest industry sector contributor to UK GVA, estimated at £32bn in 2010.

The UK is regarded as a mature O&G province with peak production reached in 1999 for oil and 2000 for gas. Over the past 45 years 42bn barrels of oil equivalent (boe) have been recovered from the UKCS, and since its peak in 1999/2000, 4.1bn boe of recoverable reserves have been found, with a total 15-24bn boe undeveloped.

Over recent years there has been a dip in production as early fields generate declining rates boe and new discoveries are established and exploited. While production has declined since 2011, Scotland is acknowledged to be the largest oil producer and 2nd largest gas producer in the EU.

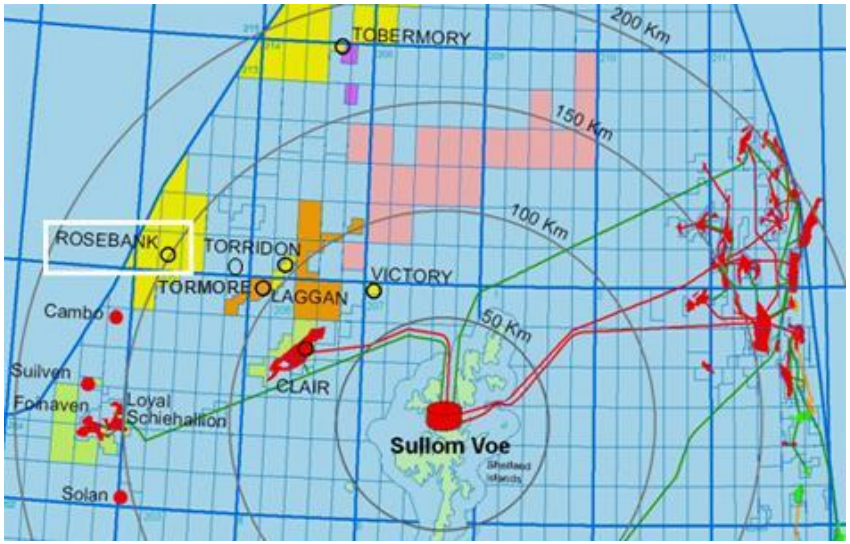
The sector supports 450,000 jobs across the UK – around half of which are in Scotland – made up of:

- 36,000 in operating companies – one-third offshore;
- 200,000 supply chain jobs – one-quarter offshore;
- 112,000 induced jobs; and
- 100,000 exporting jobs (goods and services).

The Shetland Marine Spatial Plan recognises the key contribution that the O&G industry has made to the economy of Shetland, and the specific importance of the Sullom Voe terminal. The sector will remain a key economic generator for Shetland for at least the next few decades through:

- the oil and gas terminals at Sullom Voe;
- Shetland as the primary access point for the offshore O&G fields; and
- Provision of supporting services for the terminals and O&G fields.

Built between 1975 and 1981, Sullom Voe is one of the largest oil terminals in Europe covering a site area of around 1,000 acres. It acts as a buffer between the offshore producing fields and the tankers waiting to ship to refineries around the world. With both oil and gas pipeline systems connecting with fields in the West and East Shetland basin, together with tanker facilities for loading/unloading, Sullom Voe handles production from O&G offshore fields around Shetland.



The Shetland Regional Accounts identify 219 FTE jobs at the terminal (local estimates of 500 personnel include contract workers). In total the Accounts report 350 FTEs working in three O&G sectors – 'oil terminal', 'electricity gas and water' and 'oil supply services' – but this excludes a significant number of jobs in other sectors with high levels of integration with O&G e.g. 'marine engineering', 'construction', 'ports and harbours' and 'technical and professional services'.

The Sullom Voe oil terminal is operated by BP as the lead consortium partner on behalf of the O&G producing companies with facilities in East and West Shetland basins – originally set up to serve fields in East Shetland through the Brent and Ninian pipeline systems. The terminal is now over 30 years old and in need of major overhaul, estimated £600m refurbishment cost to extend its life beyond 2040 and ensure it continues to serve the growing demand from the East Shetland basin.

BP is actively pursuing plans to upgrade the terminal and gas plant in support of its Clair, Schiehallion, Foinaven and Loyal fields – the BP intervention project, likely to happen over the period Q4 2014 to Q4 2017. BP also has proposals to develop a new gas sweetening plant at Sullom Voe serving its West of Shetland fields (Schiehallion and Clair Ridge). Together the operation and construction activities are likely to see employment increase to around 700-1,000 people, with a significant number of contractors. Chevron and associated partner group have significant assets within the Rosebank Field. Discovered in 2004 the field has been evaluated as a significant asset but to date no decision has been taken to proceed with active development. Rosebank along with the fields noted above represent significant future potential for SVT and activity associated with Sullom Voe.

Total is nearing completion of its £3bn investment in a new Gas Processing plant (SGP) (and associated pipeline network) adjacent to the current Sullom Voe oil terminal. The plant will process gas from Total's Laggan-Tormore fields, but is also seeking to tie in neighbouring fields from other operators. The project, which had up to 1,400 construction employees at its peak, will process its first gas later in 2014 and is scheduled for completion in 2015. Once completed the gas plant will employ around 70 people operating on a rota system similar to offshore operations.

5.2.2 Market Trends

Over 2011/12, 45 projects were approved by DECC with total capital expenditure of £22bn forecast to yield 2bn boe. Capital investment in projects under production or development totalled £44bn at the start of 2012 – this is one-third higher than the start of 2012.

Figure 7 reports O&G production – historical actual and future forecast – for the UKCS. This shows significant decline over the 15 year period from 1998 to 2013, with future forecasts predicting a levelling out of production activity. Sanctioned investments are expected to guarantee the industry for the next 15-20 years, but looking further to 2050 and beyond is more difficult to predict. Oil & Gas UK believes that up to 24bn boe can be recovered (dependent on a range of factors including price, cost and technical recovery enhancements), and that the industry will be active beyond 2050.

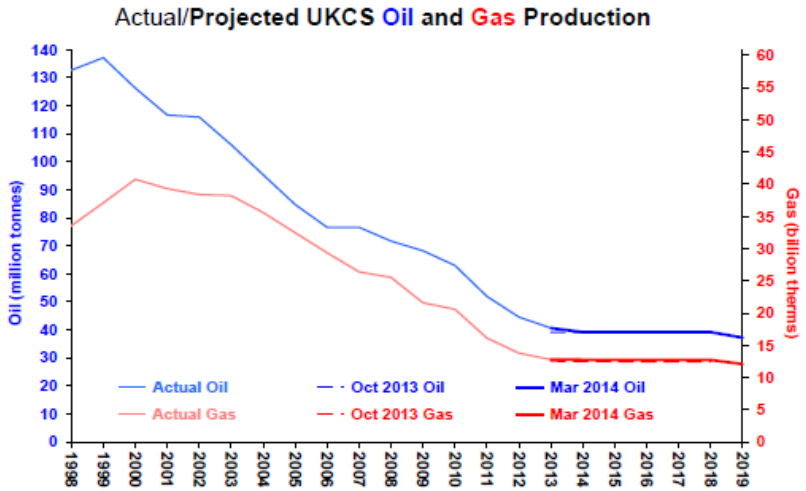


Figure 7: Actual/Projected UKCS Oil and Gas Production Source: Department of Energy and Climate Change (DECC), March 2014

Oil & Gas UK report that there is renewed confidence in the UKCS from the major companies with total annual investment in 2013 treble that of the 2009 level. Up to 2009 companies were rationalising and reducing commitments but, with a significant change in attitude, companies are now investing heavily, especially in the West of Shetland. This area is a major source of future O&G activity with 22% of sanctioned reserves (and a further 21% in the North Sea region). The West of Shetland (together with the Hebrides) is identified as the last remaining area of significant prospectivity in the UKCS, representing around 15-17% of the UKs remaining O&G reserves.
Once oil is extracted from the seabed the operator has to transport it to market – either direct or via an oil terminal. Sullom Voe is connected to the major oil fields in East Shetland basin via the Brent and Ninian Pipeline system (originally established to serve the Magnus field) and to the West of Shetland via the West of Shetland Pipeline system (including the Clair and Schiehallion fields).

There has, however, been an ongoing shift in the method that O&G companies use to transport oil and gas to market, with growth in the use of FPSO – floating production storage and offloading. Operators have three choices when selecting route to market:

- pipeline system connected direct into a terminal;
- FPSO and tanker to terminal; or
- FPSO and tanker direct to end market.

Within the West Shetland area the use of FPSO is becoming increasingly common, largely due to the economics of transportation i.e. newly developed fields are further away from Sullom Voe and require longer pipelines, set alongside the increased wax content of the oil in West Shetland which requires bigger pipes with greater pressure to maintain flow. There are also environmental considerations related to the shipment of oil and gas via tanker and the onshore implications of establishing pipeline connections to a terminal. Anecdotal evidence from consultees reports that there is only one remaining pipeline connection route available for Sullom Voe – it is essential that this is maintained for the activity (ies) that generate greatest economic value for Shetland.

The O&G companies that are active in West Shetland have confirmed that the oil extracted from this area is more difficult to transport via pipelines and that they are increasing using FPSO transportation methods. The decision on whether to transport to a terminal (Sullom Voe or other) or direct to market is based on a number of factors including:

- location, route and distance to a terminal and the market;
- typical weather conditions;
- cost implications;
- availability of access at the terminal;
- quality of facilities at the terminal;

The Wood Report (2014) highlights the importance of developing stronger partnerships to deliver the economic wealth and to optimise the value and benefits of North Sea oil. Economic opportunity requires a coordinated approach between Scottish Government , Shetland Islands Council and DECC. Sullom Voe is a strategic asset with significant forward potential opportunity (see SVDG scoping document) offering major economic benefits.

There is a need to ensure that Sullom Voe continues to pick up as much activity related to the O&G industry as possible. With an increasing shift toward FPSO there is a danger that the terminal could be by-passed by operators using tankers to transport oil and gas straight to market. The need for investment in the quality of terminal facilities is picked up later.

Figure 8 shows that while the overall market for crude oil terminal receipts has shrunk, Sullom Voe has largely held its position in the UK market. After a dip down to 23% in 2009, receipts at Sullom Voe have almost recovered to the 1998 levels, accounting for 30% of all UK terminal receipts in 2012.

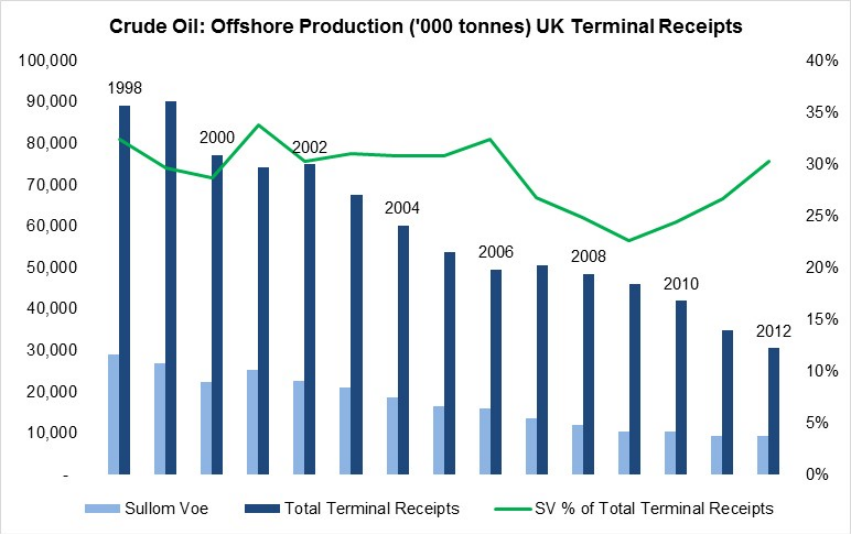


Figure 8: UK Terminal Receipts for Offshore Crude Oil Production Source: Digest of UK Energy Statistics

Across Scotland there is estimated demand in the O&G sector for between 30-40,000 jobs up to 2020 – split 2/3 replacement and 1/3 new demand – with a focus on the period up to 2015 as the industry re-enters a growth phase. The main skill requirements include engineers, project managers, welders and divers, with the majority of jobs at technician level (SVQ Level 3) with new workers largely drawn from people already in the labour force.

This is in line with forecasts from Opito, the O&G industry's focal point for skills training and workforce development, which estimates that 10,000 extra employees will be needed in the UK O&G sectors over the next 10 years. Its 2011 Labour Market Intelligence survey reported that 81% of companies that responded to their annual survey expect their business to grow over the next five years, with over half identifying challenges in attracting appropriately skilled staff.

Market Sector Assessment

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Employment at the Sullom Voe oil terminal has declined in relative terms since 1996. Over the period from 2003 to 2011 it declined by around 6% per annum from 337 to 219 jobs, accounting for 2.1% of total Shetland jobs. In moving forward there is expected to be an increase in employment in and around the terminal – BP staff, Total and supporting activities – as the new gas sweetening plants come on stream and activity picks up in the West Shetland fields.

This might create further issues with regard to employment and accommodation – both are intrinsically linked. Unemployment in Shetland is virtually zero – those that want to work can work. There are, however, identified skills issues in relation to the availability of workers with the right level and type of technical skills. This has created competition with local companies, primarily those in engineering and other technical sectors.

The O&G companies have a preference for employing local labour, but an acknowledgement that there are not enough people available to service their needs, and therefore increasing use of rota shift patterns similar to offshore i.e. two weeks on and two weeks off. There have been major recruitment exercises in the past to attract new residents to Shetland, and support with relocation packages. This has had limited success, partly (although other factors are also key) due to the availability and cost of housing in Shetland.

In moving forward there is expected to be an increase in employment in and around the terminal—BP staff, Total and supporting activities- - as the new gas production (SGP) and gas sweetening (SVT) plants come on stream and activity picks up in the West Shetland fields. This is partly around providing training and encouraging school leavers to enter the O&G industry in Shetland, but also around attracting more permanent residents with the right skills.

Sullom Voe Development Group (SVDG) have in a number of studies reviewed the potential for strategic oil storage. SVDG have been in consultations with DECC on issues associated with the UK Compulsory Stock Obligation. Additionally these issues have also been raised by Professor Alex Kemp (2007) and further developed by the SVDG in a Scoping Document – Jan 2013. Sullom Voe needs to be mindful both of opportunities associated with the West of Shetland Basin and as a transhipment facility for wider FPSO vessels .

The final trend that has been evident in the O&G industry is the reduction in the length of helicopter journeys to the offshore platform, with longer fixed wing flights to the closest airport access point. Whilst there does not appear to be any reportable evidence to support this claim, feedback from the O&G consultees interviewed for this study confirmed that they were actively pursuing options to reduce the length of helicopter journey to the offshore platform and would be interested in proposals for Shetland that would support these efforts. This comes at a time that the CAA is introducing major changes to improve safety in the North Sea.

This is pursued later in this chapter.

5.2.3 Sullom Voe Opportunities

Sullom Voe will continue to play a major part in serving the offshore O&G industry, particularly with the major growth in activity in the West Shetland basin, as reported in Table 2.

Field	Production Start (or estimate)	Expected Lifespan	Total Estimate BOE	Operator and Partners
Clair	2005 (Ph2)	25 years	5,000m	BP, ConocoPhillips, Chevron, Shell
Clair Ridge	2016	To 2050	640m	BP, ConocoPhillips, Chevron, Shell
Schiehallion & Loyal	1998/2000		450-600m	BP, Shell, OMV
Laggan-Tormore	2014		(gas)	Total, Dong
Rosebank	2018	To 2040	240m	Chevron, Statoil, OMV, Dong
Fionaven	1997		600m	BP, Marathon Oil
East Fionaven	2001	Beyond 2022	12m	BP, Faroe Petroleum
Solan	2014	20 years	44m	Chrysaor, Premier Oil
Cambo Hub	2020		60m	OMV, Dong
Edradour	2015	15 years	(gas)	Total, Dong

Table 2: Schiehallion & Loyal
Source: Various company/industry websites

In serving these fields, plus the longer established activity in the East Shetland area, Sullom Voe will continue to be used as:

- access point for loading, unloading and storing oil and gas;
- oil and gas refinery – processed gas will be exported via the SIRGE system to the existing FUKA pipeline (capacity allocated to Laggan-Tormore, Rosebank and Clair Ridge);
- office, admin and purchasing centre servicing the offshore platforms;
- providing access to supporting services and activities (direct and sub-contract);
- emergency response facilities, services and equipment; and
- onshore facilities and access point for servicing offshore exploration, development and production activities.

In terms of the O&G sector, it is considered that Sullom Voe is a specific market for the medium to long term, highly dependent on the production timeframe for production from the West of Shetland fields. Projects associated with Laggan Tormore gas fields, and operations at Schiehallion and Loyal will dominate activity in the West of Shetland.

Due to its remote location, the terminal has to be entirely self-sufficient, especially in relation to emergency services. The terminal, and the adjacent Sella Ness Industrial Estate, provide fire brigade, pollution response teams, admin base (for BP and other O&G companies), tug boats, O&G servicing companies, and accommodation for O&G workers.

Accommodation for employees has been a major issue for the O&G industry, as well as those servicing contracts for it. In developing its Laggan-Tormore and associated gas plant (SGP) at Sullom Voe, Total established a temporary workers village and also constructed a new 100 bedroom hotel in Brae. Consistent feedback from consultees, particularly those in the O&G and construction/engineering sectors, identified two separate but related issues:

- the availability of skilled labour on Shetland to service contracts – there are not enough skilled construction and engineering workers on Shetland to meet industry needs without 'poaching' employees from existing local companies; and
- The lack of accommodation – there is not enough housing (permanent and temporary) to bring new workers onto Shetland and therefore companies have had to use accommodation barges.

There is a general consensus amongst consultees that the need for both permanent and temporary housing on Shetland will continue and therefore a need to review accommodation options. Local businesses report that they are facing increasing competition for skilled workers, with the O&G sectors offering higher wages than the local construction and engineering sectors can sustain.

Unless permanent accommodation can be provided to attract new resident workers to Shetland, there will be a need to enhance the skills base of the existing population to ensure sufficient supply of workers that will meet the needs of local businesses whilst also servicing the needs of the O&G sector.

The associated skills and accommodation issue was a major factor in resourcing Total's gas sweetening plant project, and will feature prominently in BPs proposed terminal upgrade and potential gas plant construction project.

Demand for additional aircraft/helicopter flights at the adjacent Scatsta airport is covered in Section 4.4.

5.2.4 Sullom Voe Competitive Advantage – Physical Infrastructure

Sullom Voe retains a major competitive advantage based on its location, relative to North Sea / West of Shetland Basin oil and gas assets and its deep water sheltered harbour. It retains a competitive advantage based on the level of investment committed to the site; its operational capacity; low risk consent and profile over alternative arrangements. This competitive advantage has been tested during a period of low returns on oil assets and with restoration of margins a major investment is proceeding based on a long term commitment to the Sullom Voe Oil Terminal.
The Sullom Voe Port facility offers a safe, deep water harbour facility. The main needs to retain a competitive position can be understood to include:
Needs / Potential Arising from Sector:

- Re-investment and improved facilities associated with the maintenance of the SVT jetty system. Developed in the late 1970's investment required to maintain operational and to allow flexibility for oil/gas/LPG activity. Currently two of the four jetties are fully operational
- Infrastructure Planning to ensure the support infrastructure for SVT is fit-for-purpose and specifically that pipeline corridors to access the terminal safeguard flexibility and ensure best use of the restricted marine pipeline corridors into SVT
- Closer Industry collaboration around investment programmes and accommodation delivery with the option of permanent accommodation to secure longer term legacy and/or meet future residential needs in Shetland, Total's gas plant will operate on rota system as can't attract perm workers, partly due to lack of housing
- Enhanced facilities for helicopter connections potentially at either Scatsta or Balta Sound minimising travel journey times over open water to rig stations
- Masterplanning and Land-Zoning land for development at Scatsta/Sella Ness to develop a more permanent enhanced infrastructure to service O&G sector construction
- Masterplanning and Land-Use Zoning for additional Contractor space including Laydown and more effective/efficient use of laydown areas within Sella Ness
- Development of Heavy Load Quay facilities and capacity for Sullom to accept large/special loads(O&G module/Subsea modules/Renewable nacelles-blades/ etc
- Promotion of a SVT Satellite Administration Campus off-sites developed in conjunction with SVT Operator enhancing Terminal Facilities and removing non-essential staff from within Inner/Middle HSE Zones with potential to link to wider facilities
- Closer links to HE/FE and Skills Development and Training providers to ensure availability of a high value skilled /trained /certificated labour force and opportunity for young people.

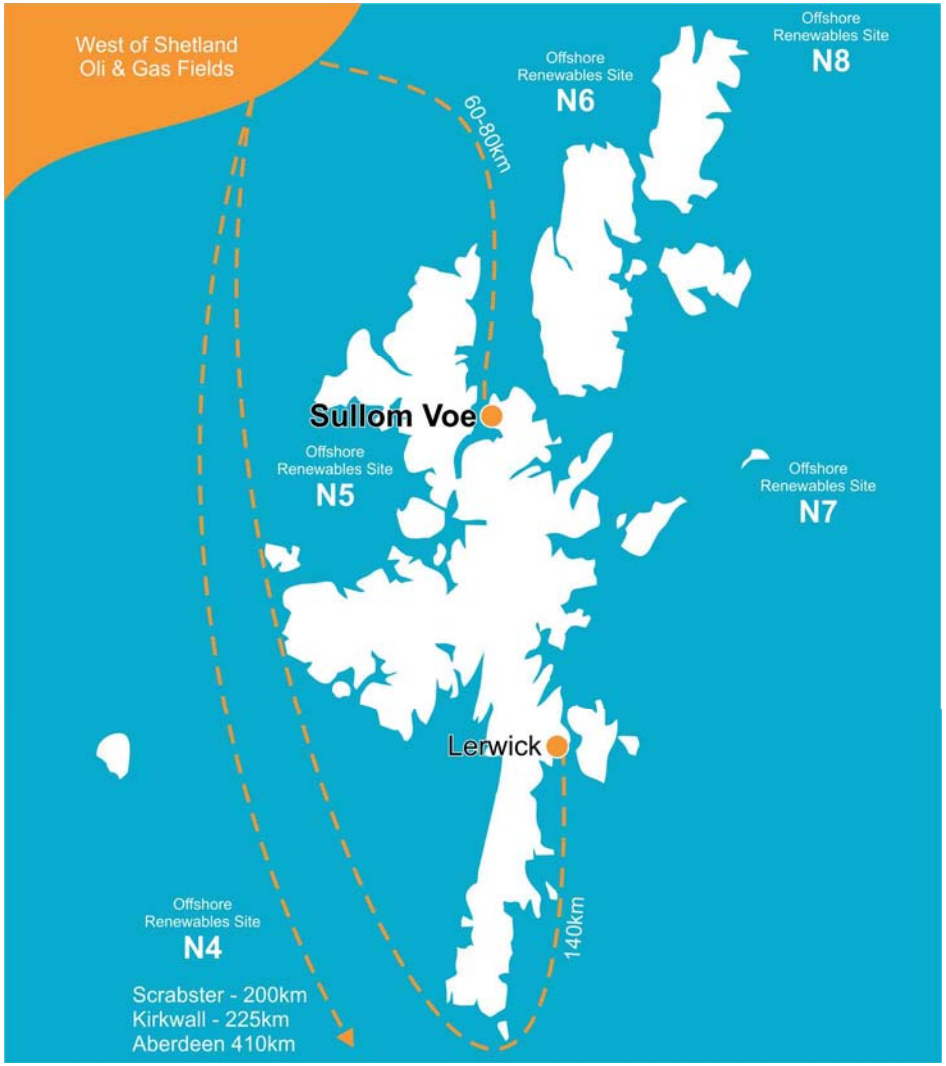


Figure 9: Renewable Energy Sector Context

5.2.5 Summary of the Oil and Gas Sector Opportunity

The oil and gas sector is likely to remain the key driver for investment in Sullom Voe for some time. The oil and gas sector involves very significant investment programmes. Forward planning is largely strategic with site activity determined by contract award and with delivery risk / operational planning responsibility transferred to the contractor. This makes site/programme /infrastructure planning by third parties challenging and complex.

Coordinating planning for land based / port and harbour and infrastructure needs to be based on a forward awareness of need and an ability to understand and plan around and accept delivery risk. Securing investment and developing a more coordinated approach with this sector would require:

- Developing close and informed relationships with major players
- Ensuring there exists a clear understanding of what Shetland and Sullom Voe can offer in terms of facilities /capacity/ delivery and market readiness
- Ensuring contractor / supply chain organisations are part of the knowledge network

5.3 Renewable Energy Sector

Renewable energy can be defined as energy that comes from a source that is not depleted when used. It is socially and politically defined as power generated from naturally regenerating sources – sunlight, wind, rain, tides, waves and geothermal.

"Renewable energy is energy generated from sources which are either naturally (e.g. wind, sun, tidal, biomass) or readily replenished (e.g. waste materials), and which therefore can be considered, on timescales of decades or more, to be sustainable." Shetland Renewable Energy Strategy, 2009.

This review contains specific analysis of the biomass renewable energy sub-sector.

5.31 Market Context

The renewable energy sector comprises direct activity in power generation, its associated supply chains (manufacturing, installation, surveying, operation and maintenance of devices and connections) and supporting activities and services (e.g. transportation, permissions, etc).

The sector is identified as having significant potential for Shetland (jobs and GVA) as well as supporting the growth and diversification of businesses that currently serve the traditional O&G industry, especially the engineering and marine sector.

Scottish and Southern Electricity has submitted plans to Scottish Government to build a new power station in Lerwick, replacing the current 1950s built facility, which is due to close in 2017 and produces 67 MW. SSE's plans for the 120MW new plant at Rova Head will see it run initially on light fuel oil, but there are longer-term proposals to connect with the new gas plant at Sullom Voe and thereby run on natural gas. There are also proposals to tie the new power station in with the existing Lerwick district heating system.

The development of the renewables sector is well recognised in policy frameworks including the Shetland Marine Spatial Plan, particularly in relation to the need for exploratory, appraisal and prototype renewable energy proposals. It is considered that subsidies for the wind energy market will change in the medium term, potentially in favour of offshore wind generation, in an effort to address a lag in investment in this sector. Shetland's coast and climate are suited to the pre-conditions required for marine renewable activity.

There is a lack of robust employment data on the renewable energy sector in Scotland, but estimates include:

- 1,100 direct jobs (2009/10 Verso Economics) – this is likely to significantly underestimate the total number of jobs as it does not take account of the direct supply chain impacts; and
- 22,000 total jobs (Scottish Government, 2008) with forecast growth projections to 48,000 by 2020.

In 2009, 10,744 GWh of renewable energy was generated in Scotland, representing 21% of total electricity generation. In addition, Scotland is identified as having 10% of Europe's wave resource and 25% of its wind/tidal resource. The vast majority of this is in the Highlands & Islands with the world's most productive wind turbine on Shetland.

There is, however, an identified need for new/reinforced infrastructure across Scotland to transmit power from sources of generation to demand. This is particularly relevant for Shetland – the local electricity distribution network is currently at capacity and there is a need for significant investment to attract further projects and investment. The lack of a link to the UK National Grid is a significant infrastructure constraint – while some development can be undertaken off-grid, this is far less attractive for investors and operators.

A proposed Interconnector Project will establish a connection from Shetland to the National Grid but this relates to one specific project (the Viking Windfarm) for which there is some local opposition and therefore uncertainty and, at best, delays in delivery. Feedback from consultees for the Scalloway Masterplan study forecasts significant additional demand (beyond that to be installed for the Viking project) and therefore the need for a robust long-term approach. Current estimates are that the interconnector will be in place by 2018-2020.

In the UK and, in particular, the Scottish context, the wind generation sector is well advanced with over 70 operational windfarm sites and 2,000 turbines across Scotland (and a further 200 farms under construction, granted permission or at planning stage). Projects range from small single turbines (not included in the data above) to the UK's largest on-shore windfarm development at Whitelees (215 turbines).

The hydroelectric sector is also well established with over 145 schemes in Scotland, producing 12% of total electricity generation from two large pumped storage stations (Cruachan and Foyers) and over 80 conventional hydro-electric plants (include Glendoe and Sloy).

In contrast, the offshore wind, wave and tidal sector are still in their infancy and few schemes have been built – Beatrice, Robin Rigg and Limpet. Renewable energy sources and technology are being developed and tested with the intention of commercial development.

Shetland is identified as having specific advantages for wind, wave and tidal renewable energy:

- wind energy (primarily offshore) – Shetland's geography, specifically in terms of seabed geometry, wave generation, coupled with the expertise that exists in terms of marine engineering (historically geared to the O&G sector), makes the Shetland Islands an attractive location for expansion of the renewables sector. The resource has been estimated at a maximum of 10,500 GWh/y, but more realistically at 2,200 GWh/y to minimise adverse development impacts. There are a number of windfarm projects being considered or already implemented around Shetland – Burradale, Viking and Cullivoe;
- Marine renewables (wind and wave) – Shetland has been identified as a key location for the marine renewables sector specifically in relation to wave and tidal devices. Recent initiatives include the Aegir Wave Power proposal. This is a major joint venture between Vattenfall (one of Europe's leading energy companies) and Pelamis Wave Power. The project has seen the development of the Pelamis wave power test project off the southwest coast of Shetland, where a lease was agreed with The Crown Estate in 2011 for up to 14 machines with a total forecast generating capacity of 10MW.

The realities of biomass energy economics mean that high value materials for which there is an alternative market (e.g. good quality timber) will not be available for energy generation. There are, however, resources available in sufficient quantity and at relatively low costs (or free) that can be used to generate new energy. There are five categories of material, which are converted to other usable forms of energy:

- virgin wood – from forestry, arboricultural activities or from wood processing;
- energy crops – high yield crops grown specifically for energy applications;
- agricultural residues – from harvesting and processing activities;
- food and drink waste – from manufacture, preparation and processing; and
- industrial waste and co-products – from manufacturing and industrial processes.

The most common use of biomass is the direct burning of wood; however, there is growing concern that this produces air pollution in the form of carbon monoxide, in some cases above the levels of traditional fuels (coal and natural gas). In particular, FOE Scotland has established a 'Back Away from Big Biomass' campaign, questioning the wisdom of large-scale projects and raising doubts about the availability of sufficient indigenous wood to feed large plants.

Smaller biomass combined heat and power systems (CHP) are becoming increasingly common for new housing and area developments. The biggest use of biomass remains its use for domestic heating with resurgence in wood burning. Scottish Renewables note that the development of automated wood pellet burning boilers has allowed wood fired central heating systems to achieve the same level of convenience as oil and gas fired systems.

Lerwick's established district heating scheme (LHDS), which has operated since 1998, has grown to 1,200 connections, primarily but not exclusively domestic properties. Power is generated through a Waste to Energy Incinerator (an energy recovery plant) located on the outskirts of Lerwick, which burns domestic and commercial waste from Shetland, Orkney and the offshore oil industry, thereby reducing the amount of waste going to landfill.

The scheme was regarded as good practice when it was established i.e. positive use of domestic waste rather than landfill, but policy in recent years has shifted toward sorting and recycling. There are no current plans to introduce separate collections on Shetland – waste would have to be transported to mainland recyclers, significantly increasing costs – as this would affect the amount of resource (i.e. waste) available to fuel the plant and supply the 1,200 district heating customers.
A local Shetland company – North Fish (Shetland) Ltd – secured funding to establish a wood pelleting plant at Gremista that supplies energy to the LHDS. The plant also produces wood pellets for four community biomass plants across Shetland (Brae, Airth, Yell and soon Whalsay). The company will also complete a new wind turbine at North Hoo later in 2014 that will provide green power enabling further energy generation for the LHDS. On completion of the turbine, the company will have 2MW of renewable heat capacity.

In total there are 47 accepted biomass schemes in Scotland, of which 23 are operational, 4 are under construction and 20 are awaiting construction. A further 6 schemes are submitted and being considered, and only one scheme has been refused consent.

The 23 operational facilities have a total installed capacity of 191.42 MW, of which three (accounting for 0.2% of installed capacity) are set on island locations:

- Western Isles Integrated Waste Management Facility (Waste AD) 0.23MW;
- Bruichladdich Whisky Farm, Islay (Farm AD) 0.08 MW; and
- Westray Biogas, Orkney (Farm AD) 0.01 MW.

Four sites are categorised as plants/power stations:

- Stevens Croft, Lockerbie – 50.40MW;
- Westfield Power Station, Kirkcaldy – 12.5MW;
- Rothes Bio Plant, Elgin – 8.32 MW; and
- Glenfarg AD Plant, Perth – 0.70MW.

Stevens Croft power station began generating power in 2008 and is the biggest biomass plant in Scotland, generating enough electricity to power the equivalent of 70,000 homes every year.

5.3.2 Market Trends

Renewable energies have a growing share of the electricity market, rising from 12.2% in 2000 to 27.4% by 2009. Within the UK market Scotland has a dominant position, accounting for 37% of all UK renewable electricity output in 2010.

Over the 2000-2009 period the total installed capacity for renewables in Scotland increased from 1,391 MWe to 3,820 MWe. Growth was dominated by wind (and wave) sources which represented 3% in 2000 (38.5 MWe) but had growth to 55% by 2009 (2,115 MWe). The relative and proportionate growth in wind energy generation is clear from Figure 10

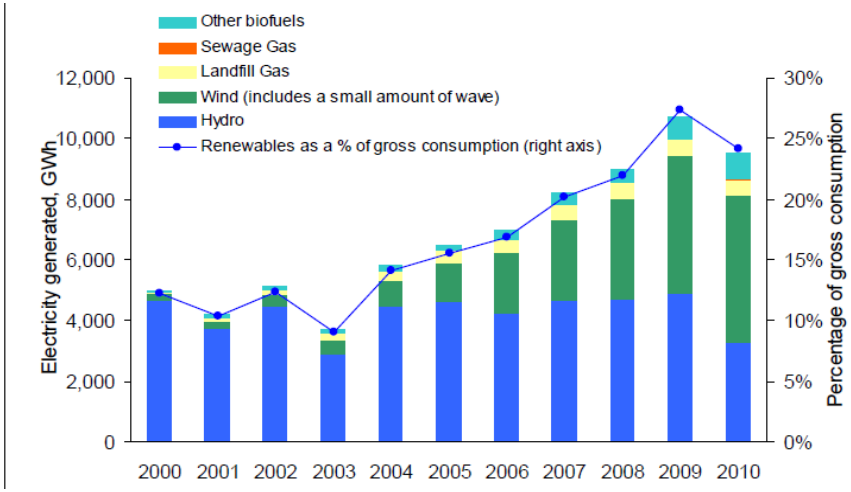


Figure 10: Energy Generated from Renewables in Scotland
Source: DECC, Energy Trends, 2011

SCDI reports that over the next few decades Scotland has the capacity to install offshore renewable generation devices that could produce over 60GW of generating capacity, equivalent to three-quarters of the UKs current installed electricity generating capacity.

Renewables are identified as a major growth opportunity for Shetland in particular, which is well placed to take advantage of this growing sector through an established supply chain that already serves the O&G industry, particularly in the marine and engineering sectors. Development of the consented (and potential) offshore wind and wave proposals will support further economic growth (jobs and GVA) initially focused on surveying, development and monitoring, followed by manufacture and installation, then servicing and maintenance.

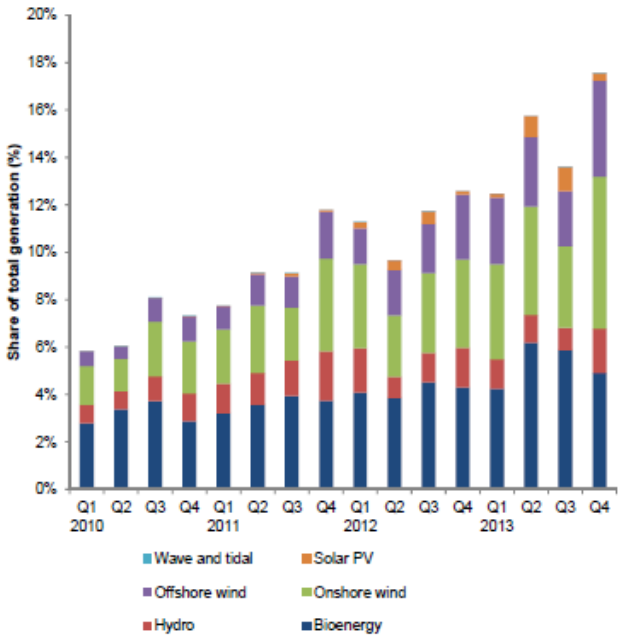
There is an opportunity for Shetland to become a major renewable energy location and therefore attract further investment in hydrogen and marine technologies. Renewables is an opportunity to enhance economic activity in remoter communities across Shetland – direct jobs, supply chain impacts and supporting community benefit projects.

There is an estimated demand for an additional 36,000 employees in the Scottish renewable energy sector, focused in the period from 2015-2020. As with the O&G sector the key skills requirements are for engineers, divers and welders, but also for turbine technicians, with the majority of jobs at the technical level (SVQ Level 3) and likely to be drawn from the existing workforce.

Figure 11 presents data on the share that the renewables sector has had in UK-wide electricity generation over the four year period from 2010 to 2013. Over this period there has been a growth across the whole of the renewables market, driven by the on - and off-shore wind sector. There has also been a notable increase, with some falling back again, in the biomass sector which has grown from 3% to 5% (with a peak at 6% in Q2 2013).

The peak is largely accounted for by the Tilbury Biomass Plant at Essex, which was converted from coal to 100% biomass in 2011. Tilbury was briefly the largest biomass plant in the world, generating 10% of the UKs total renewable energy, but was closed in August 2013 after failing to qualify for further government subsidy. Owned by RWE Npower, the plant used 2.5m tonnes of wood pellets per annum to generate 870 MWe – 90% of pellets were imported from North America (Canada and S/E USA).

Figure 11: Renewables Share of Electricity Generation, UK



Source: DECC Stats on Renewables, March 2014

In April 2014 the UK Government consented, and provided support to, eight major renewable energy projects

- five offshore windfarms - Beatrice, Moray Firth; Burbo Bank extension, Liverpool; Dudgeon, Norfolk; Hornsea 1, Yorkshire; and Walney extension, Cumbria; and
- three biomass projects – conversion of Drax, North Yorkshire; conversion of Lynemouth Power Station, Lynemouth; and development of the new Tees Renewable Energy Plant, Middlesburgh.

The Tees Renewable Energy Plant is forecast to generate 600 construction and supply chain jobs, and a further 150 permanent operational jobs. It is expected to produce 299 MW, supplying around 600,000 homes though a CHP system.

In February 2014 Shetland Island Council installed a new biomass boiler heating system in its Port Administration building at Sella Ness, after a review identified this as the most cost effective solution. The wood pellet boiler system heats the workshop area of the plant and is identified as the most northerly installation of a biomass plant in the UK.

While the biomass sector continues to grow (and is forecast to grow further) there are growing concerns around its sustainability as a power source. Two key issues are consistently raised:

- the availability of wood as the primary source of fuel – competition amongst other industry sectors that require wood, and the need to import large quantities of wood; and
- concern that burning wood can be more carbon polluting than coal.

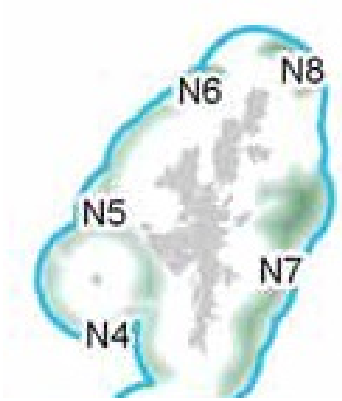
In September 2013 the UK Government announced some restrictions on subsidies for biomass – the maximum size is limited to a 400 MW plant, and proposals need to include CHP systems. The Government is still supporting the conversion of traditional coal fired power stations (e.g. Drax and Lyemouth in the 2014 round) with commitments available up to 2027.

5.3.3 Sullom Voe Opportunities

For Shetland the main opportunities in the renewable energy sector will be offshore marine renewable projects. Support facilities for the Pelamis wave facility (for which the test site is underway) are most likely to be based further south on Shetland, possibly around Scalloway (although no decision has been made on the preferred location); this may dictate the location of support for other wind/wave support activities. Final decisions on this project are expected in 2016.

In relation to offshore wind, there are six medium-term potential offshore sites in the North Scotland region, of which five are located in the waters around Shetland, as outlined in Figure 12. Development of these sites is not expected before 2020, but where/when they are delivered they are expected to support further activity in the marine energy sector. Wind turbine renewables will need significant laydown and marine access – Sella Ness and adjacent lands could provide this.

Figure 12: Medium Term Offshore Wind Energy Areas of Search



Source: Blue Seas, Green Energy – Sectoral Marine Plan for Offshore Wind Energy, Marine Scotland, 2011

In the short term it is unlikely that any significant construction will be undertaken in Shetland, with Sella Ness and Lerwick being the most likely locations for any construction activity. LPA has undertaken investments over recent years to maintain and build its position as the key port for Shetland – this ensures that it is able to take advantage of any growth in the renewable energy market.

Recent LPA investments include £12m dredging which increases capacity for the largest vessels and gives access to the oil-related construction/heavy lift and diving support vessels. It also recently announced plans for construction of a £17m jetty extending to 630m with 10m depth, specifically targeted at the offshore industry. Any investment at Sullom Voe / Sella Ness needs to ensure that it creates additional facilities and/or serves growing demand that avoids displacing any activity from the Port of Lerwick. There is also a need to ensure that any development is compatible with the established O&G marine traffic serving Sullom Voe.
Following installation of its biomass boiler in the Sella Ness Port Administration Building, the success of the Lerwick district heating system over many years, and SSE's current plans to build a new replacement power station in Lerwick, Shetland Islands Council has identified a potential opportunity to develop a new biomass plant in Shetland, potentially at Sella Ness. A local biomass boiler has been installed in Mid Yell as part of the Scottish Government district heating scheme project. The 200kw biomass boiler provides energy to the Yell Leisure Centre and Mid-Yell Junior High School.

Proposals are at a very early stage around the feasibility of developing a new biomass power station to generate electricity, using waste heat to make biomass pellets for the increasing number of private and municipal biomass heating boilers on Shetland. Pellets are made from compressed biomass materials, with wood the most common type – sourced typically from sawdust and other wood waste products. Sources of fuel for Shetland would most likely come from the Baltic region and Russia, potentially creating locational advantages for Sullom Voe.

As outlined earlier there is growing concern around the supply of materials to produce biomass wood pellets, with an identified need to increase the supply of biomass materials to avoid significant levels of import. To ensure that it used sustainable resources, the recently closed Tilbury B power station in Essex imported 90% of its materials from North America – 2.5m tonnes of wood pellets per annum to provide 870MWe power. UK Government data from 2010 reports annual averages of 8,000 tonnes of biomass needed per MWe power generated (for power stations of 50MW and under in England and Wales).

A 10MW biomass power station would require a site area of roughly 20 acres, daily water consumption of 1,600 m^3 and would be likely to have a lifespan of some 25 years (longer with refurbishment), creating operational employment for around 25 permanent jobs (excluding construction employment).

With the absence of major timber (virgin or waste products) on Shetland there would be a need to import the raw materials to make the pellets – this could be effectively delivered at the Sella Ness port – which would then be sold into the growing market for biomass wood pellets. There is, however growing concern around the cost and scarcity of biomass fuel, with most new biomass plants designed for multi-fuel.

Overall, it is essential that ongoing support is provided to renewables sector businesses – both direct and supply chain – to build and establish the industry on Shetland, but it is unlikely that there will be major increase in the short-medium term. Activity is likely to be concentrated in Lerwick, especially for the on-shore and off-shore wind sector. Any renewable energy project would not be linked into the UK National Grid, but would be intra island infrastructure, connecting to the existing facilities at Sullom Voe and Lerwick.

The opportunity to establish a biomass power plant in the Sella Ness area requires detailed analysis and consideration to ensure that any project is taken forward alongside SSE's new Lerwick Power Station, BP's Sullom Voe operations and Total's new Gas Plant (SGP).

5.3.4 Sullom Voe Competitive Advantage – Physical Infrastructure

Sullom Voe major competitive advantage for the renewable sector is its sheltered deep-water harbour; proximity to off-shore arrays (N4-N8); capacity to offer facilities for field servicing and Operations and Maintenance (O&M); and capacity (Construction Jetty) to land / off-load special loads on a heavy load quay with suitable laydown and access.

Activity in the Off-shore Renewable sector in north Shetland is unlikely to be pre 2020 and potentially not before 2030.

The Sullom Voe Port facility offers a safe, deep water harbour facility. The main needs to retain a competitive position can be understood to include:

Needs / Potential Arising from Sector:

- Safeguarding the Construction Jetty as a flexible multi-use heavy load facility and promoting its use for transhipment of specialist loads for on-shore and off -shore
- Development of enhanced Jetty Facilities for the Renewable Sector certainly post 2020 and subject to off-shore investment programmes probably 2030 dependent upon what else has been developed for the sector at other ports.
- Development of enhanced laydown facilities associated with support services for energy renewables, inter-connector and undersea cabling / etc
- Assessed as unlikely that any manufacturing /fabrication or assembly requirements will be required as Sullom and the immediate area offers no clear competitive advantage over Lerwick and other Mainland ports.
- Closer links to HE/FE and Skills Development and Training providers to ensure availability of a high value skilled /trained /certificated labour force and opportunity for young people.

5.3.5 Summary of the Renewable Sector Opportunity

The renewable sector shares many areas of expertise with oil and gas and skills, infrastructure and support services in marine engineering and contractor site servicing are key areas of opportunity. Good facilities for field and array (O&M) servicing are being developed/offer the potential at Port of Lerwick and Scalloway and in the short term these are likely to offer competitive advantage.

The oil and gas sector is likely to remain the key driver for investment in Sullom Voe with future opportunity for the renewable sector dependent upon the progression of investments into the northern Shetland sector. The implementation of on-shore wind developments (such as Viking - 103 turbines) are subject to the Shetland Interconnector that may also trigger further on-shore consents and interest. Facilities for landing special and heavy loads (nacelles) at the closest point to deployment would create opportunity for Sullom at the Construction Jetty.

5.4 Fishing and Aquaculture Sector

The fishing industry is a major component of the Shetland economy – 28% of total output, 19% of added value and 8% of employment in 2010-11. The Local Fisheries Development Strategy (LFDS) acknowledges that Shetland is a 'fisheries dependent area' with the sector being both economically and socially important to Shetland, supporting the vitality and viability of remote communities.

5.4.1 Market Context

In 2012, 365,000 tonnes of sea fish and shellfish was landed by the Scottish fleet with a value of £466m – representing a 2% increase in volume but 9% decrease in value from the previous year (2011). Shetland accounted for 20% of volume and 14% of value for Scotland with 2012 landings representing around one-third less than the previous year – significant decrease in pelagic species which made up over half of total Shetland landings. There were 2,046 active Scottish based fishing vessels in 2012, the smallest number recorded and representing a long term decline 12% since 2002. With 177 vessels under the responsibility of Shetland, the district accounts for 8.7% of the total Scottish fleet.

In 2012 there were 4,727 employees on Scottish based fishing vessels, representing a decline of 10% over the past ten years, and around 25% over the past thirty years. The most significant decline has been in 'regularly employed' fishermen which have declined by almost 50% over the past 30 years. Of all Scottish districts, Shetland has the highest proportion of 'irregularly employed' fishermen working for its fleet, accounting for almost 50% compared to a Scottish average of 20%. A notable proportion of those irregularly employed in the fishing industry in Shetland supplement their fishing income with other jobs, frequently in the O&G sector. According to the Shetland Regional Accounts, 'fishing, aquaculture and fish processing' remains the most significant economic sector in Shetland. The sector supports 1,100 jobs and 123 businesses with an annual turnover of £189m. The LFSD notes that with the inclusion of multiplier impacts, the sector accounts for almost one-quarter of the total jobs in Shetland.

Whitefish and pelagic fish is predominantly landed at Lerwick and Scalloway, but 20% of the total (1,800 tonnes) shellfish landings in 2012 for Shetland were in the central mainland ports which includes Scalloway. The vast majority (94%) of total landings were by Shetland registered vessels, valued at £3.5m.

5.4.2 Market Trends

It is difficult to prepare comprehensive analysis of trends in the fishing sector. Whilst data is available from the Scottish Fisheries Statistics (SFF), it relates to the Scottish fishing fleet for landings in Scotland and therefore excludes two key data sets – the non-Scottish fleet landing in Scotland, and the Scottish fleet landing outwith Scotland.

The SFF records an upward trend in the number of voyages for the Shetland fishing fleet, with 2012 being 80% higher than in 2003; the Scotland fleet recorded a decline of 8%. In contrast the quantity of fish landed in Shetland (by the Scottish fleet) reduced by 46% (2003-2012) against an overall decline for the Scottish fleet of 7%, and the value of landings increasing by 50% and 65% respectively for Shetland and Scotland. These are clearly inconsistent trends.

The data from SFF does not correlate with locally sourced data for Shetland which records a 139% increase in the total number of boxes sold at the electronic auction between 2003 and 2013. This local data also records a significant increasing trend in the number of weeks that achieve large box sales – in 2003 no weeks recorded more than 5,000 box sales, but with an increasing trend over the past 10 years, 37 weeks in 2013 recorded more than 5,000 box sales.

The official data from SFF records a significant decline in both the quantity and value of landings in Shetland between 2008 and 2012. This is supported by data showing a long term decline in the number of vessels (31% decline in Shetland and 21% decline in Scotland from 2001 to 2012), but is in contrast to a stable employment base over the past 10 years in Shetland, set against a 17% decline across Scotland.

5.4.3 Sullom Voe Opportunities

Fish farming will not, as a matter of policy, be permitted anywhere within the Sullom Voe Harbour Area as it is a restricted area. Therefore it is not considered that aquaculture will offer significant opportunities for future activity within Sullom Voe. The majority of fish and shellfish farms are located along the south west coast in close proximity to Scalloway, or in the firth areas of the Swarbacks Minn south of Brae.LPA is also undertaking investment at Lerwick that will provide deeper berthing and more working area for the fishing fleet, creating a planned new white fish market planned to start in 2016. The investment is designed to secure Lerwick's position as one of the UK's leading fishing ports.

While both Scalloway and Lerwick are better located to provide harbour and on-shore facilities for the fishing and aquaculture sector, there are a number of small boats that use Sella Ness harbour on a regular basis – typically one or two-man crews working daily and berthing in the harbour overnight.

Anecdotal evidence provided by consultees suggests that there are some constraints for these small boats in securing overnight berthing, and an opportunity to create a small platform landing/berthing facility serving the needs of small boats working across the north of Shetland. This could potentially be located at Sella Ness, but might more compatibly be accommodated through improvements to some of the smaller harbours further north. Additionally, the lengthening of the landing / berthing facility at Toft may appeal more to smaller boats and should be kept in consideration.

5.4.4 Sullom Voe Competitive Advantage – Physical Infrastructure

Sullom Voe has little to offer the Fishing and Aquaculture sector in terms of a competitive advantage in terms of port / harbour facilities or physical infrastructure. The existing Sella Ness Industrial Estate could offer industrial (Class 4/5) units for a range of activity within the sector but without a quality supporting harbour/port facility this is likely to be limited and involve activity un-related / not requiring marine landings.

5.4.5 Summary of the Fishing and Aquaculture Sector

The Fishing and Aquaculture sector is unlikely to require any facility in Sullom Voe and uses /activity will be non strategic or opportunistic related to a business locational preference rather than competitive place or compatibility with existing or future planned infrastructure.

5.5 General Cargo and Logistics Sector (inc. Scatsta Airport)

Ports are transport modal interchange points allowing transfer of goods and people between land and sea. They typically support a wide range of activities, with strong presence in fishing, oil and gas, ferry services, goods transport, etc.

Scatsta Airport, located 20 miles north of Lerwick and 5 miles south of Sullom Voe, focuses on passenger journeys, primarily serving the O&G industry – the Sullom Voe terminal and the offshore platforms. The airport licensee is with BP Exploration Operating Company Ltd contracted to the oil companies IAC (Integrated Aviation Consortium) with operations managed by Serco.

Other general cargos and industrial activity have included assessments in the mineral sector and the development of a major 'super quarry' comparable to the development at Glensanda. Consultations within the minerals sector (HOLCIM) have indicated no short / medium term market need or market demand exists in Scotland for large coastal quarry developments.

5.5.1 Market Context

Across Scotland there are 270 ports and harbours, of which 15 are, classified 'major ports' – typically handling at least 1m tonnes of cargo per annum – including both Sullom Voe and Lerwick.

In 2009 10.5m passengers and 85.5m tonnes of cargo were handled by Scottish ports in over 15,000 vessel arrivals. Over 80% of vessel arrivals were at three ports, Aberdeen, Forth Ports and Lerwick. Lerwick accounted for 17% of arrivals, an increase of 53% since 2005, set against an overall 4% decline across Scotland. Over 67% of Scotland's total exports are distributed by the network of ports.

The ports at Sullom Voe and Sella Ness are owned and operated by SIC as the Harbour Authority. The port at Sullom Voe comprises four jetties (one of which is currently in operation) with one enabling ship-to-ship transfers. In addition there is a further jetty (the Construction Jetty) which lied immediately outwith the terminal fence, but which is in need of upgrade. The port at Sella Ness accommodates the pilot/tug boats and jetty, and SIC port administration offices and workshops.

The adjacent Sella Ness Industrial Estate accommodates a range of businesses, largely operating in the O&G sector and/or servicing Total's gas plant contract (SGP). The estate also accommodates an oil spill response storage facility, warehousing and park & ride facility. Lay down space is available within the estate, on land adjacent to Scatsta Airport, and on land adjacent to the construction jetty.

Scatsta Airport operates as a private airport serving the oil companies' Integrated Aviation Consortium. The only regular fixed wing route is the shuttle service from

Aberdeen (7 or 8 times daily) ferrying crew to SVT and for onward travel via helicopter to offshore rigs. Scatsta Airport recorded the 6th highest passenger numbers of all Scottish airports in 2013.

The airport has two runways, one of which has been decommissioned and is used as laydown space for Total's gas plant (SGP) construction. Despite recent upgrades at Scatsta feedback from consultees suggests that the airport is operating at capacity with limited additional capacity.

5.5.2 Market Trends

Scotland's Marine Atlas records 4,700 jobs and £423m GVA for sea and coastal water transport and its supporting services in 2009 – likely to be significantly higher when supporting activities and supply chain impacts are taken into account. Updating and expanding this to include warehouse, cargo and service activities for water transport records 6,000 jobs across Scotland in 2012, equating to a slight decline (-4%) since 2009. Across Shetland there were just over 250 jobs in this expanded sector in 2012, down over one-third (-34%) since 2009.

A wider and more recent assessment of the economic impact of UK ports records that in 2011 there were 117,200 direct employees (5% increase from 2009), but significantly higher when indirect and induced multiplier impacts are taken into account (398,800 total jobs). The report shows that Scotland accounts for 26% of UK-wide Ports sector employment, 15% of freight tonnage and 25% of GVA.

While there has been an ongoing reduction in ship movements across Scotland, there is also an ongoing trend in size and technology allowing greater volumes to be carried by fewer, faster ships, especially in the container market with the growth in super tankers. These ships typically operate hub and spoke services at major ports with onward transhipment to smaller and medium sized ports. The Marine Atlas notes UK forecasts that there is "a compelling need for substantial additional port capacity over the next 20-30 years" and "opportunities for some of this additional capacity to be met in Scotland".

The introduction of bigger ships creates the need for increased water depth (and in some cases width and turning circles) in both entry channels and berths in order for ports to remain competitive. Other facilities (Scapa Flow) and established ports and harbours with their associated infrastructure offer a stronger proposition in terms of meeting changing general cargo / logistic needs.
Lerwick Port Authority (LPA) Strategy and Business Plan for 2013 notes that the port is flourishing and records significant past and ongoing investment in infrastructure – improved access, extended deep water facilities, fish market and development of new land and quays.

Scatsta Airport focuses on passenger journeys and carried almost 300,000 passengers in 2013, down slightly (2%) from 2012, but almost 90,000 more passengers than Sumburgh. Given the growth in O&G activity off the West Coast of Shetland and the continuation of further exploration off the East Coast, together with the planned investment at the terminal, there is likely to be continued, if not increasing, demand for air services at Scatsta – both fixed wing and helicopter.

5.5.3 Sullom Voe Opportunities

Sullom Voe's primary opportunities for growing it's the port and cargo sector are currently and into the foreseeable future intrinsically linked with the O&G sector and the transhipment of oil and gas product rather than general cargo's and logistics. In the longer term opportunity may exist in the renewable energy sector (see above) but typically as a transhipment quay close to on-shore /off-shore wind or marine renewable arrays.

The development of a Biomass Plant (see renewables) would be determined by wider energy and business case needs but Sullom Voe could offer the scale of facility and deep water facility for cargo handling. It is unlikely that should any such proposal be advanced that it could secure the capital for investment in new port infrastructure and other sites would offer competitive advantage.

Freight and general cargo / logistics operations are therefore unlikely to act as a driver for major new and enhanced facilities at Sullom Voe greater than the safeguarding and enhancement if required of the Construction Jetty.

Scatsta airport and the runway and associated facilities is a strategic asset and a key part of the infrastructure supporting the O&G sector and potentially future uses / activity based on air access. Health and Safety issues are central to the planning of off-shore North Sea / West Shetland Basin operations and Scatsta may offer some significant advantages for fixed wing and helicopter logistics and further analysis of likely traffic will be required with the O&G operating companies to understand their likely method of transporting staff e.g. via helicopter to fixed platforms and/or via boat to SPFO platforms.

Airport capacity like port capacity are inter-related (Sumburgh /Tingwall /Scatsta) and the balance of private sector open and dedicated services; lifeline services; connections and fixed and non-fixed flight requirements all need to be more clearly understood. Sumburgh and Scatsta offer modern full service airfields with Tingwall offering a competitive local lifeline service base close to Lerwick. Future airport reviews and consolidation of services / partnering arrangements may offer service and cost benefits.

5.5.4 Sullom Voe Competitive Advantage – Physical Infrastructure

No significant competitive advantage or locational advantage considered likely to generate major growth in cargo and freight activity outwith the oil and gas sector. Sullom Voe as a port handling freight is linked to the development of the Sullom Voe Terminal and its future uses and probable phased decommissioning sometime post 2040. Competitive benefits are primarily locational (oil and gas for SVT/ WS Basin oil exploration) and onshore-offshore windfarm /wind array developments.

The Construction Jetty and heavy load capacity to facilitate oil and gas and potentially energy (renewable – onshore/off-shore) would be advantageous associated with heavy module and nacelle materials handling. Scale of facility without significant further enhancement is potentially limiting. Opportunity to develop enhanced infrastructure in partnership with commercial / contractor activity adopting a market response approach (private sector enhancement and/or design–build-operate arrangements) might be anticipated to offer the primary route for funding / procurement. Advance public sector funding that sought to build a Business Case for advance infrastructure investment would not seem to be viable.

5.5.5 Summary of the General Cargo and Logistics Sector

The Freight and Logistics sector outwith oil and gas sectors is unlikely to require any significant new infrastructure facility at Sullom Voe. Recent activity and investment by Total / BP has seen landing of heavy modules at Port of Lerwick and transhipment to site by road. The scale of this investment in recent years has not included direct investment at Sullom Voe in quay, marine landing or freight handling facility. The lack of private sector inquiry / investment approaches for new infrastructure provision at Sullom in the current investment round indicates that neither private not public sectors have major interest or the funding to advance significant new port/harbour facilities for freight logistics in the foreseeable period.

Sella Ness Tug Jetty

Strategic Opportunity | 06

6.1 Establishing Strategic Objectives

Sullom Voe is a strategic port and harbour asset for Shetland and Scotland. Its competitive advantage is based on its strategic location, deep water facility, and the inter-modal capacity linked to the adjacent Scatsta airport.

Sullom Voe, the Sullom Voe Terminal, Sella Ness Port Facilities; Sella Ness Industrial Estate and Scatsta Airport including adjacent land should be seen as an entity that collectively creates a strategic asset and economic location. All assets including the SIC Sullom Voe port facility including the Construction Jetty create an asset of significant importance to the oil and gas and potential future energy, including renewable sectors.

A vision for a medium and long term strategy requires that these assets be protected to maximise future opportunity associated with key growth sectors in the Shetland economy.

The objectives for the Sullom Voe Development Masterplan are to:

1. Safeguard the asset to protect future opportunity
2. Manage the asset to ensure efficient stewardship
3. Maximise value of the asset by encouraging/facilitating reinvestment
4. Recognise that the asset has a key role in supporting Sullom Voe Oil Terminal

Safeguarding Strategic Assets

Firstly, Sullom Voe needs to be safeguarded for future opportunity. There have been progressive levels of investment at Sullom Voe, predominantly to meet the needs of the oil and gas sector. This is set to continue for the medium to med-longer term, however there is uncertainty regarding requirements and demands of the sector particularly in terms of operational needs associated with West of Shetland Basin and in the context of technology advancement, changing operational and safety parameters, etc.

In this context, Sullom Voe's current competitive advantage needs to be maintained and safeguarded as a strategic site for the energy sector and other potential sectors in the med-longer term (renewables sector post 2025-30). This will ensure that infrastructure and assets offer development capacity and can support market activity and investment associated with (marine/terrestrial developments) in the north and west Shetland marine area and associated with Sullom Voe.

Safeguarding should include:

- Safeguarding of the port and harbour assets via local plan policy and National Planning Frameworks that identify Sullom Voe as a key asset for the economy of Shetland and Scotland
- Safeguarding of Scatsta Airport as key element of infrastructure supporting the oil and gas and other potential sector including both runways and adjacent land assets.

Optimising Land-Use Activity

It is essential that Sullom Voe's current advantages and assets are efficiently managed to facilitate growth and investment whilst ensuring flexibility of operation and safeguarding future opportunities. A clearer land-use planning strategy is required in terms of maximising the value of the infrastructure and securing further investment in infrastructure that retains operational value beyond individual contract leases and activity.

This is of particular importance at Sella Ness Industrial Estate and the use and integration of facilities (permanent and temporary) associated with sites used for accommodation, support facilities; lay-down and construction compounds. Managing the facility to secure better use of the land and infrastructure should include:

- Masterplanning of the Sella Ness Site combining all public sector owned assets (SIC /HIE) to ensure the maximum extent of land is serviced, fit-for-purpose, and prepared to maximise activity around FRI leases and or infrastructure enhancement.

- Extending dialogue / exploring with BP Operations regarding permanent Office -Service Core for SVT on the site providing an off-sites Administrative Centre for non-operational staff for SVT including parking.
- Protecting and developing jetty assets in-line with market demand to facilitate opportunity for use of SVT as a transhipment hub.
- Developing the SIC Port Administration Building as a Core Service Building with potential to extend / enhance facilities.
- Developing a Site Specification for infrastructure (audit and specification) to define core site infrastructure
- Defining Contractor Lay-down and Contractor Compound areas with industrial servicing (utilities /waste/ security/etc)
- Extending site preparation / servicing to all sites east of the Sella Ness Industrial Estate access road and potentially (subject to assessment) a plot depth west of the Sella Ness Access Road and to existing zoned and developed areas to the south of the B9076.
- Improvements to the profile / quality standing of the site with quality signage at the junction of the B9076.

Optimising and raising the quality /site preparedness of the industrial sites would secure additional value, enhance capacity and the appeal of the site and support a stronger proposition of Sullom and Sella Ness forming an economic hub.

Partnership working between land interests and operators supported by SIC / HIE economic development interests could secure a site with stronger long term value with limited direct investment (see below). This will see assets in Sella Ness and the Scatsta area managed to enable a more coordinated approach, which in the longer term will create added value to the economy of Shetland.

Maximising Value through Public –Private Partnership

The future of Sullom Voe and the economic activity associated with it, is strongly connected to the Sullom Voe Oil Terminal, exploration outcomes and operational needs of the West of Shetland Basin, and the provision of supporting services.

The Oil and Gas sectors undertake many of its largest off-shore and on-shore investment programmes through large turnkey contracts. These transfer responsibility for contract organisation to the primary contractor including contractor's facilities, labour accommodation, office and all contract related support service needs. Typically contractors have looked to facilities at Sella Ness and opportunity associated with SIC Ports and Harbour facilities (including the Construction Jetty) in terms of infrastructure.

The increasing scale of these investment has meant that contractors are now involved in the development of semi-permanent facilities deliver have a requirement for infrastructure that needs to be fit-for-purpose for relatively extended periods and high intensity activity. Roads, site servicing, car parks and buildings are all therefore of a specification that should include for longer term use and handover to landowner on completion of leases.

SIC / HIE could in this way enhance the quality and permanent infrastructure with minimal direct investment by encouraging private sector reinvestment in site preparation / infrastructure required to meet private sector needs. Structuring agreements around Zero Cost Leases and specified infrastructure could allow a substantial upgrading of Sella Ness and the Sullom Voe infrastructure.

Strategic Opportunity | 06

This will maintain advantage, by upgrading and improving existing infrastructure and allow for a transition to other potential growth sector uses (eg. renewables/supply chain support services/O&M /etc. in the longer term. This could includes lease arrangements in the following areas:

- Sella Ness Port and Industrial Estate
- Construction Jetty
- Additional Laydown Areas i.e. Scatsta etc.

Promoting private-sector led investment, within a masterplan and infrastructure specification would allow a move away from ad hoc facility provision to a more coordinated and flexible facilitation of utility, jetty utilisation ,plot service and infrastructure requirements at Sullom Voe.

A more coordinated approach based on clear outcomes defined within a masterplan would ensure the maximisation of Sullom Voe relative to occupancy potential and added value to the local economy. Growth sectors are assessed against the required harbour infrastructure facilities and serviced industrial land and buildings.

Objective	Driver	Actions
1.Safeguarding	▪ Protecting a strategic asset ▪ Maximising future contribution to the Shetland Economy ▪ Safeguarding inter-connected elements ▪ Programme for level of investment	▪ Secure Local Dev Plan/ SPG commitments (land zoning) ▪ National Planning Policy safeguarding provision (NPF3) ▪ Scottish Government recognition
2.Efficient Management	▪ Masterplan to optimise land-use activity and develop integrated facilities and capacity ▪ Facilitate sustainable growth in key sectors ▪ Protection of key assets for future use ▪ Need for flexible semi permanent facilities ▪ Need for coordination of services and facilities	▪ Masterplan to secure optimal Asset Utilisation ▪ Partnership with companies ▪ JV approach to site/ facility management ▪ Design and Infrastructure provision guidance ▪ Adoptable arrangements
3. Maximise Value	▪ Facilitate private sector investment ▪ Ensure flexible facility, service and infrastructure ▪ Ensure market ready plots ▪ Coordination of development rather than ad hoc facility provision ▪ Safeguarding and developing jetty infrastructure to protect future growth opportunities	▪ Promote investment by private sector using Zero Lease Contracts ▪ Partner obligation on companies to leave fit for purpose facilities ▪ Provide marketing and data base of infrastructure and service offer i.e. Tugs, land availability etc. ▪ Ensure all oil and gas / jetty infrastructure assets are protected
4. Understand your asset	▪ Need for a Long Term Vision ▪ Legacy following O & G production phases ▪ Other potential sectors	▪ Prepare a Spatial Understanding ▪ Understand additional sectors i.e. renewables, offshore transport hub, logistics.

Table 3: Strategic Objectives

6.2 Capturing the Sector Opportunity

Development in the West Shetland Basin offers a regional resource of considerable economic value with potential future implications for Sullom Voe and Shetland. The Shetland Local Development Plan and National Planning Framework 3 have recognised the importance of Sullom Voe as a key economic asset for Scotland, while the National Renewables Infrastructure Plan (NRIP) defines the importance of Sella Ness in relation to marine offshore renewables.

The strategy for Sullom Voe will be established pursuant of a targeted market strategy based on specific developments in the energy sector. This would see a focus on the oil and gas sector in the immediate term (expected to extend post 2030) with a longer term position maintained that would meet potential renewable energy developments.

Tier 1 – Strategic Market Opportunity for the Energy Sector:

- Oil and Gas in the immediate term
- Renewables in the longer term (post 2025)
- New Low Carbon economy - future activity (Carbon Storage)

Tier 2 – Supporting Industrial sectors based on retain and enhanced assets:

- Marine Engineering
- Support Sectors i.e. Specialist Supply Chains / Plant, Construction etc.

6.3 Sullom Voe – Defining a Vision 2025

Sullom Voe and adjacent lands is a safeguarded national asset of strategic importance to Scotland operating on a stewardship that maximises the value of its primary strategic advantages as a port and harbour facility.

Developments in the West of Shetland have progressed increasing the requirement for a flexible and well managed shore base in close proximity to key sector activity. Sullom Voe is playing a fundamental role in the areas of logistics, support industries and service support requirements for the oil and gas market.

The strategic areas of Sullom Voe, namely Sullom Voe Oil Terminal, Scatsta Airport, Sella Ness and the Construction Jetty, have been maintained and managed to provide a high quality permanent facility that flexibly meets the requirements of the oil and gas companies operating from the terminal area. Investments in the assets are private sector led, and are implemented to ensure flexibility and fit for purpose infrastructure and services enabling sustainable continuation of economic activity.

Sella Ness Energy Park has become a Off-sites Operational Headquarters for Sullom Voe Oil Terminal out with the terminal area and supporting economic uses complementary to other facilities creating a new 'hub' for mixed economic activity. Scatsta airport operates on a partnership basis with dedicated business and public flights. Scatsta offers a consolidated base for the fixed wing flights to the offshore rigs, as well as continued charter flights for the transport requirements of the energy sector.

Strategic Opportunity | 06

The Shetland interconnector opened up new energy opportunity for on-shore wind with community based energy trusts with the Construction Jetty providing the primary quay for nacelle import and material handling. Renewable activity in marine devices and off-shore wind is now coming of age with new interest in an Operation and Maintenance (O&M) base at Sella Ness.

The Sullom Voe Terminal, Sella Ness and Scatsta offer a multi-partnered consolidated economic hub location that offers a 21st century infrastructure and fully coordinated site and infrastructure service support within the energy and low carbon industrial sectors

7.0 Development Masterplan

The Development Masterplan for Sullom Voe Harbour promotes an approach based on a market and sector assessment that recognises the Harbour area as a strategic asset.

The vision and development masterplan seeks to take advantage of Sullom Voe's key strategic importance and seeks to safeguard the mix of activity (SVT /Sella Ness/ Harbour /Airfield) and key advantages whilst maintaining a level of flexibility and capacity to accept and adopt new Inward Investment and support JV arrangements between public and private sectors. An initial review of options considered a range of responses to the future of Sullom Voe. These included:

7.1 Development Option 1 - Do Nothing Approach

Market Responsive - Do Nothing
Rationale: Sullom Voe operates as a flexible mixed use development area focussed on the Oil and Gas sector relating to Sullom Voe Terminal. Port activity is determined by SVT operations with SVT Jetty and oil/gas transhipment determined by BP Operations and partners. Jetty maintenance is handled by SVT and Sullom Port Facilities are primary functioning as a tug base for ship berthing and pilotage. Construction Jetty activity is market demand led. Development in the wider area and Sella Ness together with investment interest is substantially linked to SVT and requires flexible contractor based facilities and temporary laydown. This is market driven and meets market users needs. Wider opportunity in renewables or other sectors is limited by reason of location; labour transit times; support services and existing quality of infrastructure.
Advantages: 1. Maintains status quo and current arrangements 2. Requires no significant resource / management inputs with day-to-day operational issues addressed solely on technical capacity/ fitness-for-purpose basis
Disadvantages: 1. Secures no additional value nor coordinates activity in a manner that supports primary economic activity / driver created by SVT 2. No change in the standard of supporting infrastructure or ability to enhance it through short-term contract investment much of which is currently made redundant at end of contractor's period of use 3. Consultation highlight a wider potential opportunity and acknowledged some limitations associated with a purely market driven, ad-hoc approach to investment and service delivery. 4. Some elements of infrastructure (Sella Ness Jetty) will need investment.
Conclusion: Ad-hoc arrangement at Sullom including Sella Ness are not creating any additional value or securing a legacy that ensures the site/location is more competitive in the future for West of Shetland operators; renewable sector assembly/O&M; or legacy opportunity associated with future energy / low carbon or alternative sectors in the future.

7.2 Development Option 2 – Coordinate & Manage Investment & Contract Activity

Support Investment – Investment Coordination & Partnership Delivery
Rationale: Sullom Voe with the West of Shetland Basin investment will remain a strategic location and terminal for the oil and gas sector through to 2040 and beyond. Major investment programmes including upgrading and renewal of the terminal involve very major investment; substantial contractor activity and requirement for contract working areas and support services co-located to SVT. The deep water Port of Sullom Voe whilst owned and operated by the Shetland Islands Council services SVT. The port must remain responsive to the primary user limiting activity and/or investment not required by SVT. Closer partnership working needs to reflect the special circumstances and strategic nature of the port. Investment activity typically has revolved around short term single contracts seeking low cost competitive advantage in terms of support space but increasingly these are longer term, larger contracts with human resource planning and accommodation needs in addition to laydown. Opportunity exists to secure higher quality, more durable site infrastructure that can meet both operator and wider and longer term economic needs. Proposal would be to encourage close partnership with private sector to deliver a more permanent infrastructure at Sullom and Sella Ness. Develop a masterplan such that roads, services, laydown; boundary security and buildings are retained where appropriate as permanent structures. Roads and utility infrastructure would be built up over time (funded through contractor delivery on Zero/Discounted Leases) and Sella Ness developed as a fully serviced Energy Park.
Advantages: 1. Develops the location as a strategic hub for Energy Sector with focus on Oil and Gas and with longer term opportunities for renewable energy. 2. Promotes a partnership with BP Operations and future contractor organisations and could offer a new permanent Administration and Support Services Building and car parking outwith the SVT control zone. 3. Promotes investment by the active Oil and Gas sector that is already developing/seeking longer term better specified sites for Contract Operations. 4. Creates a stronger 'hub' and longer term legacy for Mixed Use Industrial and renewable sector / operations and maintenance into the future 5. Limits need for high levels of public investment (SIC/HIE whilst progressively securing an enhanced level of facility and activity.
Disadvantages: 1. Oil sector and SVT Operator is seeking to reduce costs and operates in an environment of short term project based activity and may not see value in developing longer term Administration Facilities or supporting upgraded infrastructure albeit through SIC lease and contractor arrangements. 2. Building and service flexibility may not meet future need and care needs to be taken to avoid securing negative assets or future liabilities.
Conclusion: Planned management of facilities and facilitating and supporting private sector investment to develop an enhanced infrastructure may offer a viable mechanism for development of facilities.

7.3 Development Option 3 – Invest in Advance Infrastructure

Support Investment – Investment Coordination & Partnership Delivery
Rationale: lSullom Voe whilst securing massive investment in its development witnessed only limited investment in the period 1990-2010. The development of the West of Shetland Basin has supported a re-think around the value and operational-life of SVT leading to major new investment in additional pipelines, gas sweetening plant, additional capacity and facility renewal. Investment in the port infrastructure has been linked to uncertainty over the long term future of SVT with new investment limited to Oil/Gas Jetty maintenance works and investment by SIC's in Jetty Loading Towers and new tug capacity. General maintenance has included electrical and mechanical works, metal fabrication /installation, painting of Jetty structures, together with marine and shore side access requirements. Investment in the SVT Jetties is likely to focus on major maintenance to meet operational and safety requirements dictated by operational needs. Sella Ness Tug Jetty facilities have seen no significant investment and facilities will require either a major maintenance upgrade or further development and renewal. The Tug jetty allows berthing for harbour tugs and pilot launches on an aging finger jetty. The jetty is of cellular steel and concrete design. Market opportunity is heavily focussed on Port of Lerwick with potential opportunities linked to West of Shetland Basin oil field servicing; coastal freight traffic and renewable sector heavy load import and wider non-specific speculative investments (biomass / bulk storage/ transhipment). Investment would be focussed on advancing a new level of infrastructure to support opportunity at Sullom Voe based on: ▪ Creation of a new deep-water heavy load Multi-Purpose Quay to provide additional facilities and serve longer term renewable sector opportunity ▪ Investment at Sella Ness Tug Jetty to create a enhanced multi-purpose facility to enhance tug and marine activity and service local activity marine use and future O&M sector opportunity ▪ Investment in the Sella Ness Industrial Estate
Advantages: 1. Develops the location as a strategic hub for Energy Sector with focus on Oil and Gas and with longer term opportunities for renewable energy. 2. Secures a new standard of infrastructure to support market sector investment
Disadvantages: 1. No clear market opportunity or demand has been identified that is limiting private sector investment or where private sector investment requires an infrastructure 2. Investment ahead of need would not offer value for public investment given the level of activity and lack of imminent and demonstrable market need
Conclusion: Current funding availability and level of market need suggests major investment programme not a priority at Sullom and more partnered based investment would offer better value.

7.4 Masterplan Proposals

The masterplan approach seeks to promote investment through a partnership approach with the key customers, operators and users in a manner that seeks to build a stronger economic base at Sullom Voe associated with port and harbour activity and support services.

The masterplan adopts Option 2 - Coordinate & Manage Investment & Contract Activity as the most deliverable mechanism to secure the vision and ensure facilities and services are addressing market needs and support growth.

The masterplan therefore focuses on:

1. Safeguarding the asset and facilities ensuring the mix of operational facilities at Sullom Voe remain fit-for-purpose and capable of sustaining new investment and growth.
2. Developing the existing infrastructure and assets controlled by SIC /HIE to enhance marketability /operational value whilst building a stronger more permanent facility at Sella Ness
3. Identifying opportunity sites for Inward Investment and future major investment locations attracted by the competitive locational advantages of Sullom Voe and capacity to develop a new deep water marine accessible facility or exploit existing infrastructure.

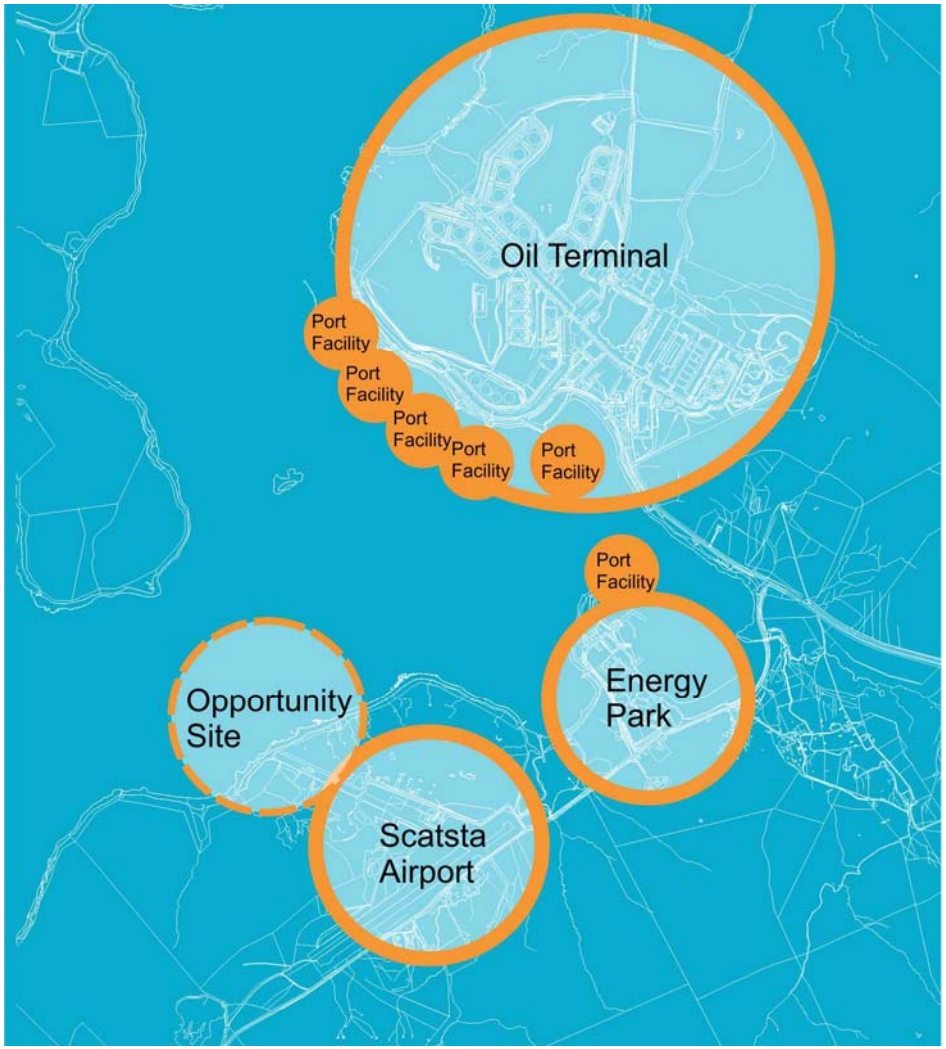


Figure 13: Sullom Voe Area Opportunity

Sullom Voe – Area Opportunity

Further promote and develop Sullom Voe as a strategic Oil and Gas Sector site based on Sullom Voe Terminal, a Sella Ness Energy Park, Scatsta Airport and a deep water opportunity site.

Capacity would include:

- Current port facilities associated with SVT, Construction Jetty and Sella Ness Tug Jetty with improvements/upgrading/maintenance works to Tug Jetty
- Development of Sella Ness as an Energy Park promoted through contract led opportunities to develop higher quality infrastructure (roads/hard-standings/ utilities) and with support funding for signage, marketing, etc by public sector
- Promote concept of new Administrative Centre off-sites for BP Operations / SVT with a new permanent facility at the gateway site at Sella Ness
- Promote a Deep Water Investment Site (Oil and Gas / Renewable Energy / Other Sectors) on Sullom Voe at former Coastguard Station at West of Scatsta runway.

Figure 14: Sella Ness Energy park

Sella Ness – Energy Park

Secure through contract leases and JV developments the upgrading of Sella Ness as an Energy Park offering fully serviced industrial and business / supply chain support sites co-located to SVT and with marine sea access (Ro-Ro ramp) and slipway.

Upgrading and promoting Sella Ness as a Energy Park would add definition to the wider Sullom Voe offer. Historically much of the development at Sella Ness has been ad-hoc and contract driven. Defining a Infrastructure Specification for all users and using lease terms to ensure contractors leave a legacy of good adoptable infrastructure would allow progressive upgrading.

SIC Harbour offices and associated warehouse buildings are in excess of SIC requirements and should form part of the permanent leasable facilities for the site. Developments such as Total's accommodation should leave a quality site infrastructure and permanent parking/hardstandings and road accesses for future use.

Capacity would include:

- Development of Sella Ness as a fully serviced Energy Park mixed industrial/ support services site
- Opportunity for a BP/SVT Administration Off-Site Facility with associated car parking and visitor shuttle inter-change.
- Development of circa 19.7ha of serviced industrial / business support service sites with flexible packaging and lease terms
- Marine access facilities for Operations and Maintenance and facilities for support service users needing light Ro-Ro and marine access
- Potential for Energy Park extension south of the Sella Ness Spine Road for additional laydown – subject to Scatsta Flight Path restrictions

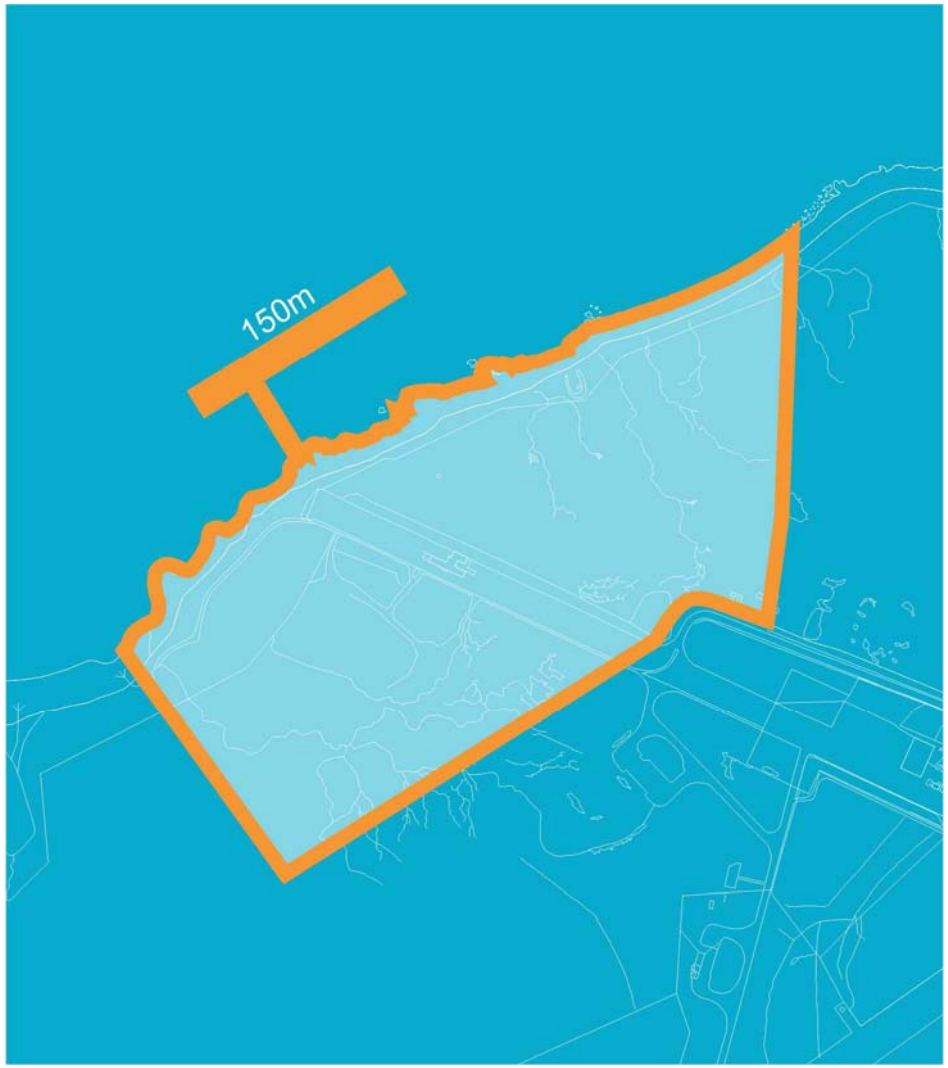


Figure 15: Investment Site North Scatsta

Investment Site – North Scatsta

Promote opportunity for a Major Investment Site with potential for deep water marine access at North Scatsta offering capacity for large scale developments requiring a deep water sheltered sea voe with tug and pilotage support services..

The Development Masterplan acknowledges that no market sector has currently identified a use / potential interest for such a site. A number of sectors and possible needs have been researched (see sectoral assessment). Needs change and whether requirements associated with the West of Shetland Basin; need for oilfield and personnel servicing; renewable energy requirements or other low carbon energy technologies safeguarding of a important deep water anchorage should be safeguarded. The Sullom Voe is a protected Special Area of Conservation (SAC) and a detailed analysis of need and environmental impact would be required to justify development in this location.

Capacity would include:

- Development of a deep water marine Quay (min 150metres)
- Land based development platform circa 42.3ha / 105acres.

Priority Projects		Programme Priority - Term						Lead Organisation
		Immediate Action (2013 / 2014)	Short 0-5 yrs	Medium 5-10 yrs	Long 10+ yrs	Immediate / Feasibility Works Order of Cost £	Longer Term Works Order of Cost £	
PP1	Advance discussion with BP Operations regarding Administration Facility and future needs associated with West of Shetland Basin	✓	✓			-	-	SIC
PP2	Define detailed Masterplan and Technical Information Pack for Energy Park (Sella Ness)		✓				£25,000	SIC
PP3	Complete Detailed Structural Surveys of the marine jetty at Sella Ness including recommendations for upgrading and maintenance		✓				£20,000	SIC
PP4	Promote Strategic Energy Hub (Oil & Gas, Renewables) at Sullom Voe	✓					-	SIC/HIE
PP5	SIC / HIE undertake Energy Park re-branding including web promotion and site signage		✓				£100,000	SIC/HIE
PP6	SIC / HIE decant SIC Port Administration Building and lease to contract operators	✓					-	SIC / Private Sector
PP7	Review SVT Jetty utilisation and potential conversion for alternative uses / trans-shipment / energy sector use		✓	✓			-	SIC / Private Sector
PP8	Prepare LDP submission identifying Sullom Voe as strategic hub and safeguarding key facilities and sites		✓				-	SIC
PP9	Develop Energy Park prospectus including arrangements Sella Ness Business Case / Lease Studies		✓				-	SIC
PP10	Develop out the Energy Park (Sella Ness) including expansion as required.			✓			£100,000	SIC/HIE
PP11	Strategic Review future needs of Sullom Voe / SVT / Scatsta with key operators and partners				✓			SIC/HIE / Private Sector
PP12	Investigate deep water berth requirements / opportunities associated with Scatst aNorth			✓	✓			SIC/HIE / Private Sector

8.0 Action Plan

The scenarios for development provide a range of investment options to ensure that Sullom Voe meets the requirements of key growth sectors. A series of action points have been identified and are detailed fully below and in the table opposite to provide clear intervention recommendations for Shetland Island Council.

PP1 Advance discussion with BP Operations regarding Administration Facility and future needs associated with West of Shetland Basin

PP2 Define detailed Masterplan and Technical Information Pack for Energy Park (Sella Ness)

PP3 Complete Detailed Structural Surveys of the marine jetty at Sella Ness including recommendations for upgrading and maintenance

PP4 Promote Strategic Energy Hub (Oil & Gas, Renewables) at Sullom Voe

PP5 SIC / HIE undertake Energy Park re-branding including web promotion and site signage

PP6 SIC / HIE decant SIC Port Administration Building and lease contract operators

PP7 Review SVT Jetty utilisation and potential conversion for alternative uses / trans-shipment / energy sector use

PP8 Prepare LDP submission identifying Sullom Voe as strategic hub and safeguarding key facilities and sites

PP9 Develop Energy Park prospectus including arrangements Sella Ness Business Case / Lease Studies

PP10 Develop out the Energy Park (Sella Ness) including expansion as required.

PP11 Strategic Review future needs of Sullom Voe / SVT / Scatsta with key operators and partners

PP12 Investigate deep water berth requirements / opportunities associated with Scatsta North

Appendix 1
Consultation and Engagement

	Organisation	Name (s)	Email:	Contacted	Comment
Site Tenants	**BP (General Operations)**	Roger Moore Dave Simpson	Roger.Moore@uk.bp.com	✓	Awaiting
	Tulloch Developments	Shaun Tulloch		✓	Consulted (Via Phone)
	EMN Plant Ltd	A.N. Nicolson		✓	Consulted (Via Phone)
	GAC Shipping Agents	John Nicholson		✓	Consulted (Via Phone)
	Scatsta Airport	John Thorne	+44 (0)180 624 2487	✓	Awaiting
	McKimm Painting	Allan McKimm		✓	Awaiting
Public Sector	**Scottish Development International**	Simon Wallace	Simon.Wallace@scotent.co.uk	✓	Contacted – no reply
	Marine Scotland	David Pratt	david.pratt@scotland.gsi.gov.uk	✓	Consulted (will pass on notes)
	Department of Energy and Climate Change	Cattanach Bill	Bill.Cattanach@decc.gsi.gov.uk	✓	Consulted (Via Phone)
	SIC Planning and Economic Development	Laura Fiske Jonny Wiseman Martin Holmes	laura.fiske@shetland.gov.uk martin.holmes@shetland.gov.uk jonny.wiseman@shetland.gov.uk	✓	Consulted on the 7th March 2014 in Shetland
		Douglas Irvine Maurice Henderson Jon Dunn	douglas.irvine@shetland.gov.uk maurice.henderson@shetland.gov.uk jon.dunn@shetland.gov.uk	✓	Consulted on the 7th March 2014 in Shetland
	SIC Harbour Board	Billy Fox Andrea Manson Robert Henderson Michael Stuart Mark Burgess Alastair Cooper Amanda Westlake Frank Robertson	robert.henderson@shetland.gov.uk andrea.manson@shetland.gov.uk robert.henderson@shetland.gov.uk michael.stout@shetland.gov.uk shetlander@me.com alastair.cooper@shetland.gov.uk amanda.westlake@shetland.gov.uk frank.robertson@shetland.gov.uk	✓ ✓ ✓ ✓ ✓ ✓ ✓	All contacted, and the majority consulted on the 7th of March 2014
	Highlands and Islands Enterprise	Rachel Hunter	rachel.hunter@hient.co.uk	✓	Client continuous consultation

		Katrina Wisemen	katrina.wiseman@hient.co.uk	✓	Client continuous consultation
		Calum Davidson	calum.davidson@hient.co.uk	✓	Consulted
		Chris Taylor Iain Sutherland	chris.taylor@hient.co.uk iain.sutherland@hient.co.uk	✓	Consulted
Local Community	**Delting Community Council**	Alison Foyle Alastair Cooper Barbara Shane Pat Brown Eddie Graham	dcc.alison@btinternet.com alastair.cooper@shetland.gov.uk	✓	Consulted on the 7th March 2014
Oil and Gas	**Total**		info.general@laggan-tormore.com jim.purdie@total.com	✓	Consulted (Via Phone)
	Taqa	Bill Main	Bill.main@taqaglobal.com	✓	Consulted (Via Phone) – Bill Main, Patrick O'Shea and Mark Ironside
	Shell		Letters	✓	Letters sent by SIC
	ConocoPhillips		Letters	✓	Letters sent by SIC
	ChevronTexaco		Letters	✓	Letters sent by SIC
	Dong Energy		Letters	✓	Contact established Tele message 31/3 MD/ meeting scheduled
	BP	Dave Simpson	Letters	✓	(See first Entry above under site tenants)
Renewable Energy	**Pelamis**	Andrew Scott/ Nick Pelosi	a.scott@pelamiswave.com	✓	Consulted
	EMEC		info@emec.org.uk	✓	Contacted
	Vattenfall	Colin Stewart	colin.stewart@vattenfall.com	✓	Emailed MD tele message 19/3
	Shetland Renewables Forum	Robin Simpson	info@shetlandrenewables.com	✓	Contacted three times during Scalloway Project and phone message left MD tele message 19/3
	Viking Energy	David Thompson	info@vikingenergy.co.uk	✓	Awaiting reply
	Pure Energy	Elizabeth Johnson	'elizabeth.pure@btconnect.com'	✓	Consulted/ declined
	Shetland Fishermen's Association	Leslie Tair	Leslie.tait@shetlandfishermen.com 01595 772 232	✓	Consulted

	LEF	Dave Suckley		✓	Consulted
	Ocean Kinetics	John Henderson		✓	Consulted
	DH Marine		mail@dhmarine.co.uk	✓	Contacted
	One Peterson	Ann Hunter	01595 694 242	✓	Consulted
	Petrofac	Tony Kennedy	Anthony.kennedy@petrofac.com 01595 746 805	✓	20/3 tele message MD
	Wood Group	Brian Chalmers	01224 851 000	✓	20/3 tele message MD
	Shetland Amenity Trust	Sharon Mann	'info@shetlandamenity.org'	✓	MD tele message 20/3
	SSMO	Carole Laignel	'carole@ssmo.shetland.co.uk'	✓	Consulted
	SOTEAG	Zara Morris Trainor	zmt3@st-andrews.ac.uk	✓	Contacted x 2
	Sullom Voe Association	James Gray	james.gray2@shetland.gov.uk	✓	Contacted x 2 Tele msg left (01.04)

Sullom Voe Consultation Questionnaire

SIC and HIE have appointed Ironside Farrar and EKOS to prepare a Development Masterplan for Sullom Voe and adjacent areas. This will clarify strategic opportunities and investment needs over the next 5-20 years and identify market opportunities for key sectors.

For years SV has been a key feature of the North Sea and West of Shetland O&G sector, with more projects currently in progress or planned. However, looking to the future we want to understand how and where current activity at SV could be developed and expanded, and what physical development might be needed in the port and surrounding areas to support future use for the oil and gas industry, and possibly new and different industries.

We are not seeking commercially confidential plans about proposed development, but are seeking an informed view about any distinct possibilities and factors that would attract or deter the sector from making a greater use of the facilities at SV and the surrounding area.

EKOS Questions

- Describe your current operations at Sullom Voe / Sella Ness?
- How many people do you currently employ at SV/SN (total number, type, perm/temp, etc) and how has this changed over the last 10 years?
- How many Shetland residents do you employ – what are the barriers to employing more?
- Do you forecast any major change in operations over the next 10 years (up/down – by how much) and how will this impact on jobs?
- What are the potential opportunities for your company at SV/SN – and are there any constraints in achieving these (physical, employees, skills, access, etc)?
- Do you think there are any other opportunities at SV/SN that should be explored – what/who/when?
- Are there any uses/options that would have significant positive/negative impact on your operations?
- Are there any other issues that would influence your future operations at SV/SN – both positive any negative?

IFL Questions

- When do you envisage the construction process to be completed (with respect to the both projects)?
- Once operational, what duration do you expect the production process (oil and gas extraction) to extend to 2030? 2040? beyond?
- Will there be need for more accommodation in the short to medium term (this may be answered by your question below for constraints)
- Physical – marine access – where do most of your Oil Supply Vessels operate from? (Lerwick, Scalloway, other?)
- For BP, is there appetite for moving non-essential staff from the terminal?
- Requirements in terms of using the airport at Scatsta?
- Have they considered investment in Sella Ness etc to meet their specific needs? (In the context of SIC unlikely to led investment)
- Decision process regarding production (Bill would be keen to know about the following – I know it is technical question):

  "It would be interesting to know about decision process re production. As I see they have three options: a) pipeline to SV, b) FPSO and shuttle tanker to SV for 'treatment' and batching or c) FPSO and shuttle tanker direct to market.

  My impression is that for some time now most new developments are using option c) but their shuttle tankers have a relatively low utilization which must make this an expensive option, so why they don't use options a) or b)?

  It has been suggested that as SV is run by a consortium of 29 oil companies which BP leads it is almost impossible to make changes and hence easier for the 29 to maintain the status quo and there is little incentive for them to be entrepreneurial and seek/accept new partners in the SV consortium"

For renewables:

- (Viking Project) – what are the timescales for planning permission decision on this?

- What would be needed in terms ports and harbours in Shetland should the sector develop post 2018 (expected interconnector date)

Others:

- Is your business based on current operations at Sullom Voe (i.e. or are they independent)?

- What would you consider the particular strengths of Sullom Voe with regard to your business needs (i.e. could be airport, deep water harbour, synergies)

Appendix 2
Socio Economic Baseline

Sullom Voe / Sella Ness - Port & Harbour Masterplan

Socio-Economic Baseline

This baseline presents detailed socio-economic information on four comparator areas, Sullom Voe, Shetland, the Highlands and Islands Enterprise (HIE) area and Scotland. Sullom Voe is defined as a single datazone which encompasses the Sullom Voe oil and gas Terminal and the surrounding villages, and the HIE area is defined as the local authority areas of Argyll and Bute, Eilean Siar, Highland, Moray, Orkney and Shetland.

1. Population

Total population around Sullom Voe is just over 900 people and over the period 2001 – 2011, the total population has remained relatively stable, with a small decline since 2001. The comparator areas have all increased in population slightly, **Table 1.1**.

Table 1.1 Total Population

	2001	2003	2005	2007	2009	2011	% Change
Sullom Voe	923	968	903	902	920	912	-1%
Shetland	21,960	21,870	22,000	21,950	22,210	22,500	2%
HIE Area	454,850	454,780	459,010	463,770	466,540	467,960	3%
Scotland	5,064,200	5,057,400	5,094,800	5,144,200	5,194,000	5,254,800	4%

Source: Scottish Neighbourhood Statistics (SNS)

Sullom Voe has a greater proportion of males than the comparator areas, especially when considering the working age population, **Table 1.2**. This likely reflects the traditionally male dominated employment sectors (i.e. the oil terminal) that comprise a large part of the areas employment base (see **Section 1.2**).

Table 1.2 Population by Gender 2011

	Sullom Voe	Shetland	HIE Area	Scotland
Males	488 (54%)	11,405 (51%)	231,751 (50%)	2,548,200 (48%)
Female	424 (46%)	11,095 (49%)	236,209 (50%)	2,706,600 (52%)
Working Age Male	344 (56%)	7,447 (54%)	148,973 (53%)	1,697,878 (51%)
Working Age Female	264 (44%)	6,318 (46%)	130,461 (47%)	1,601,765 (49%)

Source: SNS

The Sullom Voe population has a much lower proportion of its population at pensionable age than the comparators, with a particularly high proportion of children, **Table 1.3**. This likely reflects working age people with families moving to the area to work at the oil terminal.

Table 1.3 Population by Age 2011

	Sullom Voe	Shetland	HIE Area	Scotland
Children (0 – 15)	198 (22%)	4,246 (19%)	80,307 (17%)	913,317 (17%)
Working Age (16 – 64)	606 (66%)	13,765 (61%)	279,434 (60%)	3,299,643 (63%)
Pensionable Age (65+)	108 (12%)	4,489 (20%)	108,219 (23%)	1,041,840 (20%)
Total	**798**	**22,500**	**467,960**	**5,254,800**

Source: SNS

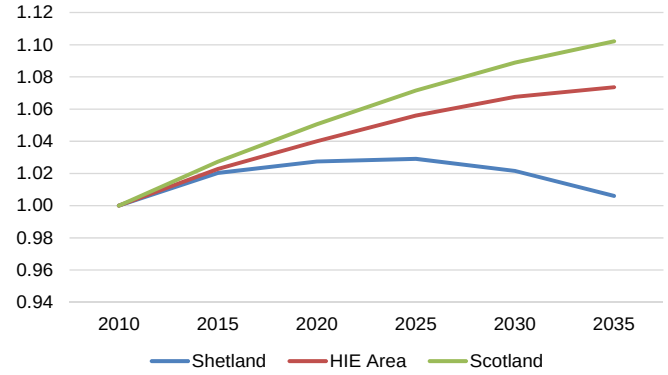
Population growth across Shetland (over a 25 year period) is predicted to be much lower than in the HIE area across Scotland, in fact, the population in Shetland is predicted to peak in 2025, before declining thereafter. Population projections are unavailable at the Sullom Voe level, **Table 1.4** and **Figure 1.1**.

Table 1.4 Population Projections

	2010	2015	2020	2025	2030	2035	Change	% Change
Shetland	22,400	22,855	23,014	23,051	22,884	22,534	134	1%
HIE Area	467,250	477,896	485,969	493,409	498,830	501,611	34,361	7%
Scotland	5,222,000	5,365,000	5,486,000	5,596,000	5,686,000	5,755,000	533,000	10%

Source: General Register Office for Scotland (GROS)

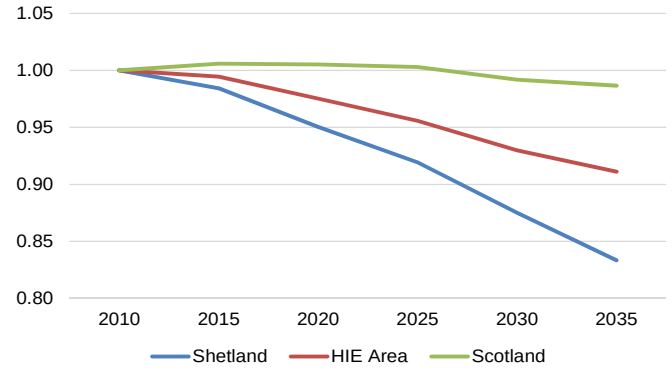
Figure 1.1 Population Change Projections, 2010 = 1



Source: GROS

The working age population is predicted to decline in all areas as the population ages. This trend will be more pronounced in Shetland than the comparator areas, **Figure 1.2**.

Figure 1.2 Working Age Population Change Projections, 2010 = 1



Source: GROS

Migration statistics are available at local authority level, and Shetland has seen a small positive net migration rate over the period 2009 – 2011. The most likely group to both move to and move from the islands being 16 to 29 year olds, **Table 1.5**.

Table 1.5 Migration Pattern by Age Group, Shetland, 2009-2011 Three Year Average

Age Group	In	Out	Net
0-15	132	105	27
16-29	271	275	-4
30-44	186	137	49
45-64	142	96	46
65+	24	20	4
All ages	**755**	**633**	**122**

Source: GROS

2. Employment

Over the period 2009 – 2012 there has been a significant rise (44%) in total employment in the Sullom Voe area with big increases in employment in 'business administration & support services', 'construction', 'transport & storage' and 'accommodation & food services'. There were, however, declines in 'public administration & defence' and 'wholesale' employment. **Table 1.6** shows only total employment as sectoral employment is non-disclosive at this level of analysis

The big employer in this area is, of course, the Sullom Voe oil terminal, and the majority of its employment is categorised under 'transport and storage' and 'business administration & support services'. Scatsa airport is also a major employer in this area.

Table 1.6 Sullom Voe Employment

	2009	2010	2011	2012	% Change
Total	900	800	800	1,200	44%

Source: Business Register and Employment Survey (BRES)

Looking at the major sectors of employment in the Sullom Voe area in more detail, 'non-scheduled passenger air transport' picks up employment at Scatsa airport, which has increased significantly since 2011 due to increased oil industry activity. The other increases are presumably due to the continuing construction work on the new Shetland Gas Plant (SGP) being built by Total and DONG energy. Once completed, this plant will process gas from fields to the West of Shetland and is presumably categorised as 'construction of water projects' due to the 18 inch pipelines which will connect the SGP with the offshore platforms.

Shetland as a whole has seen a drop in employment since 2009 – c. 2,000 employees. The industry sectors that have experienced the greatest absolute decline were 'public administration and defence', 'education' and 'health'. In particular there has been a large decline in 'hospital activities' in part due to the recent partial closure of Montfield Hospital.

The sectors that have seen increases in employment over this period include 'agriculture, forestry & fishing' 'business administration & support services' and 'professional, scientific & technical', **Table 1.7**.

Table 1.7 Shetland Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	500	700	600	800	45%
Mining, quarrying & utilities	200	400	300	200	-2%
Manufacturing	1,000	1,000	900	900	-11%
Construction	1,000	1,100	1,100	1,100	10%
Motor trades	300	300	200	200	-35%
Wholesale	500	400	400	500	-7%
Retail	1,100	1,000	1,200	1,000	-6%
Transport & storage (inc postal)	1,300	1,000	1,000	1,100	-13%
Accommodation & food services	900	900	900	1,000	14%
Information & communication	100	200	100	100	-13%
Financial & insurance	100	100	100	100	4%
Property	100	0	100	100	-36%
Professional, scientific & technical	400	400	400	600	50%
Business administration & support services	400	500	500	600	61%
Public administration & defence	1,400	1,300	1,000	600	-54%
Education	1,300	1,300	1,300	1,100	-19%
Health	3,700	3,600	2,700	2,500	-32%
Arts, entertainment, recreation & other services	1,100	1,100	1,100	1,000	-9%
Total	**15,300**	**15,300**	**13,900**	**13,400**	**-12%**

Source: BRES

With a 4% fall, equating to around 10,000 jobs, the HIE area has seen a much smaller decline than Shetland. There have been falls in employment in 'public administration and defence', 'retail', 'education' and 'health'. These have, however, been partially offset by employment rises in 'agriculture, forestry & fishing', 'business administration & support services' and 'arts, entertainment, recreation & other services', **Table 1.8**.

Table 1.8 HIE Area Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	4,000	4,800	4,000	4,900	24%
Mining, quarrying & utilities	3,800	4,300	3,700	3,900	1%
Manufacturing	16,200	14,600	16,000	16,500	2%
Construction	14,500	13,800	14,800	13,200	-9%
Motor trades	4,600	4,700	4,100	3,800	-17%
Wholesale	5,800	5,300	5,400	5,900	1%
Retail	23,200	22,300	23,100	20,700	-11%
Transport & storage (inc postal)	11,300	10,300	10,900	10,500	-7%
Accommodation & food services	22,600	21,000	22,100	21,900	-3%
Information & communication	3,600	4,000	3,300	3,000	-16%
Financial & insurance	2,400	2,100	2,200	2,300	-5%
Property	2,500	2,500	3,200	3,000	20%
Professional, scientific & technical	9,300	8,400	9,400	9,000	-4%
Business administration & support services	10,300	10,300	10,800	11,100	8%
Public administration & defence	18,800	19,100	17,200	16,200	-14%
Education	19,100	19,200	18,300	17,100	-10%
Health	37,900	37,800	36,500	36,100	-5%
Arts, entertainment, recreation & other services	9,500	9,700	10,400	10,400	10%
Total	**219,300**	**214,000**	**215,500**	**209,500**	**-4%**

Source: BRES

Scotland has seen a similar drop in employment to the HIE area of -4% (around 100,000 jobs), with the sectors experiencing the greatest absolute levels of decline being 'construction', 'education' and ' accommodation and food services'. A number of industries had employment growth during this period, the most notable being 'professional, scientific & technical', 'arts, entertainment, recreation & other services' and 'mining, quarrying & utilities', **Table 1.9**.

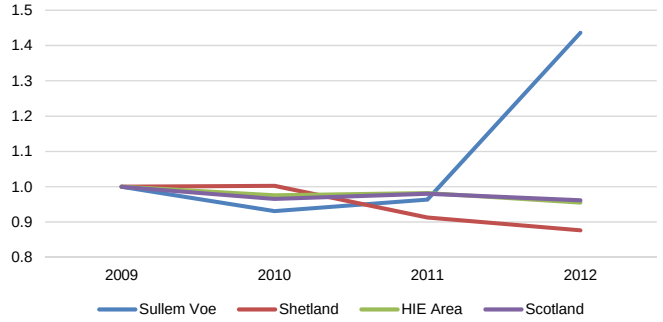
Table 1.9 Scotland Employment

	2009	2010	2011	2012	% Change
Agriculture, forestry & fishing	81,200	83,700	78,700	82,400	1%
Mining, quarrying & utilities	61,800	64,200	64,600	64,800	5%
Manufacturing	191,300	175,200	182,800	183,400	-4%
Construction	146,500	135,400	140,200	125,000	-15%
Motor trades	43,700	45,400	41,100	39,800	-9%
Wholesale	78,000	71,900	70,200	73,600	-6%
Retail	251,300	246,400	250,500	240,900	-4%
Transport & storage (inc postal)	106,200	96,700	101,400	96,300	-9%
Accommodation & food services	182,700	173,600	173,800	167,100	-9%
Information & communication	65,800	65,600	57,400	58,100	-12%
Financial & insurance	94,200	86,300	84,700	91,300	-3%
Property	31,600	27,300	35,000	33,300	5%
Professional, scientific & technical	163,400	149,100	175,000	172,500	6%
Business administration & support services	182,300	175,500	182,300	182,700	0%
Public administration & defence	152,800	156,300	148,300	145,500	-5%
Education	195,600	192,200	190,900	179,700	-8%
Health	387,600	385,800	387,100	376,200	-3%
Arts, entertainment, recreation & other services	107,100	104,800	108,600	113,200	6%
Total	**2,523,100**	**2,435,300**	**2,472,600**	**2,425,900**	**-4%**

Source: BRES

Overall, there has been a trend of falling in employment across Scotland and the other comparator areas that the Sullom Voe area has bucked due to recent investment in the oil industry in the area, **Figure 1.3**.

Figure 1.3 Change in Overall Employment 2009 = 1



Source: BRES

Table 1.10 shows employment location quotients for Sullom Voe, Shetland and the HIE area compared to Scotland. Location quotients show how dependent areas are on particular industries and are calculated by taking the proportion of jobs in each sector and comparing them to Scotland e.g. agriculture, forestry & fishing is 1.8% of Sullom Voe jobs and 3.39% of Scottish jobs giving Sullom Voe an LQ of 0.53 for this sector (i.e. 1.8/3.39). Results are colour coded with green indicating a greater reliance on a particular industry, red a lower reliance and yellow is around the national average.

At the Sullom Voe level we can see a large reliance on four sectors 'mining, quarrying & utilities', 'construction', 'transport & storage' and 'business administration & support services' reflecting employment at the oil terminal and the airport. All other under industries are under-represented.

Shetland has concentrations of employment in 'agriculture, forestry & fishing', 'construction' and 'transport and storage', and a lack of jobs in 'information and communication', 'financial & insurance', 'professional, scientific & technical' and 'business administration & support services'.

The HIE area has its highest reliance on accommodation and food services, reflecting the importance of the tourist area in this region. It differs from Shetland in having a lower than average reliance on 'agriculture & fishing', but shares the lack of employment in 'information and communication', 'financial & insurance', 'professional, scientific & technical' and 'business administration & support services'.

Table 1.10 Location Quotient Analysis

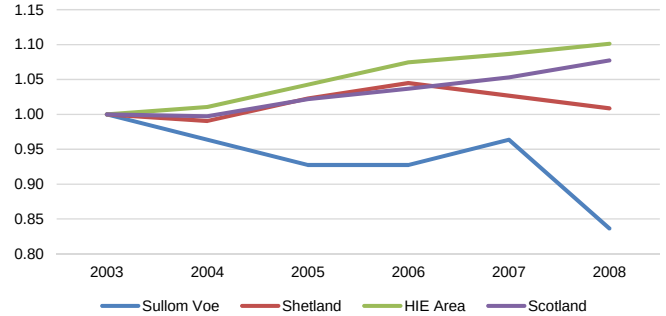
	Sullom Voe	Shetland	HIE Area
Agriculture, forestry & fishing	0.53	1.70	0.69
Mining, quarrying & utilities	2.11	0.66	0.70
Manufacturing	0.18	0.89	1.04
Construction	3.32	1.54	1.23
Motor trades	0.00	0.78	1.11
Wholesale	0.00	1.12	0.92
Retail	0.00	0.75	1.00
Transport & storage (inc postal)	10.91	2.13	1.27
Accommodation & food services	0.74	1.08	1.52
Information & communication	0.00	0.34	0.61
Financial & insurance	0.00	0.16	0.29
Property	0.00	0.32	1.04
Professional, scientific & technical	0.22	0.65	0.60
Business administration & support services	2.66	0.56	0.70
Public administration & defence	0.18	0.80	1.29
Education	0.35	1.10	1.10
Health	0.00	1.21	1.11
Arts, entertainment, recreation & other services	0.07	1.59	1.07

Source: BRES

3. Business Base

Information on the business base in Sullom Voe is unavailable after 2008 due to change in data sources, and examination of individual industrial groups before 2008 is subject to suppression due to the small number of businesses. However, we show the trend for the overall number of business over this period, with the number of businesses in the Sullom Voe area declining by 16% whilst rising in the comparator areas, **Figure 1.4**.

Figure 1.4 Business Base Change



Source: Annual Business Inquiry

The number of businesses in Shetland has moved in the opposite direction from employment, with an increase of 6% in the numbers of businesses (around 100 businesses) compared to the fall of 12% in employment, meaning that the average amount of staff per enterprise has fallen from 9.6 to 8. The sectors that contributed most to this increase in businesses are 'agriculture, forestry & fishing', 'professional, scientific & technical' and 'health'. The only sector to experience a large absolute fall is 'transport and storage', although property has seen a large proportionate fall, but from a low base, **Table 1.11**.

Table 1.11 Business Base Shetland

	2009	2010	2011	2012	2013	% Change
Agriculture, forestry & fishing	480	510	505	525	545	14%
Production	100	95	95	95	100	0%
Construction	135	145	150	150	145	7%
Motor trades	30	30	30	30	30	0%
Wholesale	40	40	40	40	40	0%
Retail	125	120	125	125	125	0%
Transport & storage (inc. postal)	90	80	85	80	75	-17%
Accommodation & food services	80	75	85	90	85	6%
Information & communication	25	20	25	30	30	20%
Finance & insurance	10	10	10	10	10	0%
Property	20	15	15	20	15	-25%
Professional, scientific & technical	85	85	85	100	115	35%
Business administration and support services	70	65	65	70	65	-7%
Public administration and defence	60	60	60	60	55	-8%
Education	70	75	70	70	70	0%
Health	65	80	80	80	85	31%
Arts, entertainment, recreation and other services	100	105	105	105	95	-5%
Total	**1,585**	**1,610**	**1,630**	**1,680**	**1,685**	**6%**

Source: Office of National Statistics (ONS) UK Business: Activity, Size and Location

The HIE area has experienced a slight increase in the number of businesses (+1%, around 150 business in total) with a notably large increase in the number of businesses in the 'professional, scientific & technical' sector (+23%, 420 businesses), **Table 1.12**.

Table 1.12 Business Base HIE Area

	2009	2010	2011	2012	2013	% Change
Agriculture, forestry & fishing	5,240	5,180	5,190	5,270	5,300	1%
Production	1,460	1,435	1,420	1,480	1,535	5%
Construction	2,690	2,675	2,665	2,710	2,630	-2%
Motor trades	635	625	635	635	650	2%
Wholesale	765	765	755	765	750	-2%
Retail	2,795	2,740	2,675	2,720	2,635	-6%
Transport & storage (inc. postal)	1,065	1,050	1,025	1,035	1,050	-1%
Accommodation & food services	2,225	2,180	2,105	2,165	2,155	-3%
Information & communication	570	540	545	555	545	-4%
Finance & insurance	315	320	295	310	300	-5%
Property	485	510	500	530	530	9%
Professional, scientific & technical	1,855	1,890	1,960	2,135	2,275	23%
Business administration and support services	1,245	1,205	1,205	1,230	1,185	-5%
Public administration and defence	710	715	705	675	650	-9%
Education	835	835	830	805	795	-5%
Health	1,345	1,380	1,365	1,435	1,410	5%
Arts, entertainment, recreation and other services	1,550	1,550	1,525	1,585	1,545	0%
Total	**25,785**	**25,595**	**25,400**	**26,040**	**25,940**	**1%**

Source: ONS

Scotland has also seen an increase in the number of businesses (+2%, around 2,900 businesses) with notable increases in 'information and communication' and 'professional, scientific & technical'. These rises were offset to a large extent by declines in businesses operating in 'construction', 'business administration and support' and 'retail', **Table 1.13**.

Table 1.13 Business Base Scotland

	2009	2010	2011	2012	2013	% Change
Agriculture, forestry & fishing	17,440	17,200	17,270	17,440	17,465	0%
Production	10,740	10,515	10,250	10,590	10,865	1%
Construction	19,760	19,110	18,495	18,810	18,270	-8%
Motor trades	4,955	4,995	5,005	5,160	5,140	4%
Wholesale	7,555	7,560	7,555	7,545	7,450	-1%
Retail	24,200	23,825	23,425	23,550	23,110	-5%
Transport & storage (inc. postal)	6,515	6,365	6,235	6,200	6,290	4
Accommodation & food services	15,575	15,430	14,925	15,135	14,895	-4%
Information & communication	7,520	7,435	7,750	8,400	8,705	16%
Finance & insurance	4,310	4,430	4,415	4,320	4,385	2%
Property	5,615	5,595	5,495	5,580	5,725	2%
Professional, scientific & technical	22,865	23,505	24,675	27,090	28,830	26%
Business administration and support services	13,110	12,340	12,200	12,425	12,085	-8%
Public administration and defence	3,195	3,210	3,065	3,035	3,040	-5%
Education	5,705	5,535	5,525	5,455	5,485	-4%
Health	11,645	11,700	11,835	12,180	12,145	4%
Arts, entertainment, recreation & other services	14,670	14,555	14,330	14,845	14,395	-2%
Total	**195,375**	**193,305**	**192,450**	**197,760**	**198,280**	**2%**

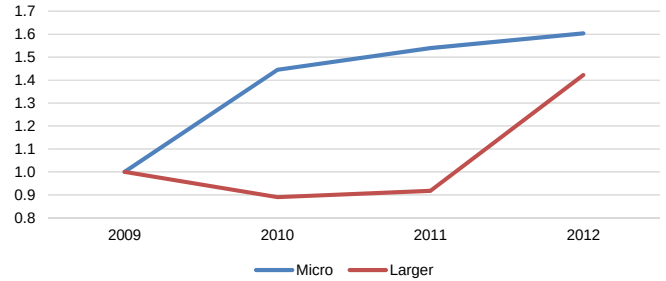
Source: ONS

Overall, the three comparators exhibit modest growth in the business base, compared to the falling levels of employment at all levels, barring Sullom Voe.

The trend of falling employment and rising business base most likely indicates that larger businesses are shedding staff and there is a growth in smaller businesses – there has been an increase in the number of people employed in micro businesses, although this increase in micro business employment has not offset the decrease within larger businesses i.e. employment has decreased.

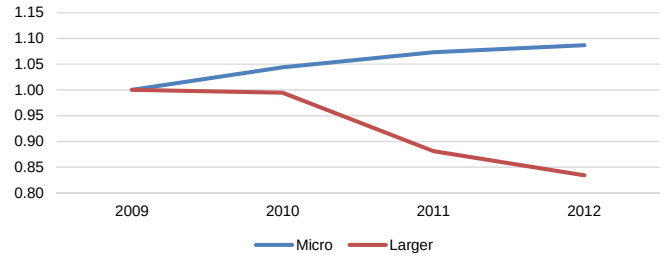
We can see this by looking at employment size bands in **Figures 1.4, 1.5, 1.6** and **1.7**. Across all comparator areas there has been a rise in the number of people employed in micro enterprises (less than ten employees) compared to other businesses.

Figure 1.4 Change in Employment: Micro and Larger Businesses Sullom Voe 2009 = 1



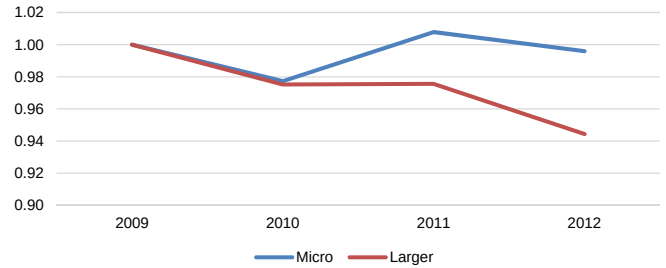
Source: BRES

Figure 1.5 Change in Employment: Micro and Larger Businesses Shetland 2009 = 1



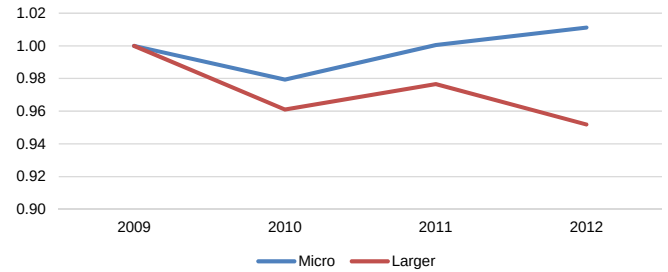
Source: BRES

Figure 1.6 Change in Employment: Micro and Larger Businesses HIE Area 2009 = 1



Source: BRES

Figure 1.7 Change in Employment: Micro and Larger Businesses Scotland 2009 = 1



Source: BRES

4. Unemployment

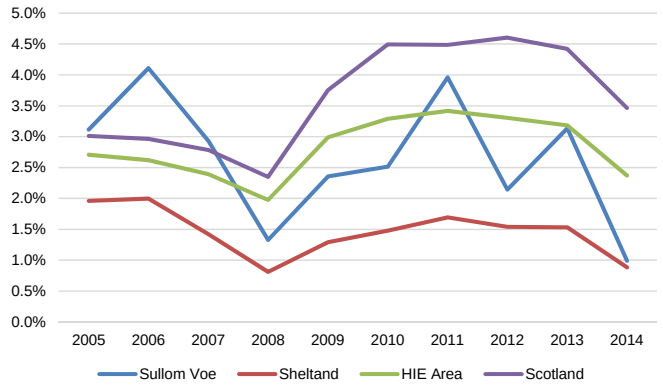
Unemployment on the claimant count measure (the number of people claiming jobs seekers allowance) saw the same pattern across all areas – a reduction from 2005 to 2008 (when the economy was performing strongly nationwide and experiencing year on year growth), a sharp spike which saw a steep increase in the number of people unemployed due to the global financial crisis (2009 – 2011) which has now started to decline, albeit at a slower rate than the increase. The claimant count rate for Shetland has been considerably lower than the other comparators, particularly Scotland. The rate in the Sullom Voe area has been consistently higher than Shetland as a whole, although it has converged in the last year, **Table 1.14** and **Figure 1.8**.

Table 1.14 Claimant Count Totals and Rates

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sullom Voe	18 (3.1%)	24 (4.1%)	17 (2.9%)	8 (1.3%)	14 (2.4%)	15 (2.5%)	24 (4%)	13 (2.1%)	19 (3.1%)	6 (1%)
Shetland	264 (2%)	268 (2%)	191 (1.4%)	109 (0.8%)	175 (1.3%)	202 (1.5%)	233 (1.7%)	212 (1.5%)	211 (1.5%)	122 (0.9%)
HIE Area	7,498 (2.7%)	7,309 (2.6%)	6,690 (2.4%)	5,530 (2%)	8,330 (3%)	9,157 (3.3%)	9,552 (3.4%)	9,235 (3.3%)	8,892 (3.2%)	6,627 (2.4%)
Scotland	96,108 (3%)	95,190 (3%)	89,797 (2.8%)	76,111 (2.4%)	121,930 (3.8%)	146,910 (4.5%)	148,031 (4.5%)	151,896 (4.6%)	145,919 (4.4%)	114,409 (3.5%)

Source: Claimant Count

Figure 1.8 Claimant Count Unemployment



Source: Claimant Count

Whereas the claimant count measures the number of people who are claiming unemployment related benefits, the International Labour Organisation (ILO) measure of the unemployed population is defined as those who are willing and able to work, irrespective of whether they are claiming job seekers allowance.

The ILO data is therefore likely to give a more accurate reflection of those not in work (but available and seeking work) as not all unemployed persons will claim job seekers allowance, or other unemployed related benefits (i.e. will not be captured via the Claimant Count). However, data is not available below the Local authority level and it is also published less frequently than the claimant count.

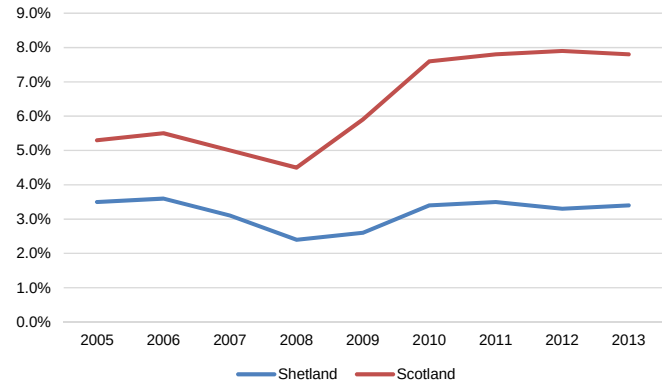
ILO unemployment for Shetland and Scotland is presented in **Table 1.15** and **Figure 1.9**. The trend is broadly the same as the claimant count, with unemployment falling from 2005 to 2008, with a subsequent sharp increase to 2011/12, and thereafter starting to level off. The Shetland unemployment rate is considerably lower than in Scotland as a whole and experienced a proportionally smaller increase during the economic recession (2008 – 2011).

Table 1.15 Unemployment Model based Estimate

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Shetland	3.5%	3.6%	3.1%	2.4%	2.6%	3.4%	3.5%	3.3%	3.4%
Scotland	5.3%	5.5%	5.0%	4.5%	5.9%	7.6%	7.8%	7.9%	7.8%

Source: Annual Population Survey

Figure 1.9 ILO Unemployment Rate



Source: Annual Population Survey

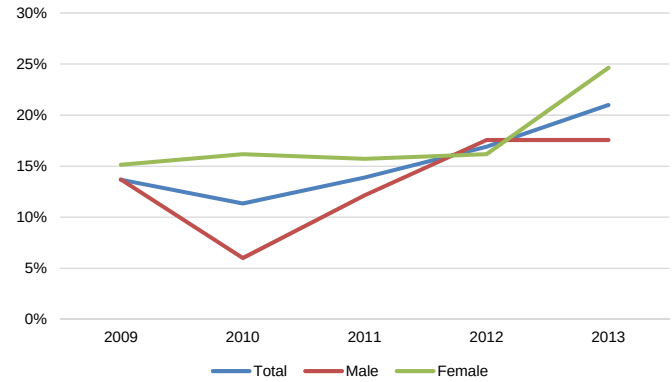
There is a conflict in the data whereby the total level of employment has fallen considerably at the Shetland level from 2009 (**Table 1.7**) without a corresponding rise in the unemployment rate (**Figures 1.8** and **1.9**). This could be due to a number of factors.

Firstly, a number of those who were previously in employment may have removed themselves from the labour market, and therefore are not included in the measure of unemployment. This can be seen in **Figure 1.10** with an increase in the total number of people that are regarded as economically inactive i.e. not in work or seeking work.

Secondly, the registering of job locations in the BRES dataset is based upon the location of the job rather than the residence of the employee. In Shetland there are more jobs than the working age population, compared to Scotland where only 73.5% of the working age population are employed (**Tables 1.3** and **1.7**). This indicates that there is a substantial amount of workers on the island who are not normally resident there.

The fall in job numbers has most likely fallen to a large extent on these workers, who would not register on the Shetland unemployment statistics.

Figure 1.10 % Economically Inactive, Shetland



Source: Annual Population Survey

5. Housing

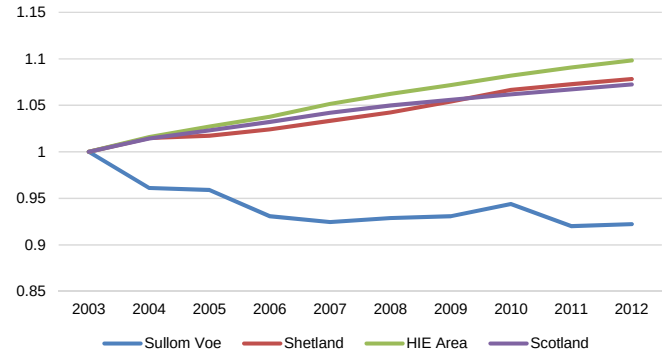
Table 1.16 and **Figure 1.11** show the number of residential units in the comparator areas over the period 2004 – 2012, with the number of units (new housing completions) having increased by a similar percentage across all areas, except the Sullom Voe area which has seen an 8% drop in the number of houses (18 units).

Table 1.16 Housing Numbers

	2004	2006	2008	2010	2012	% Change
Sullom Voe	445	431	430	437	427	-8%
Shetland	10,159	10,250	10,432	10,676	10,792	6.2%
HIE Area	221,429	226,182	231,503	235,835	239,367	8.1%
Scotland	2,382,158	2,424,049	2,465,998	2,493,838	2,518,699	5.7%

Source: SNS

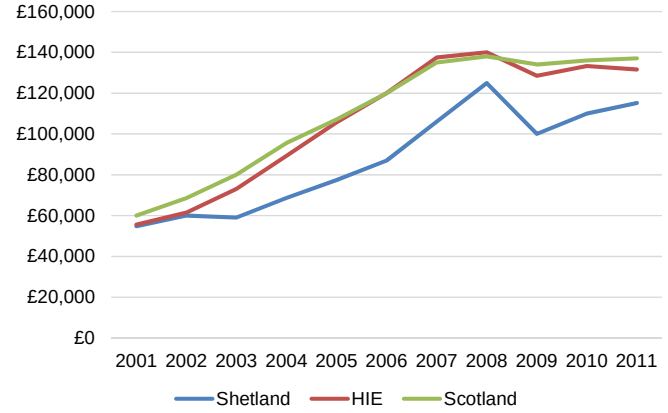
Figure 1.11 Housing Numbers over Time, 2003=1



Source: SNS

House prices have risen considerably since 2001 across all areas, with Shetland exhibiting more modest growth. Median house prices level off around 2006/07 in all areas, presumably in part due to the global financial crisis, with Shetland having a larger decline, **Figure 1.12**. House price data is unavailable at the Sullom Voe level.

Figure 1.12 Median House Price 2001 = 1



Source: SNS

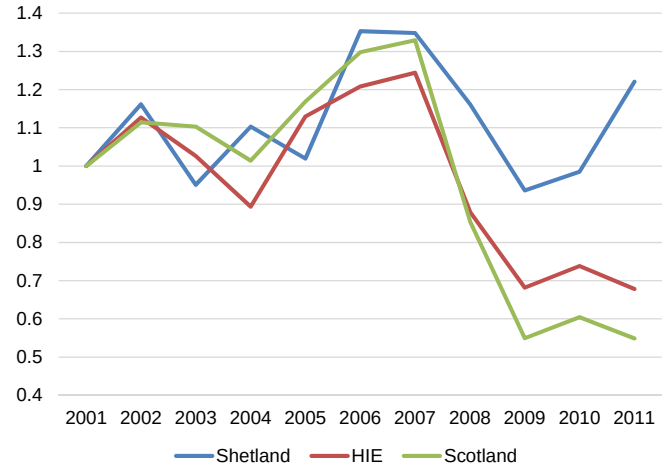
The number of house sales saw steady, if uneven growth from 2001 and then a steep decline from 2007. Shetland, however, suffered a much smaller decline in the number of house sales and has seen growth in recent years as the comparators have stagnated, **Table 1.17** and **Figure 1.14**. Figures are unavailable at the Sullom Voe level.

Table 1.17 Number of House Sales

	2001	2003	2005	2007	2009	2011
Shetland	204	194	208	275	191	249
HIE	7,595	7,794	8,579	9,449	5,177	5,150
Scotland	97,656	107,725	114,125	129,836	53,630	53,580

Source: SNS

Figure 1.14 Change in No of Sales 2001 = 1



Source: SNS

The type of housing in Sullom Voe, Shetland and the HIE area differs considerably from Scotland as a whole, with more detached and semi-detached houses and far fewer flats, **Table 1.18**.

Table 1.18 Housing Type 2012

	Sullom Voe	Shetland	HIE	Scotland
Flats	4 (1%)	896 (8%)	37,666 (16%)	958,307 (38%)
Terraced	0 (0%)	814 (8%)	39,306 (16%)	519,364 (21%)
Semi-Detached	205 (48%)	2,838 (26%)	56,412 (24%)	499,065 (20%)
Detached	218 (51%)	6,244 (58%)	100,230 (42%)	529,213 (21%)
Unknown	0 (0%)	0 (0%)	5,753 (2%)	12,750 (1%)

Source: SNS

Both Sullom Voe and Shetland have consistently had a greater proportion of housing lying vacant than the other comparators, however, since 2007 this has declined to something approaching the average Scottish level. Sullom Voe in particular has seen a large decline in the percentage of housing lying vacant from 9% to 3% over this period, **Table 1.19**.

Table 1.19 Percentage of Houses which are Vacant

	2007	2008	2009	2010	2011	2012
Sullom Voe	9%	8%	7%	6%	4%	3%
Shetland	6%	5%	5%	5%	5%	4%
HIE	4%	3%	3%	3%	3%	4%
Scotland	3%	3%	3%	3%	3%	3%

Source: SNS

Overall the housing picture is mixed in Sullom Voe and Shetland. The rate of housing completions in Shetland is broadly comparable to the rest of the country, although the number of houses has fallen in the Sullom Voe area since 2004. House prices in Shetland lag behind the HIE area and national average, but house sales have held up better, during and after the financial crisis. The declining percentage of vacant housing potentially points to some pressure on housing on the islands.

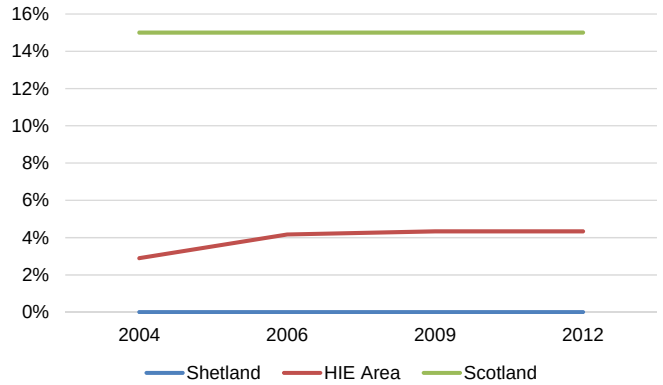
6. SIMD

The Scottish Index of Multiple Deprivation (SIMD) measures deprivation across small areas[1] throughout the country. The SIMD ranks each datazone from 1 to 6,505 (the total number), with 1 being the most deprived ranking, and 6,505 being the least deprived. The following figures show what percentage of datazones in each of the comparator areas lie in the 15% most deprived datazones in Scotland set against various indicators, these include income, employment, health, education, housing, geographic access to services and crime.

Changes in these rankings should be treated with caution, however, since they measure deprivation relative to the rest of Scotland and not on an absolute measure. For example, if all datazones in Aberdeen and Dundee got significantly worse and the Shetland datazones remained static, we would see the Shetland datazones climb the SIMD rankings without any change in the absolute levels of deprivation.

Figure 1.15 shows the figures for overall levels of deprivation across the three relevant comparator areas from 2004 to 2012. Sullom Voe is not included as it is only one datazone and features on the bottom 15% for only the geographic access indicator. Shetland also has no datazones in the bottom 15% most deprived, however, it does have datazones in the bottom 15% on individual measures of deprivation. The HIE area has less than 5% of datazones in the most deprived areas.

Figure 1.15 Overall: Datazones in bottom 15%



Source: Scottish Index of Multiple Deprivation (SIMD)

[1] These areas are known as datazones which represent areas of between 500 and 1000 residents with an average of 750

On the individual measures of deprivations:

- there are low levels of income deprivation with no Shetland datazones in the bottom 15% and less than 5% of HIE area datazones in the bottom 15%;
- employment deprivation shows a similar profile with no datazones in the bottom 15% in Shetland and less than 5% in the HIE area in the bottom 15%;
- again, health deprivation is similar to the previous levels with no Shetland datazones in the bottom 15%. The HIE area has seen a rise since 2004 from 4% to 6% of datazones in the 15% most health deprived;
- Shetland and the HIE area also have low levels of Education deprivation compared to the Scottish average, there are no Shetland datazones in the 15% most deprived, but HIE area education deprivation has risen over time from under 1% to 5% of datazones in the bottom 15% since 2004;
- housing deprivation is low in Shetland and the HIE area with no Shetland datazones in the most deprived areas and 2% of HIE datazones in the bottom 15%;
- geographic access to services is the indicator where the most deprivation is seen in the Highlands and Islands. Over 70% of Shetland datazones and around 45% of HIE area datazones rank in the bottom 15% of Scottish datazones on this indicator. The Sullom Voe datazone performs poorly against this indicator, being in the bottom 3% of Scottish datazones. This is unsurprising due to the rural and remote nature of many of the datazones in these areas; and
- lastly, the number of crime deprived datazones in Shetland and the HIE area is lower than the national average, but at 10% and 11% respectively is higher than the other forms of deprivation

Overall, compared to Scotland as a whole, Sullom Voe, Shetland and the HIE area have lower levels of deprivation on all indicators except for geographic access to services.

7. Skills and Qualifications

Please note that no information on qualifications is available at the Sullom Voe geographic level, therefore below we present analysis for the comparator areas.

Over one third (35%) of the working age population in Shetland have higher level education qualifications, however, Shetland has both less people with no qualifications and less people with the highest skills levels than the Scottish average. There is a greater level of 'mid-range' qualifications between the NVQ 1 and NVQ 3 levels, **Table 1.20**

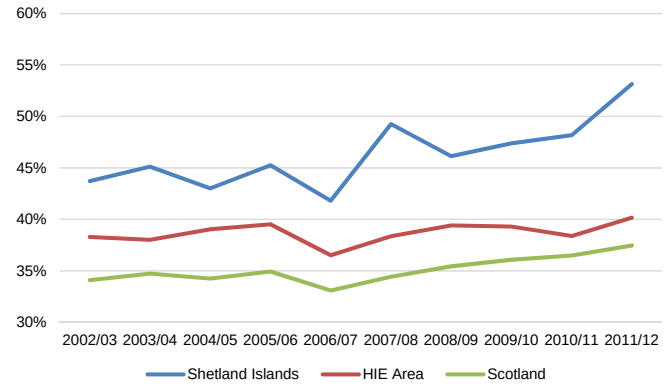
Table 1.20 Working Age Skills

	Shetland	HIE Area	Scotland
NVQ 4+	35%	34%	39%
NVQ 3+	60%	57%	59%
NVQ 2+	80%	74%	73%
NVQ 1+	87%	86%	83%
Other Qualifications	5%	7%	6%
No Qualifications	8%	8%	11%

Source: Annual Population Survey

Pupils in Shetland have historically had a higher level of educational attainment in exam results than their counterparts in the rest of Scotland. **Figure 1.16** shows the percentage of S4 pupils achieving at least five awards at SCQF level 5 or above (i.e. Credit level Standard Grades), with Shetland pupils outperforming pupils in the HIE area and across Scotland as a whole.

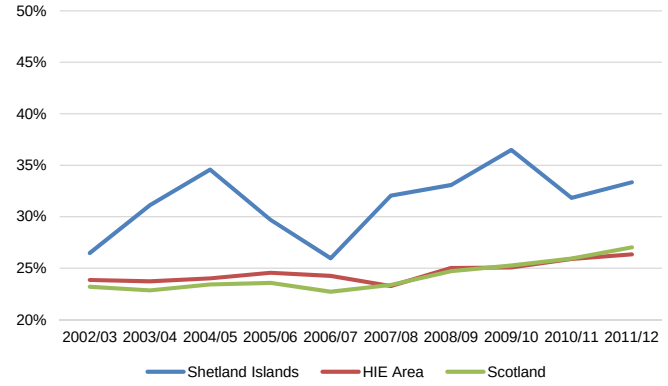
Figure 1.16 % S4 Pupils with 5 or more SCQF Level 5 or above awards



Source: SNS

Similar to the trends at the S4 level, S5 and S6 pupils in Shetland are likely to achieve higher levels of educational attainment (five awards at SCQF level 6 or above, i.e. Highers) than their HIE area or Scottish counterparts, **Figure 1.17**.

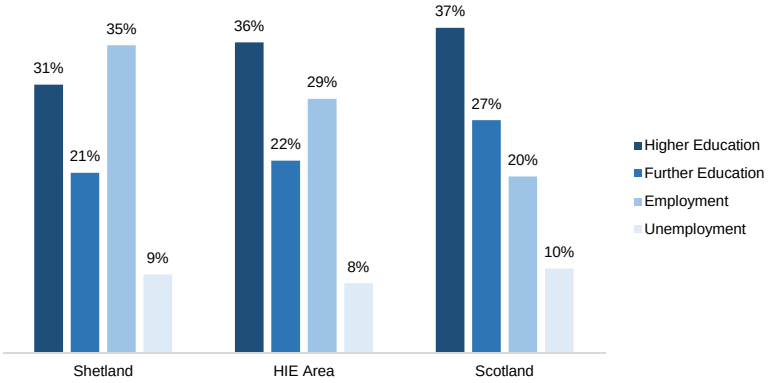
Figure 1.17 % S5/S6 Pupils with 5 awards at SCQF Level 6 or above



Source: SNS

Figure 1.18 outlines school leaver destinations for Shetland, the HIE area and Scotland in 2012. The most common destination for Shetland school leavers is to go straight into employment, compared leavers across the HIE area and Scotland as a whole, where higher education is the most common destination.

Figure 1.18 School Leaver Destinations 2011/12



Source: SNS

This could be down to a number of factors. Firstly, there is a lack of access to Higher and Further Education provision in Shetland compared to the rest of the country, and those school leavers not willing to leave the islands may prefer to enter employment.

Secondly, the structure of the Shetland economy shows a lower proportionate share of traditionally 'higher value' jobs that require higher levels of qualifications such as 'finance and insurance' and 'professional, scientific and technical' and a greater prevalence of jobs where higher levels of qualifications are not a prerequisite such as 'transport and storage', 'agriculture, forestry & fishing' and 'construction'. This can be seen in the location quotient analysis in **Table 1.10**, above.

From the data, there appears to be a direct correlation between the proportion of school leavers in Shetland going into Higher and Further Education and the qualification levels of the workforce – both are lower than the national levels.

8. Benefits

Table 1.21 outlines the total number of benefits claimants and the type of benefits they claims in Shetlands, the HIE area and Scotland. Data is unavailable at the Sullom Voe level.

Overall, Shetland has lower number of benefit claimants than the HIE area and Scotland, perhaps reflecting the low levels of unemployment and deprivation outlined above.

Table 1.21: Benefits claimants by type, February 2013

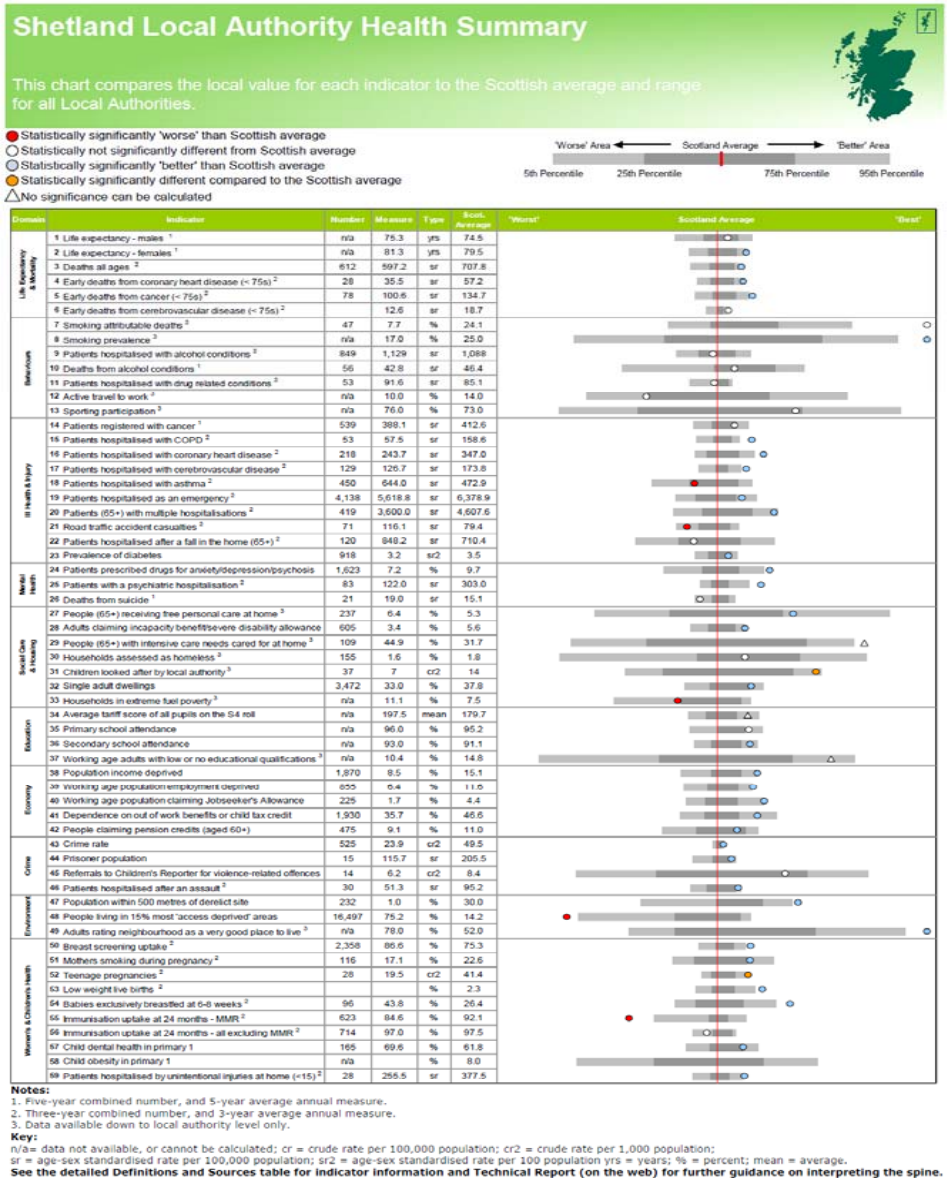
	Shetland		HIE Area		Scotland	
	No.	Rate	No.	Rate	No.	Rate
Carers Allowance	70	0.51%	2,550	0.91%	27,610	0.84%
Disability Living Allowance	160	1.16%	3,700	1.32%	42,110	1.28%
Incapacity Benefit	270	1.96%	6,560	2.35%	102,120	3.09%
Income Support/Pension Credit	100	0.73%	2,850	1.02%	41,920	1.27%
Job Seekers Allowance	220	1.60%	8,310	2.97%	138,590	4.20%
Severe Disablement Allowance	~	n/a	30	0.01%	360	0.01%
Widows Benefit	20	0.15%	260	0.09%	2,470	0.07%
Multiple Claimants	490	3.56%	14,020	5.02%	205,930	6.24%
Total	**1,330**	**9.66%**	**38,320**	**13.71%**	**578,680**	**17.54%**

Source: Work and Pensions Longitudinal Study (WPLS)

In particular, the level of Job Seekers allowance is considerably more than double the national average – 1.6% in Shetland compared with 4.2% across Scotland.

9. Health

The following information sheet is taken directly from the Scottish Public Health Observatory (http://www.scotpho.org.uk/) and provides an assessment of the health of Shetland's population relative to Scotland.



Overall, Shetland performs better than the national average on health with Shetland being statistically significantly[2] 'better' than national average' on 32 of the 59 health indicators gathered by the Scottish Public Health Observatory (ScotPHO), and statistically significantly 'worse' on five indicators.

Health indicators that the Shetland Islands performs better include:

- deaths – all ages;
- early deaths from coronary heart disease and cancer(< 75s);
- smoking prevalence;
- patients hospitalised with COPD, coronary heart disease and cerebrovascular disease;
- patients hospitalised as an emergency;
- patients with a psychiatric hospitalisation;
- population income deprived;
- crime rate;
- patients hospitalised after an assault;
- adults rating neighbourhood as a very good place to live; and
- mothers smoking during pregnancy.

The five indicators that are 'statistically significantly 'worse' than national average' are:

- patients hospitalised with asthma;
- road traffic accident casualties;
- households in extreme fuel poverty;
- people living in 15% most 'access deprived' areas; and
- immunisation uptake at 24 months – MMR.

[2] As defined by ScotPHO

10. Energy Consumption

Table 1.22 outlines total energy consumption for Shetland, the HIE area and Scotland, this information is unavailable at the Sullom Voe level. On a per capita basis, Shetland uses less energy that the comparators, with the HIE area, consuming more than Scotland as a whole.

Table 1.22 Energy Consumption 2011

Area	MWh per capita	GWh
Shetland	23.3	539
HIE Area	30.3	14,707
Scotland	28.6	151,404

Source: Department of Energy and Climate Change

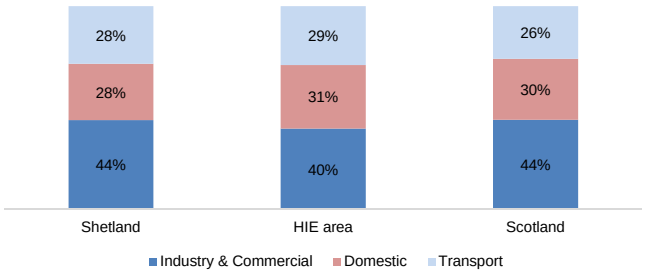
Total energy consumption has fallen across all areas, although Scotland as a whole has fallen more than Shetland or the HIE area, where energy usage has fluctuated, **Figure 1.19**.

Figure 1.19 Energy Consumption over time 2005 = 1

Source: Department of Energy and Climate Change

The breakdown of energy use show that the share of energy use in domestic, industrial & commercial, and Transport is broadly similar across the three areas, **Figure 1.20**.

Figure 1.20 Energy by Usage 2011



Source: Department of Energy and Climate Change

Table 1.23 shows the breakdown of energy consumption by fuel type, with Shetland consuming higher levels of petroleum products and electricity per capita – this is unsurprising as gas is unavailable as a fuel source on the islands. Other fuels include coal, manufactured fuels, and bioenergy & waste.

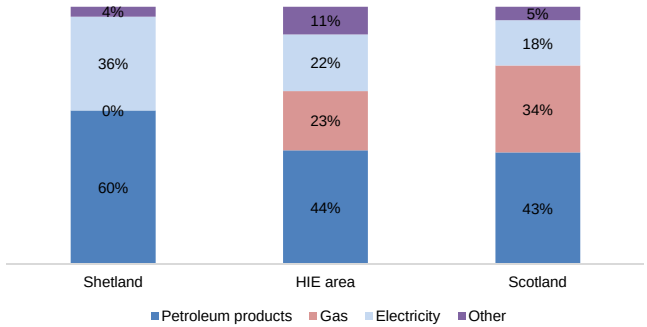
Table 1.23 Energy Consumption by Fuel Type 2011

		Petroleum Products	Gas	Electricity	Other	All Fuels
Shetland	Total (GWh)	322	0	196	21	539
	Per Capita (MWh)	13.9	0	8.5	0.9	23.3
HIE Area	Total (GWh)	6,495	3,384	3,236	1,591	14,707
	Per Capita (MWh)	13.4	7	6.7	3.3	30.3
Scotland	Total (GWh)	65,641	51,137	26,658	7,968	151,404
	Per Capita (MWh)	12.4	9.7	5	1.5	28.6

Source: Department of Energy and Climate Change

Shetland consumes a higher proportion of its energy in petroleum and Electricity than the other areas, however this is primarily due to the unavailability of gas as a fuel. The proportion of 'other' fuels in the energy mix is low, especially compared to the HIE area, **Figure 1.21**.

Figure 1.21 Proportion of Energy Usage by type of Fuel 2011



Source: Department of Energy and Climate Change

Table 1.24 shows energy consumption from bioenergy and waste sources across the three areas. Per capita consumption in Shetland is low, especially compared to the HIE area, but also considerably below the Scottish level.

Table 1.24 Energy Consumed for Bioenergy and Wastes 2011

	Shetland	HIE Area	Scotland
Total (GWh)	8	1,155	4,661
Per Capita (MWh p/p)	0.3	2.4	0.9

Source: Department of Energy and Climate Change

Figure 1.22 shows the rate of growth in energy consumption from bioenergy & wastes, with strong growth across all areas, however, growth in Shetland lags behind that in the HIE area and Scotland as a whole

Figure 1.22 Energy Consumed for Bioenergy and Wastes Change over Time

Source: Department of Energy and Climate Change

However, this may considerably underestimate the true level of bioenergy and waste energy consumption on Shetland. According the Shetland Council, the Lerwick Energy Recovery Plant burns 22,000 tonnes of waste per year with a capacity of 7MW. The plant operates 7,800 hours per year, giving an estimated energy output of 54.6 GWh, far exceeding the 8.1 GWh estimated by the Department of Energy and Climate Change.

The output of this plant equates to a per capita energy consumption from bioenergy and waste in Shetland of 2.4 MWh, comparable to the HIE area but far higher than Scotland as a whole, accounting for 10% of total Shetland energy consumption.

Appendix 3
Sectoral Investment Update

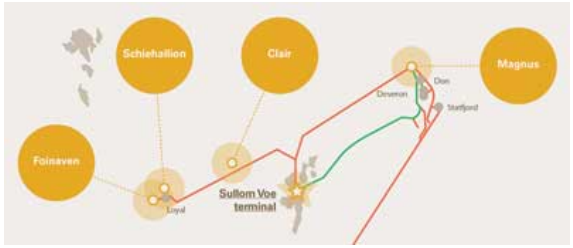
North Sea Sector

Some large-scale projects are under way throughout the UK North Sea, reminiscent of the early days in the 1970s. None, though, are as coordinated and wide-ranging in scope as BP's programs on its fields in the far-north Shetland area. These vary from comprehensive overhauls of facilities west of Shetland to a life extension of Magnus in the east, one of Britain's longest-producing fields. In between, the Phase 2 development of the Clair field will take its production to a much higher level, while at the associated Sullom Voe terminal, new gas facilities are planned to help streamline offshore production.

Sullom Voe Terminal

The BP-operated Sullom Voe oil and gas terminal on the northeast coast of Shetland's main island is one of Europe's largest. It was built during the mid-1970s to receive oil and gas produced from fields under development east of Shetland via the new 36-in. Brent and Ninian subsea trunklines. First oil flowed through the Sullom Voe Terminal (SVT) in 1978; at peak, it was handling 1.5 MMb/d through both lines. During the 1990s, it additionally started receiving oil and gas from new fields west of Shetland.

Facilities include equipment for stabilization, compression and fractionation, and 16 large tanks for storing crude. To date, SVT has processed over 8 BBbl of oil; stored and loaded 400 MMbbl delivered by *Loch Rannoch* from Schiehallion/Loyal; and accommodated vessels at its four jetties taking a total of 11,000 Brent blend cargoes and 14 MM metric tons (15.4 MM tons) of liquefied petroleum gas. The final shipment of LPG left the site in June 2010. SVT also has its own power station fired by gas, providing 40% of the Shetland Islands' electricity.



Sullom Voe and BP-operated Shetland area fields.

Total is building a plant to receive gas from its west of Shetland fields at an adjacent site in Sullom Voe, but from 2015 onwards SVT will handle up to 40,000 b/d of associated condensate from these fields, which will be mixed with Brent blend crude.
A three-year renewal and intervention project, managed by BP is underway at the terminal, which was originally built for 25 years' service. Aims include refurbishing tanks, stabilization trains and surge facilities, and small-scale pipeline renovation work.

In 2008, the SVT stakeholders, comprising more than 20 oil companies and power utilities, sanctioned construction of the new £100-million ($151-million) Aurora plant to handle gas produced with east of Shetland oil delivered via the Brent and Ninian systems. There are also plans to build a new £500-600 million ($755-$906 million) hydrogen sulfide (H_2S) sweetening plant to replace the existing facility dedicated to west of Shetland gas. H_2S is produced with the gas as a result of injecting seawater; the current facility employs a metal oxide catalyst to handle H_2S, but its capacity is limited, and it needs to be changed out repeatedly. With much higher volumes of gas coming in over the next decade - more still if the Phase 3 Greater Clair development goes ahead - the terminal needs a more efficient gas-sweetening process.

Foinaven / Schiehallion
Foinaven is 190 km (118 mi) west of the Shetland Islands in blocks 204/19 and 204/22. The field was discovered in 1990. When development was sanctioned four years later, it was the first UK oil and gas field development in the Atlantic Margin, and the sea depths of 330-520 m (1,082-1,706 ft) were at the time considered deepwater. First oil was produced in 1997 with all 20 Phase 1 wells in service by 2000, including BP's first offshore multi-laterals.

The field is produced via the FPSO *Petrojarl Foinaven*, formerly a Russian submarine tender ship which was converted at the Ferrol shipyard in northwest Spain. The 240-m (787-ft) long turret-moored vessel, operated by Teekay on BP's behalf, has never had to be taken off station despite the periodically severe wave conditions. The vessel is to remain in service into the next decade as BP reviews options to extend field life. In 2011-12, however, BP and partners Shell and Marathon invested £100 million ($151 million) in replacing parts of the field's 8-in. subsea pipeline network, which did require upgrading after 15 years in operation. *Petrojarl Foinaven* is connected to five subsea drill centers with 43 wells, including 14 for water injection to enhance production. The vessel has an onboard storage capacity of 280,000 bbl. Oil is transported by two dedicated shuttle tankers direct to the refineries of northwest Europe.

Gas produced with Foinaven's oil was compressed from the outset, initially for reinjection and for power generation on the vessel. In 2001, a new pipeline was installed, which since mid-2002 has exported commingled gas from Foinaven and Schiehallion to Sullom Voe. Another subsea pipeline takes the gas northeast to the Magnus field for use in a water-alternating-gas injection scheme. Since start-up, Foinaven has delivered 335 MMbbl of oil.

Schiehallion/Loyal are mainly in blocks 204/20 and 204/25 in 350-450 m (1,148-1,476 ft) of water, and 175 km (109 mi) west of Shetland. Schiehallion was discovered in 1993, with recoverable reserves at the time estimated at up to 500 MMbbl; Loyal was discovered to the north a year later. Following an extended well test of both fields, the UK government sanctioned a combined £1-billion ($1.51-billion) development in 1996 via a newbuild FPSO, capable of producing up to 220,000 b/d of oil and 140 MMcf/d of gas, with oil storage capacity of 950,000 bbl.

Oil production started in summer 1998, with oil transported to Sullom Voe via BP Shipping's purpose-built shuttle tanker *Loch Rannoch*. Due to the proximity to Foinaven, 15 km (9.3 mi) to the southwest, the two production centers shared support facilities such as helicopters and supply vessels. However, that arrangement ceased early this year when operations were shut down to allow the existing Schiehallion FPSO to be shut down and disconnected, as the first step of the £3-billion ($4.53-billion) Quad 204 redevelopment. Phase 1 recovered around 400 MMbbl, but BP geologists' more recent studies of the reservoirs and production performance suggest another 450 MMbbl could be extracted from the two fields and others in the area over the next 20-25 years. The existing FPSO was not suited to the extended and expanded service role envisaged, hence the decision to commission a larger newbuild floater which incorporates industry learnings into the design, along with other features based on BP's database of thousands of lessons learned from operating west of Shetland. These should result in improved operating efficiencies and reliability.

Phase 1 production came from a network of 54 subsea wells connected to five drill centers, nearly half of which were water injectors. Following a period of planned downtime in summer 2011 to replace the existing FPSO's mooring chains and other integrity work - BP's program was vindicated by the storm-induced disconnection of Maersk's *Gryphon* floater earlier that year - the production performance in 2012 was one of the strongest ever, almost equivalent to two years' output. This was partly due to a restricted maintenance program, a spokesman explained, ahead of the full-scale shutdown in 2013.

The existing wells are being suspended and will all be re-opened for production through the new FPSO, to be named *Glen Lyon*. In addition, BP and its block 203/20 partners Shell, OMV, and Statoil plan to drill 20 new production and injection wells on Schiehallion and five on Loyal. The first six or seven wells will be drilled prior to installation of *Glen Lyon* by Odfjell's newbuild semisub *Deepsea Aberdeen*, which the DSME yard in South Korea is scheduled to deliver next spring. BP secured the harsh-environment DP-3 rig on a seven-year lease to work on Quad 204 - the company was anxious to tie up a high-spec unit in view of the tight market globally and the current high day rates in the UK sector.

Deep Sea Aberdeen, which will drill on Schiehallion from 2015 for seven-plus years.

Much of the existing subsea infrastructure will remain in place for re-use when production re-starts - the company is in dialogue with the UK Department of Energy and Climate Change (DECC) over the pieces that need to be decommissioned and the timetable for doing this work.
Aside from Schiehallion and Loyal, BP has options to tie in other satellite accumulations in the area such as Alligin, and has an exploration prospect in a newly awarded license nearby. However, the company wants production experience from the new wells before committing to any further development projects. Around 2017, the company could also introduce enhanced oil recovery through a polymer injection scheme, currently undergoing refinement. Volumes needed for injection are unclear at this stage; however, BP has commissioned four new support vessels from Hyundai in South Korea, two of which are set to operate west of Shetland. Both will be equipped with large tanks for storing a liquid polymer formulation.

Clair Ridge

First of Clair Ridge jackets awaiting installation by Heerema's *Thialf*.

Clair was discovered in 1977 in 150 m (492 ft) of water, 75 km (47 mi) west of Shetland. It remains the UK's largest discovery, with 8 Bbbl of 22-23° API oil in-place; however, uncertainties over the impact of the highly fractured reservoir on productivity delayed development until 1997.

During the 1980s the four Clair license groups drilled a series of appraisal wells without proving economically recoverable reserves. Early the following decade they decided to pool resources, appointing BP as technical operator. Results from a new 3D seismic survey led to drilling of two horizontal wells to access compartments in the field's Core area (all previous Clair wells had been drilled vertically). The new wells demonstrated potential for commercial flow rates: they were followed by an extended test which confirmed substantial vertical connectivity in the Devonian sequences of the Core area, and two more appraisal wells that reduced uncertainty over the adjacent Graben and 3A segments.

The £650-million ($981-million) Phase 1 development, which came onstream in February 2005, was designed to extract up to 300 MMbbl of oil from the Core, Graben, and Horst segments of the southern part of the reservoir. It is based around a large, steel jacket platform with dry tree wellheads and high step-out, extended reach wells all designed to accommodate artificial lift, with oil and gas exported through subsea pipelines to Sullom Voe at rates of up to 60,000 b/d and 20 MMcf/d.

Clair Ridge is in block 206/8, northeast of the main Clair field. Successful appraisal drilling here in 2006-07 confirmed substantial oil and gas volumes could be recovered - up to 638 MMbbl, according to field analysts BritBoss. AMEC started conceptual engineering studies for development of the area in late 2008, with BP and partners Chevron, ConocoPhillips, and Shell winning approval for a £4.5-billion ($6.79-billion) development in October 2011. Start-up is scheduled for 2016, and production should continue past 2050. Oil processing capacity will be higher than for Phase 1 at 120,000 b/d, with up to 50 MMcf/d of gas.
AMEC is also providing engineering, hookup, and commissioning for the two bridge-linked platforms: a drilling and processing facility with a 33,500-ton topsides and 22,300-ton jacket, and a utilities and quarters platform with an 18,300-ton topsides and 9,000-ton jacket. Aker Verdal in Norway has completed both jackets, which were installed at the Clair Ridge location earlier this summer by Heerema's crane barge *Thialf*.

KCA Deutag subsidiary RDS was awarded front-end engineering design for the drilling facilities. The semisub *Paul B Lloyd* drilled and completed the first two development wells

before departing for a long-term appraisal program on the southwestern part of Clair. Drilling will resume in late 2016 from the drilling and processing platform via a subsea template under the jacket, supplied and installed by Saipem in 2011. Eventually, 36 wells will be drilled, comprising 26 producers and 10 water injectors.
Produced oil will be transported via a new 6.6-km (4-mi), 22-in. pipeline bundle to the Clair Phase 1 platform, accessing the existing Clair oil pipeline to Sullom Voe via a new wye-piece. Gas will head through a new 14-km (8.7-mi), 6-in. line connected to the BP-operated West of Shetland Pipeline System (WoSP) to Sullom Voe. There, it will be transferred through the new SIRGE system handling gas from Total's Laggan/Tormore/Edradour fields and existing FUKA pipelines to the St Fergus terminal north of Aberdeen. Subsea 7 will perform pipelay for the BP lines in 2014.
Clair Ridge facilities will include pre-installed risers, umbilicals, J-tubes, and a topsides slug-catcher to facilitate additional production from future subsea tiebacks.
The current development will also feature BP's first deployment in Europe of its reduced salinity water injection technology, LoSal Enhanced Oil Recovery. The system was first used the Endicott field in Alaska, and is planned for Mad Dog Phase 2 in the Gulf of Mexico.
With conventional waterflood, injected water passes through layers of porous reservoir rock, causing the displaced oil to flow to the production well. The pore spaces often contain clays to which oil is bound via "bridges" of divalent cations such as calcium or magnesium. BP's chemical studies found that in high-salinity water, involving high ionic concentration, the oil particles are compressed to the clay by electrical forces. However, when salinity levels are lower, this force is reduced and the bridges expand, allowing the divalent cations to be exchanged with non-bridging monovalent ions such as sodium. The oil molecules are then freed to be swept toward the producer wells.
Essentially, LoSAL EOR combines reverse osmosis - the same principle used to produce drinking water from seawater - with ultra-filtration to remove particulates, colloids, and bacteria from the seawater. The result is high-purity injection water. The LoSal EOR facilities on the Clair Ridge platforms will include capacity to desalinate 145,000 b/d of seawater. BP expects to recover an additional 42 MMbbl of oil this way.

Magnus
BP discovered Magnus, 160 km (99 mi) northeast of Shetland, in 1974. The field, in blocks 211/12a, and 211/7a, is the northernmost producing field in UK waters. It was developed using a fixed steel platform, including the UK's largest-ever jacket, which weighed 40,000 tons, including piles. Production started in August 1983, and the field has delivered over 800 MMboe so far from platform and subsea wells. To sustain production, BP first added subsea water injection via a flowline linked to seven cluster wells. Next came the Magnus EOR project, which involved constructing a subsea pipeline from Shetland to take gas from Foinaven and Schiehallion to the Magnus platform. Gas is injected into the Magnus water injection wells to capture oil not recovered by water. This is a water-alternating-gas scheme, with four six-month cycles between water or gas injection. Currently the maximum three wells are being used to inject over 100 MMcf/d of gas.

More production wells and gas injectors are being drilled on the field, and the program could continue through 2020. BP aims to extract a further 100 MMboe over the field's remaining lifespan of up to 15 years. To do this, it is preparing a life extension program that will involve upgrades to the platform and its accommodations; crane replacement; upgrades of the test separator metering system and produced water handling system; remedial work on the fire water system; and elimination of the backlog of other maintenance tasks. This is the first platform addressed by BP's North Sea Renewal Program; lessons learned will be applied to the company's facilities worldwide.