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APPENDIX 16-A SOCIO-ECONOMIC AND TOURISM ASSESSMENT OF ABERDEEN HARBOUR NIGG BAY DEVELOPMENT

BiGGAR Economics

Socio-economic and Tourism Assessment of Aberdeen Harbour Nigg Bay Development

Final Report

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BiGGAR Economics
Midlothian Innovation Centre
Pentlandfield
Roslin, Midlothian
EH25 9RE
0131 440 9032
info@biggareconomics.co.uk
www.biggareconomics.co.uk

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1 INTRODUCTION AND APPROACH

This Chapter has been prepared by BiGGAR Economics Ltd. It identifies and assesses the potential socio-economic effects of the proposed expansion of Aberdeen Harbour at Nigg Bay (the proposed development).

Aberdeen Harbour Board have proposed the design and construction of a new harbour facility at Nigg Bay, immediately South of the existing harbour. The purpose of the new facility is to complement and expand the capabilities of the existing harbour, accommodate larger vessels, retain existing custom, and attract increased numbers of vessels and vessel types to Aberdeen.

The new harbour development shall include but is not limited to:

- Dredging the existing bay to accommodate vessels up to 9m draft with additional dredge depth of 10.5m to the east quay and entrance channel;
- Construction of new north and south breakwaters to form the harbour;
- Provision of approximately 1500m of new quays and associated support infrastructure. The quay will be constructed with solid quay wall construction and suspended decks over open revetment;
- Construction of areas for development by others to facilitate the provision of fuel, bulk commodities and potable water;
- Land reclamation principally through using materials recovered from dredging operations and local sources, where possible;
- Provision of ancillary accommodation for the facility;
- Off-site highway works to the extent necessary to access the facility and to satisfy statutory obligations;
- Diversions and enabling works necessary to permit the development.

1.1 Policy Context

This section describes the current policy context relevant to the proposed development.

1.1.1 Government Economic Strategy

The development of the energy sector is one of the Scottish Government's priorities. The Scottish Government Economic Strategy (GES)[1] highlights seven key growth sectors that offer strong opportunities for growth. These opportunities arise either from Scotland's existing or potential comparative advantage in human or natural resources. One of the sectors highlighted as a growth sector is energy (including renewables).

In order to take advantage of the opportunities within these sectors and to increase or maintain Scotland's comparative advantages the GES highlights key actions. One of the actions is "maintaining and developing the competitiveness and long-term future of the oil and gas sector by developing the position of Aberdeen as a worldwide supply chain hub, securing increased recovery rates in

[1] Scottish Government (September 2011), the Government Economic Strategy

Scottish waters and supporting collaboration between oil and gas and low carbon energy".

The GES sets out six strategic priorities to guide economic policy. These include achieving a "transition to a low carbon economy'" and "infrastructure development and place", both of which are particularly relevant to the proposed development.

1.1.2 Oil and Gas

The Scottish oil and gas industry strategy[2] describes the priority actions and vision for the sector in Scotland. The vision for the industry in Scotland is for one that is increasingly integral to the Scottish economy but outward looking, with Scottish expertise and products in high demand in the global export market.

One of the key issues highlighted in the strategy is the presence of adequate and effective infrastructure. It is seen as a priority to invest in improvements in Aberdeen City and Shire to ensure that Scotland remains competitive. It is only through investments in infrastructure that Scotland will continue to be an attractive long-term investment location. The development of transport infrastructure in the North East of Scotland is seen as vital to ensure connectivity between the sector in Scotland and markets in Europe and further afield.

1.1.3 Marine Renewables

Scottish Enterprise and Highlands and Islands Enterprise have considered the scale of infrastructure investment that will be required to support the renewables sector in Scotland. The two reports produced are the National Renewables Infrastructure Plan (N-RIP). The first report[3] highlights the challenge of developing the required infrastructure but warns that this is critical if Scotland is to become the base for construction, assembly and operations and maintenance for offshore renewable energy.

The N-RIP stage 2 document[4] describes the opportunities and infrastructure development requirements for Aberdeen Harbour. The N-RIP was written at the time of the redevelopment of the Torry Quays area of Aberdeen Harbour and discusses the £30 million investment and how this will create berths for larger ships. It also notes that the entrance channel to Aberdeen Harbour is too narrow for some vessels. Although the navigation channel was widened in 2012 there is still only one suitable berth to accommodate large offshore wind deployment vessels.

N-RIP also highlights the potential for existing expertise in offshore engineering and logistics to be transferred to the offshore renewable sector. The existence of this expertise is identified as one of Scotland's key assets in the potential for marine based renewables.

The N-RIP stage 2 document also explains the need for creating industry clusters around key infrastructure investment locations, similar to the current subsea cluster that exists in Aberdeen City and Shire. It suggests that these clusters should incorporate the supply chain for offshore renewables. The development of the land near Nigg Bay could contribute towards a marine renewable cluster in Aberdeen City and Shire.

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[2] Scottish Enterprise, *Oil and Gas Strategy 2012 – 2020* , May 2012
[3] Scottish Enterprise, *National Renewables Infrastructure Plan, February 2010*
[4] Scottish Enterprise, *National Renewables infrastructure Plan Stage 2,* July 2010

1.1.4 Tourism Policy Context

Tourism Scotland 2020[5] is Scotland's main tourism strategy. Its primary goal is to increase annual overnight visitor expenditure by £1 billion in 2011 prices. The largest target market for this growth is visitors from within the UK. The strategy intends to achieve this growth through four priorities, one of which is building sustainable tourism.

As part of achieving this priority the strategy states that industry should seek out practices that benefit communities and the environment. The strategy also identifies cruise tourism as an opportunity with significant growth potential. It estimates that cruise tourism could attract 1.1 million visitors by 2029 and an estimated value of £32 million.

Tourism policy in Aberdeen City and Shire is guided by a strategy, 'Building on our Strengths 2013-2020', developed by the Aberdeen City and Shire Area Tourism Partnership[6]. The strategy aims to grow overnight visitor expenditure to £440 - £510 million by 2020.

To do this the strategy identifies four key opportunities for the area; golf, nature, heritage and activities, business tourism and events, festivals, culture and arts. Building sustainable tourism is one of the priority actions – the strategy aims to promote sustainable tourism and ensure that in growing regional tourism the environment and natural heritage is enhanced, protected and supports and includes local communities.

1.2 Assessment Methodology and Significance Criteria

The first step in assessing the significance of the potential effects of the proposed development was to establish the sensitivity of the various receptors considered. The sensitivity of each receptor was assessed with reference to the baseline evidence presented below. The criteria used to do this are presented in Table 1.1.

[5] Scottish Tourism Alliance (June 2012), Tourism Scotland 2020
[6] Aberdeen City and Shire Area Tourism Partnership (February 2013), Building on our Strengths 2013-2020

Table 1.1 – Sensitivity Criteria

Sensitivity	Description
Very High	The receptor is of very high socio-economic, or tourism value, or of international importance. The receptor is a very popular and unique leisure asset that would be extremely sensitive to any change in current conditions.
High	The receptor is of high socio-economic or tourism value, or of national importance. The receptor is a popular and uncommon leisure asset or one that would be highly sensitive to any change in current conditions.
Medium	The receptor has some socio-economic or tourism value, or is of regional importance. The receptor is a popular leisure asset or one that would be moderately sensitive to any change in current conditions.
Low	The receptor is of low socio-economic, or tourism value, or is only of local importance. The receptor is a leisure asset that would be relatively insensitive to any change in current conditions.
Negligible	The receptor is of little socio-economic, tourism or leisure value or would be very insensitive to a change in existing conditions.

Source: BiGGAR Economics

The next step was to assess the magnitude of each potential effect. This was done based on BiGGAR Economics' previous experience of assessing the socio-economic impacts of capital developments elsewhere in Scotland.

The magnitude of potential economic effects was assessed using a specially developed economic model, which was originally developed in 2012 on behalf of Scottish Enterprise. The model was developed in accordance with relevant best practice guidance published by Scottish Enterprise and approved by staff with experience of undertaking appraisals and evaluations. The results of this model are discussed in the relevant section of this chapter and the detailed method and assumptions are presented in the technical appendix.

The magnitude of potential tourism and leisure effects, both beneficial and adverse, was assessed with reference to published evidence about the value of different types of tourism activity and informed by consultations with relevant user groups. The criteria used to do this are presented in Table 1.2.

Table 1.2 – Magnitude Criteria

Magnitude	Description
Very High	Major alteration to baseline conditions, e.g.: a major long-term (10+ years) alteration of economic activity, a major change to regional tourism numbers and/or expenditure or the complete (or almost complete) loss of a leisure asset.
High	Substantial alteration to baseline conditions, e.g.: a major long-term (5+ years) alteration of economic activity, a major change to regional tourism numbers and/or expenditure or the partial loss of a leisure asset.
Medium	Material change in baseline conditions, e.g.: a short-term or moderate change in economic activity, a moderate change in regional tourism numbers or expenditure or a substantial change in the availability of a leisure asset or people's ability to enjoy it as such.
Low	Minor shift away from baseline conditions, e.g.: a noticeable long-term change in economic activity, a small and short-term change to regional tourism numbers and expenditure or a noticeable change in the availability of a leisure asset or people's ability to enjoy it as such.
Negligible	Very little change from baseline conditions, e.g.: change that is barely distinguishable.

Source: BiGGAR Economics

The significance of each effect was then assessed by combining the sensitivity of the receptor with the magnitude of the potential change. This was undertaken using the matrix presented in Table 1.3.

Table 1.3 - Significance of Effect

Magnitude of effect	Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
Very High	Major	Major	Major	Moderate	Minor
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

Source: BiGGAR Economics

Using this assessment methodology it would not be possible for receptors that are assessed as being of negligible sensitivity to be associated with a significant effect. It was therefore unnecessary to assess the magnitude of effect on these receptors.

1.2.1 Requirements for Mitigation

Potential effects that were assessed as moderate or major were considered to be significant. For these effects it was then necessary to consider appropriate mitigation measures. These measures were based on BiGGAR Economics previous experience of assessing the economic, tourism and leisure impacts of developments elsewhere in the UK.

1.2.2 Assessment of Residual Effects

After identifying any necessary mitigation measures, the significance of potential impacts was be reassessed using the methodology outlined above but taking into consideration the proposed mitigation measures. After completing this process, any potential effects that remained significant were identified as residual effects.

1.2.3 Study Areas

This assessment considers three distinct types of effect; tourism, leisure and socio-economic. Each of these types of effect are driven by different factors and for this reason it is appropriate to consider different study areas for each one.

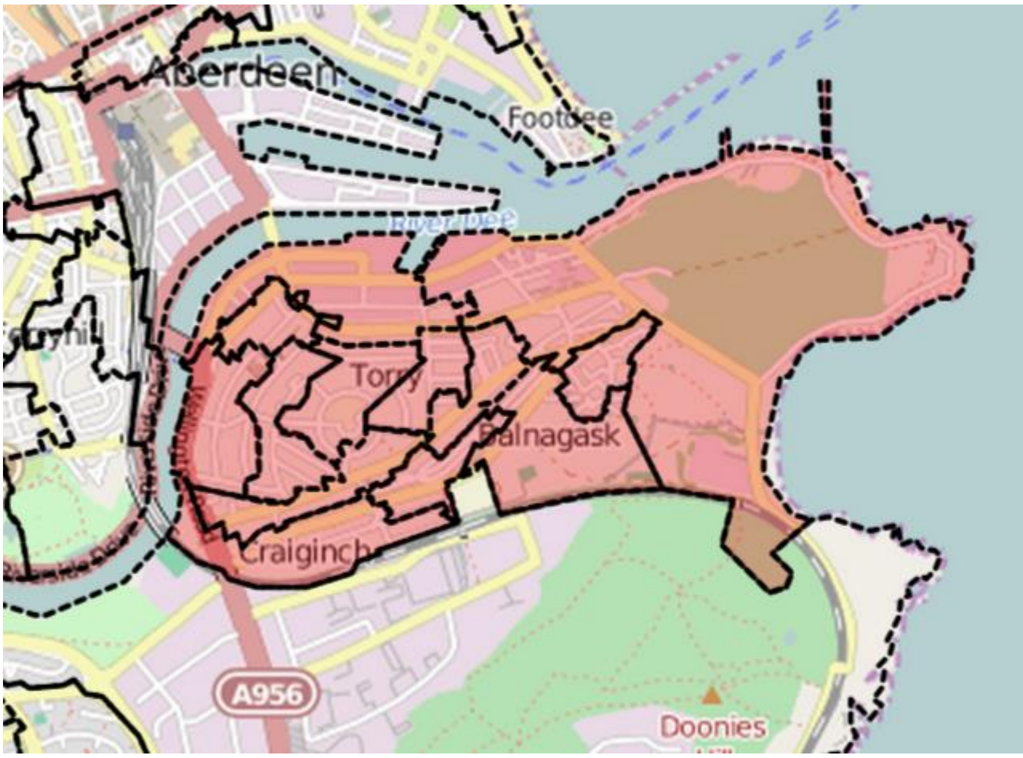
Tourism effects could arise if the proposed development were to increase or decrease the number of tourists visiting the area or the amount of time and/or money that they spend during their visit. As tourists visiting an area will typically move around an area during their visit, the appropriate study area for the tourism assessment is the region of Aberdeen City and Shire.

Economic effects could arise if the proposed development were to change the amount of economic activity or jobs available in the local, regional and national economy. The appropriate study areas for the socio-economic assessment are therefore:

- national – Scotland;
- regional – the local authority area of Aberdeen City and Aberdeenshire; and
- local – Torry, covering 13 data zones: S01000052, S01000055, S01000057, S01000060, S01000064, S01000066, S01000069, S01000070, S01000071, S01000074, S01000078, S01000082, S01000084.

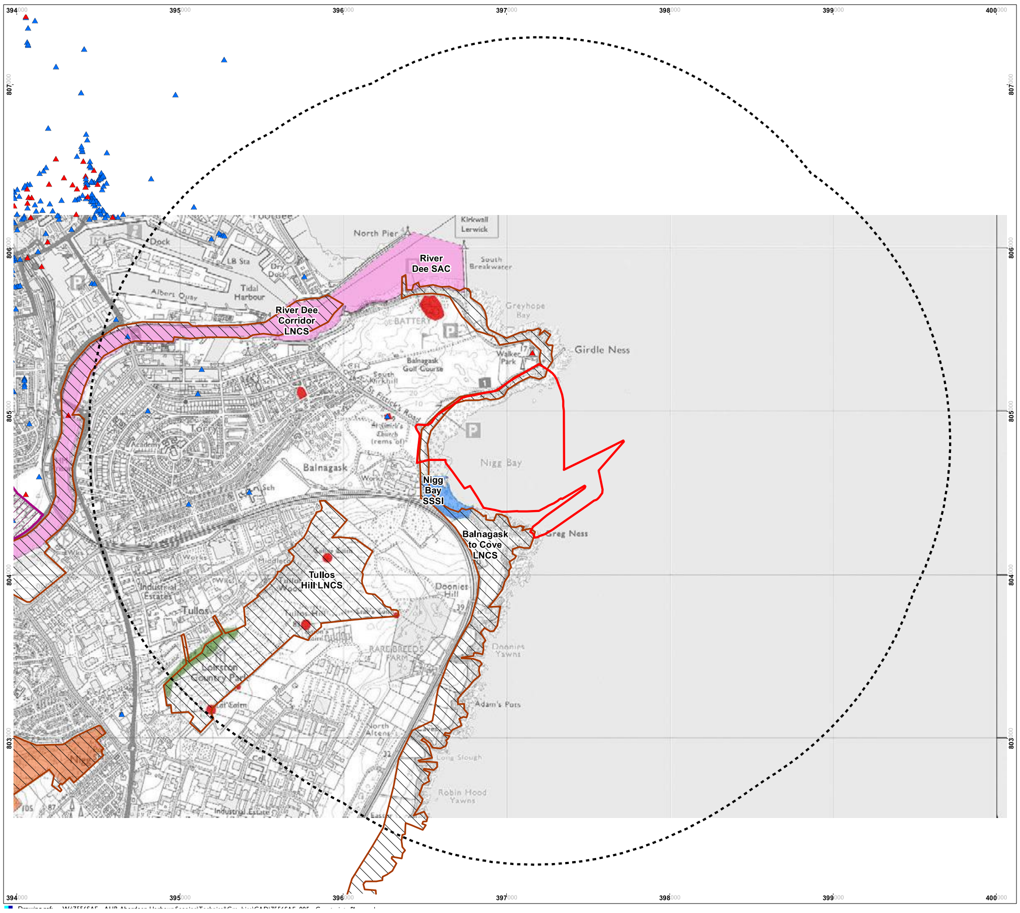
The Local Study Area is shown in Figure 1-1 below.

Figure 1-1: Local Study Area - Socio-economic Effects



Leisure effects would be related to the extent to which the proposed development might be expected to change the way people use the land around the site. As such the study area used for the leisure assessment is the 2km buffer zone around the proposed site. This area is illustrated in Figure 1-2.

Figure 1-2: Study Area – Leisure Effects



2 ECONOMIC BASELINE

This chapter describes the economic baseline for the proposed development.

2.1 Population

The population of Aberdeen City and Shire is 484,800, which is 9.1% of the total population of Scotland. The General Register Office of Scotland provides mid-year population estimates. This gives the population of the data zones in the local area as 10,582. This represents approximately 2.2% of the population of Aberdeen City and Shire.

The proportion of people who are over 65 is slightly lower in Aberdeen City and Shire (16%) than in Scotland as a whole (18%). This is more pronounced in the local area where only 12% of the population is aged 65 or over, indicating a demographic profile that is considerably younger than both Aberdeen City and Shire and Scotland as a whole. The local area in particular has a significantly higher proportion of working age people (71%) than the average across Scotland (65%).

The City of Aberdeen attracts large numbers of young people. This is likely to be as a result of the University of Aberdeen, Robert Gordon University and North East Scotland College (formerly Aberdeen College) all being located in the City. There are more than 32,000 students at these institutions[7], equivalent to around 14% of the city's population.

Table 2-1: Population of Study Areas

	local area	Aberdeen City & Shire	Scotland
Population	10,582	484,800	5,327,700
Under 15	17%	17%	17%
16 – 64	71%	67%	65%
Aged 65 +	12%	16%	18%

Source: GROS Mid-2013 Small Area Population Estimates and ONS Mid-year Population Estimates, 2013

2.2 Labour Force

2.2.1 Employment and Economic Activity

Aberdeen City and Shire has higher economic activity and employment rates for those of working age than the rest of Scotland. The economic activity rate in Aberdeen City and Shire is 82.3% whereas the average across Scotland is 77.5%.

There are 245,200 individuals employed in Aberdeen City and Shire, equivalent to an employment rate of 78.3%, which is significantly higher than the Scottish average of 72.0%.

[7] HESA, *Headline Statistics*, https://www.hesa.ac.uk/, (accessed 27th January 2015) and North East Scotland College, *Key Performance Indicators*, http://www.abcol.ac.uk/docs/KeyPerformanceIndicatorsNESCOL.pdf, (accessed 27th January 2015)

Table 2-2: Labour Force Indicators

	Aberdeen City & Shire	Scotland
Economic Activity Rate	82.3%	77.5%
Employment Rate	78.3%	72.0%
Unemployment Rate	4.9%	7.2%
Economically inactive who want a job	31.1%	25.7%

Source: ONS, Annual Population Survey, Jul 2013 – Jun 2014

In June 2014, almost 5% of the working age population was unemployed in Aberdeen City and Shire. This was 2.3 percentage points below the Scottish unemployment rate of 7.2%. Of those who were economically inactive the proportion who were seeking a job in Aberdeen City and Shire (31%) was higher than the average across Scotland (26%).

In addition, the claimant count rate in Aberdeen City (the proportion of the working age population claiming Job Seekers Allowance) is almost half that of the Scottish rate. The proportion of 16-64 year olds claiming JSA in the local area is however higher than the average across Aberdeen City and closer to the Scottish average. This could indicate that unemployment is a greater concern in the local area than elsewhere in the City or wider region.

Table 2-3: Claimant Count

	local area	Aberdeen City & Shire	Scotland
16 – 64 year olds claiming JSA	2.3%	0.8%	2.4%

Source: ONS, Claimant count with rates and proportions, Dec 2014.

2.2.2 Education and Skills

In 2013 the proportion of 16-64 year olds with NVQ4+ qualifications in Aberdeen City and Shire was 42.3% compared to 39.4% for Scotland as a whole. The proportion of people aged 16-64 with no qualifications was 7.5% in Aberdeen City and Shire and 10.3% in Scotland. This suggests that regional workforce has an above average level of qualifications.

Table 2-4: Education, Highest qualification of 16 – 64 year olds

	Aberdeen City & Shire	Scotland
% with NVQ4+	42.3%	39.4%
% with NVQ3+	63.4%	59.3%
% with NVQ2+	77.2%	73.7%
% with NVQ1+	85.8%	83.4%
% with other qualifications	6.7%	6.2%
% with no qualifications	7.5%	10.3%

Source: ONS, Annual Population Survey, Jan 2013 – Dec 2013.

2.3 Income and Deprivation

2.3.1 Income

The level of income for full-time workers is around 13% higher in Aberdeen City and Shire than in the rest of Scotland. In 2014, the average (mean) weekly pay for full-time workers in Aberdeen City and Shire was £681 compared to £600 for Scotland. Data on income is not available at the Scottish data zone level and therefore cannot be reported in the same way for the local area.

Table 2-5: Average (mean) weekly pay – gross (£)

	Aberdeen City & Shire	Scotland
Full Time Workers	681.1	600.0

Source: ONS, Annual Survey of Hours and Earnings – Workplace Analysis, 2014

2.3.2 Scottish Index of Multiple Deprivation

The Scottish Index of Multiple Deprivation (SIMD) ranks all of the 6,505 data zones across Scotland. The data zones are ranked 1 (most deprived data zone) to 6,505 (least deprived). The ranking is based on a number of indicators across seven categories: income, employment, health, education, skills and training, housing, geographic access and crime. Data zones ranked 1-1,301 are designated the most deprived 20 per cent, and those ranked 1-2602, the most deprived 40 per cent.

Analysis of the SIMD indicates that:

- of the 13 data zones which comprise the local area all but one are designated within the most deprived 20 per cent or within the most deprived 40 per cent;
- three of the data zones in the local area are in the 40 per cent most deprived areas in Scotland;
- nine of the data zones are in the most deprived 20 per cent; and
- the most deprived data zone in Aberdeen City in the SIMD 2012 is S01000060, which is found in the Intermediate Zone of Torry East and the Scottish Parliament Constituency of Aberdeen South. It has a rank of 221, meaning that it is amongst the 5% most deprived areas in Scotland.

2.4 Industrial Structure

Information about the structure of the economy of Aberdeen City and Shire and the local area can be found by analysing the key sectors of employment in the area. The oil and gas industry is hugely important to the economy of Aberdeen City. This is indicated by the fact that 10.2% of the working age population are directly employed in the mining, quarrying and utilities sector, almost four times the Scottish average. In addition, this sector is the second largest source of private sector employment in Aberdeen City and Shire.

The oil and gas sector also has a large support base and supply chain within Aberdeen City and Shire. This is shown in the relatively high proportion of the workforce who are employed in the professional, scientific and technical sector (13.7%) and in manufacturing (8.8%).

The public sector (health, education and public administration and defence sectors) employs 23% of the workforce in Aberdeen City and Shire compared to 29% across Scotland as a whole. The employment in all three areas of the public sector is only slightly lower in Aberdeen City and Shire than the average across Scotland.

The importance of the oil and gas sector to the local area and wider region is reflected in relatively high concentrations of employment in the mining, quarrying and utilities sector and in manufacturing. The proportion of jobs in the mining, quarrying and utilities sector in Aberdeen City and Shire is for example around four times higher than the proportion employed in this sector across Scotland as a whole while the proportion employed in manufacturing in the local area is more than double the equivalent figure for Scotland as a whole.

Employment in the public sector (27.6%), in the local area, is higher than across Aberdeen City and Shire as a whole. In particular, 14.3% of the working age population are employed in public administration and defence, which is considerably higher than the proportion across Aberdeen City and Shire (4.1%) and Scotland (5.8%) as a whole.

Interestingly considering the history of the area employment in the agriculture, fishing and forestry sector is also relatively low in Aberdeen City and Shire compared to elsewhere in Scotland. The value of commercial fishing in the proposed development area and the potential effects of the proposed development on the commercial fishing sector are considered in detail in the commercial fisheries assessment.

Table 2-6: Key Sectors of Employment

	local area	Aberdeen City & Shire	Scotland
Agriculture, forestry & fishing	0.0%	0.8%	3.1 %
Mining, quarrying & utilities	3.0%	10.2%	2.6%
Manufacturing	17.6%	8.8%	7.1%
Construction	4.5%	5.0%	5.6%
Motor trades	5.4%	1.6%	1.9%
Wholesale	6.4%	2.7%	2.9%
Retail	5.0%	8.1%	9.8%
Transport & storage	4.7%	4.2%	4.0%
Accommodation & food services	2.5%	6.8%	7.8%
Information & communication	0.7%	1.7%	2.5%
Financial & insurance	0.4%	0.9%	3.5%
Property	0.6%	1.2%	1.4%
Professional, scientific & technical	8.4%	13.7%	6.9%
Business administration & support services	9.6%	7.8%	7.4%
Public administration & defence	14.3%	4.1%	5.8%
Education	5.0%	6.4%	7.6%
Health	8.3%	12.2%	15.5%
Arts, entertainment, recreation & other services	3.8%	3.7%	4.7%
Total	**3,319**	**284,101**	**2,470,381**

Source: ONS, Business Register and Employment Survey, 2013

2.4.1 Oil and Gas Industry

Oil and Gas has had a huge impact on Aberdeen City and Shire in the past four decades. Since the discovery of North Sea oil and gas in the 1960s over 41 billion barrels of oil equivalents (boe) have been extracted from the UK share of these North Sea resources. Although most analysts agree that the majority of the North Sea resources have been extracted the amount remaining is unknown due to difficulties associated with projecting future discoveries. Oil and Gas UK, the industry body for the oil and gas sector estimate that there are between 15 billion and 24 billion barrels of oil equivalent still to be extracted from the North Sea. This implies that between 27% and 37% of the original resource remains to be extracted.

Table 2-7: Estimates of recoverable oil (billion boe)

	Low estimate	High estimate
UKCS Reserves and Resources	15	24

Source: Oil and Gas UK, Economic Report, 2014

Direct employment in the extraction of crude petroleum and natural gas accounts for almost 8,550 jobs in Aberdeen City and Shire. As shown in Table 2-8 this represents the vast majority (98%) of the workers in these industries in Scotland. Support activities for petroleum and natural gas extraction account for a larger proportion of employment and employ almost 18,000 people in Aberdeen City and Shire.

In the local area 2.3% of employment is in support activities for petroleum and natural gas extraction and there are very few people employed in the extraction of crude petroleum and natural gas.

Table 2-8: Direct Employment in Oil & Gas Sector

	Aberdeen City & Shire		Scotland	
	Number	%	Number	%
061: Extraction of crude petroleum	8,549	3.0%	8,748	0.4%
062: Extraction of natural gas	614	0.2%	625	0.0%
091: Support activities for petroleum and natural gas extraction	17,926	6.3%	18,233	0.7%

Source: ONS, Business Register and Employment Survey, 2013

These figures do not however take account of employment in the wider oil and gas supply chain. Based on data published by Oil and Gas UK[8] it can be estimated that the total number of jobs supported by the sector in Aberdeen City and Shire is likely to be around 70,000.

2.4.2 Aberdeen Harbour

Aberdeen Harbour is the principal commercial port serving the north east of Scotland and one of Europe's leading marine support centres for offshore energy. The Harbour plays a key role in the economies of both Aberdeen and Scotland. In 2013 BiGGAR Economics was commissioned by Scottish Enterprise to undertake an assessment of the Harbour's current and potential future economic impact.

The study identified six main sources of economic impact associated with Aberdeen Harbour. These were:

- **Aberdeen Harbour Board** – the direct and indirect impacts of Aberdeen Harbour Board including its expenditure on supplies and the expenditure of its staff;
- **other on-site operations –** the direct impact of other businesses located within the Harbour and the indirect impact of the expenditure of their staff;
- **tourism –** the direct and indirect impact of tourism expenditure generated by cruise ships visiting Aberdeen Harbour;
- **off-site logistics** – the direct impact of Harbour related logistics activity based outside the Harbour and the indirect impact of the expenditure of people employed by these businesses;

[8] Based on analysis of the Oil & Gas UK Economics Reports and UK Jobs Map.

- **industrial development** – the direct impact of new industrial development associated with the Harbour and of the expenditure of people employed in these developments; and
- **oil and gas –** the direct impact associated with oil and gas activity in Aberdeen City and Shire supported by the Harbour and of the expenditure of employees whose jobs are supported by this activity.

Taken together the study estimated that in 2013 Aberdeen Harbour was generating around £1.5 billion GVA and supporting around 12,000 jobs for the Scottish economy. This included £1.4 billion and 9,500 jobs for the economy of Aberdeen City and Shire.

The assumptions that were used to estimate the current economic impact of Aberdeen Harbour were reviewed during the preparation of this chapter and discussed with Aberdeen Harbour Board. The conclusion of this process is that current levels of on-site activity have changed very little since the original report was published and that the assumptions used to estimate this impact continue to provide an accurate representation of the current level of on-site activity.

The assumptions that were used to estimate the off-site economic impact supported by Aberdeen Harbour were also reviewed during the preparation of this chapter. Particular consideration was given to the implications of low oil prices for the oil and gas sector in the region and to the effect that this could have on levels of employment in the sector.

The conclusion of this process was that, despite some high profile job losses within the sector, these effects have largely not yet taken full effect. It was also noted that if low oil prices persist then this could actually help to intensify demand for the new port by accelerating the requirement for decommissioning works. The assumptions used to estimate the current economic impact of Aberdeen Harbour in 2013 therefore remain an accurate reflection of the current baseline.

2.5 Future Baseline Conditions

In order to assess the potential socio-economic impact of the proposed development it is important first to understand what the future socio-economic baseline might look like if the proposed development does not proceed. This "reference case" is assessed in detail in chapter 3 of the technical appendix that accompanies this report.

A key driver of the future socio-economic baseline will be the future performance of the Scottish energy sector. The economic impact analysis is based on the assumption that in 20 years time employment in the Scottish oil and gas sector is likely to be around 80% of current levels (see section 6.6 of technical appendix for a discussion of this assumption in light of recent changes in global oil prices). This estimate is however based on the implicit assumption that businesses within the sector will be able to operate efficiently and behave in a way that enables them to maximise their own competitiveness and that of the sector as a whole.

If the proposed development does not proceed then this could prevent businesses in the sector from behaving in this way. This is likely to mean that the operational costs faced by the sector will increase faster than currently expected, which would reduce the competitiveness of the sector. It could also mean that firms within the sector are unable to exploit new opportunities (such as decommissioning activity) or diversify into emerging markets (such as off-shore renewables). All of these factors would serve to accelerate the sector's decline.

If this were to occur then it would have a knock-on effect on the amount of related on-site activity within the harbour and the amount of off-site logistics activity that occurs elsewhere in the region. It is also reasonable to expect that vacant and under-occupied industrial land surrounding the current harbour would be developed at a slower rate than might otherwise be expected.

Under this scenario it was estimated that in 20 years time Aberdeen Harbour could be supporting £1.1 billion GVA and around 8,375 jobs across Scotland. It was estimated that around £1.0 billion of this GVA and around 6,800 of these jobs could be in Aberdeen City and Shire. This equates to a reduction of around 30% in the current economic impact of the Harbour. The assumptions used to model this impact are all described in chapter 6 of the technical appendix.

2.6 Summary of Economic Context

Aberdeen City is one of the most economically successful areas of Scotland and the UK. Key features of the local economy include:

- 9.1% of the population of Scotland live in Aberdeen City and Shire;
- the employment rate in Aberdeen City and Shire is 6.3 percentage points higher than the average Scottish employment rate of 72.0%;
- the mean salary of workers in Aberdeen City and Shire is approximately 14% higher than the Scottish mean;
- the level of education in Aberdeen City and Shire is higher than the average across Scotland as a whole;
- the oil and gas industry is hugely important to Aberdeen City and Shire, directly employing around 27,000 people and a total of around 70,000 people if the wider supply chain is taken into account;
- Aberdeen Harbour is an important economic asset both to Aberdeen and the Scottish economy as a whole, generating £1.5 billion GVA/year and supporting 12,000 jobs; and
- if the proposed development does not proceed then it is estimated that in 20 years time Aberdeen Harbour could be supporting £1.1 billion GVA and around 8,375 jobs across Scotland. This equates to a reduction of around 30% of the current impact.

2.6.1 Sensitivity to Change

The sensitivity of an economy to change depends on the size and scale of the economy in relation to the potential impact of the change in question. It will also depend on the diversity of the economy in question and the relative importance of the sector in which the change is expected to occur.

The importance of the oil and gas industry in Aberdeen City coupled with the scale of the proposed development implies medium sensitivity to change at the regional and local levels while the size and diversity of the Scottish implies a low sensitivity to change at the national level.

3 TOURISM AND LEISURE BASELINE

This section describes the current tourism and leisure baseline.

3.1 Tourism Value and Volume

Sustainable tourism is one of seven growth sectors identified in the Scottish Government's Economic Strategy.

Data from the Business Register and Employment Survey shows that in 2013, sustainable tourism, as defined by the Scottish Government, accounted for 6.1% of employment in Aberdeen City. This is significantly lower than the proportion of tourism related employment across Scotland as a whole (8.5%). This suggests that tourism is somewhat less important to Aberdeen City than to other parts of Scotland.

VisitScotland estimate that 0.6 million people from the rest of the UK and 0.2 million people from overseas visited the Aberdeen and Grampian region in 2013.[9] It is estimated that these visitors spent a combined total of £370 million.

3.1.1 Reasons for Visiting

VisitScotland commissioned a national visitor survey that was undertaken during 2011 and 2012.[10] Regional results for Aberdeen City and Shire show that the most important reason for visiting the region, as mentioned by 28% of visitors, was the scenery and landscape. Other important reasons included the visiting family in the area (mentioned by 21% of visitors) and the history of the area (20%).

The visitor survey also includes information about the types of activities visitors engage in while in an area. It shows that the most popular activities were visiting a historic venue (mentioned by 53% of visitors) and short walks or strolls (51%).

Consultation with VisitScotland suggests that business tourism is a particularly important feature of the tourism sector in Aberdeen City and that this is largely driven by the energy sector. It is estimated that business travellers account for around 60% of passengers using Aberdeen Airport, which is unusual in the UK outside London. Consultation with VisitScotland also highlighted the role that Aberdeen plays as a gateway for leisure tourists to visit attractions elsewhere in Aberdeenshire.

3.1.2 Tourist Attractions

According to VisitScotland (2014) the top five visitor attractions in the Aberdeen and Grampian region in 2013 were:

- David Welch Winter Gardens;
- Aden Country Park, Mintlaw;
- Johnston's Cashmere Visitor Centre;

[9] VisitScotland (2014), *Tourism in Scotland's Regions 2013.* Available at: http://www.visitscotland.org/research_and_statistics/regions.aspx
[10] VisitScotland (2012), *Scotland Visitor Survey 2012 Regional Results: Aberdeen City and Shire, 2012*. Available at: http://www.visitscotland.org/research_and_statistics/visitor_research/all_markets/scotland_visitor_survey.aspx

- Aberdeen Art Gallery; and
- Scottish Dolphin Centre, Spey Bay.

None of these tourist attractions are located within the 2km study area so there is no reason to expect that the proposed development would have any adverse effect on tourists visiting them. The sensitivity of these attractions was therefore assessed as negligible.

Consultation with VisitScotland suggests that there are no important tourist assets in and around Nigg Bay and that the main reason that tourists might go to the bay would be to watch for dolphins.

3.2 Cruise Tourism

Aberdeen Harbour is an important hub for domestic ferry traffic as it provides the mainland base for the Serco Northlink Ferry services, which serve Orkney and Shetland. The Harbour currently welcomes around 150,000 passengers each year. The vast majority of these passengers are traveling to and from Orkney and Shetland but a small proportion are passengers on visiting cruise liners.

In 2013 Cruise Scotland estimated that the cruise market was worth £50 million to the Scottish economy[11]. Although the cruise market currently represents a very small proportion of activity at Aberdeen Harbour, this is an area where there is potential for future growth. In 2012 nine cruise vessels docked in Aberdeen harbour, the same number as the year before but increased to 13 vessels in 2012.

According to VisitScotland the most popular excursions for cruise passengers visiting Aberdeen are:

- Aberdeen City/Old Aberdeen;
- Balmoral Castle and Royal Deeside; and
- other Aberdeenshire castles and whisky distilleries.

Cruise tourism can therefore help to disperse tourism expenditure outwith Aberdeen City and into the wider region.

Consultation with VisitScotland and Aberdeen City Council suggests that there is potential to increase the amount of cruise tourism in Aberdeen. Currently the main constraints to doing this are size restrictions and lack of space at Aberdeen Harbour. According to VisitScotland Aberdeen is very well placed geographically to benefit from many existing cruise routes. It is also very well placed to deal with passenger turnaround because of the proximity of Aberdeen airport.

3.3 Tourist Routes

In general, when assessing the sensitivity of tourism routes to change, it is assumed that the longer the route is, the less sensitive it will be to change. This is because the extent to which the character of a particular route might be expected to change will vary in proportion to how much of the route will be significantly altered by the proposed development.

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[11] Cruise Scotland (November 2013), *Scottish Cruise Ports on Course for another record Season*

3.3.1 Cycling Routes

Sustrans is a charity dedicated to sustainable travel choices. It publicises a network of national long-distance cycle routes, including 10 in Scotland. National Cycle Route One connects Dover and the Shetland Islands mainly via the east coast of England and Scotland. A stretch of this route (also known as Coast and Castles North) begins in Edinburgh passing through Dundee and ending in Aberdeen. This Edinburgh to Aberdeen stretch of the route is 277km in length and Greyhope Road, which runs alongside Nigg Bay forms part of the route.

The EuroVelo 12 route (also known as the North Sea Cycle Route) is a 6,000km route based on existing national, regional and local cycle routes in all the countries bordering the North Sea. The route opened in 2001 and was awarded a Guinness record certificate in May 2003 as the world's longest cycle route. The Coast and Castles North stretch of National Cycle Route One also forms part of the EuroVelo 12 Route.

The length of these routes in relation to the size of the site means that any change that might occur within the site would not have a discernable effect on their present character. This suggests that the sensitivity of the routes would be negligible; however, as there will be a requirement to divert a small portion of the routes to accommodate the proposed development the sensitivity has been assessed as low to ensure that any potential impacts are be fully considered.

3.3.2 Driving Routes

VisitScotland promotes a series of 12 sign-posted tourist routes throughout Scotland. The National Tourist Routes are designed to provide tourists with an alternative to the main trunk roads and motorways. Two of these, the Deeside Tourist Route and the Angus Coastal Route have Aberdeen City as their end point. The Angus Coastal Route is 93km in length and the Deeside Tourist Route is 171 km in length.

The length of this route in relation to the size of the site means that any change that might occur within the site would not have a discernable effect on its present character. As there will be no requirement to divert the route to accommodate the proposed development its sensitivity has therefore been assessed as negligible.

3.3.3 Walking Routes

The North Sea Trail is being created by the NAVE Nortrail Project, which is partly funded by the European Union. The aim is to create a series of footpaths around the North SeaCoast to enable people to enjoy walking in coastal landscapes. Twenty-six regions in Norway, Sweden, Denmark, Germany, the Netherlands, England and Scotland are currently involved in the initiative, including Aberdeen City.

Aberdeen’s section of the North Sea Trail is approximately 20 kilometres or 12 miles long. The route follows the coast along Aberdeen Beach, around the existing Harbour, toward and around Nigg Bay and then onwards down the coast.

A key feature of the existing route is Aberdeen Harbour so the proposed development would be very much in keeping with the existing character of the route. This implies that it would be insensitive to change; however as there will be a requirement to divert a small portion of the route to accommodate the proposed development the sensitivity has been assessed as low to ensure that any potential impacts are be fully considered.

3.4 Terrestrial Leisure Users

The area around Nigg Bay is of potential value to a variety of leisure users including recreational walkers, people who might use the area to watch wildlife and golfers. During the course of the wildlife surveys undertaken to support the ES instances of leisure users observed using the site and the bay were also recorded. Overall, other than a small number of dog walkers, very little activity was recorded. From this it is reasonable to conclude that the site is of some amenity value to dog-walkers in the local area.

It is however important that any potential impacts are fully explored so this section considers the impact that the development could have on the three main groups of potential leisure users identified above. The sensitivity of each of these groups to any change at the site would depend on the extent to which the proposed development might be expected to interfere with their use or enjoyment of the site.

3.4.1 Walking Routes

Under the Scottish access legislation, each local authority and national park authority in Scotland has a duty to draw up a plan of core paths in their area. These plans are informed by consultation with local communities, land managers and path users. As such, although core paths can be used by anyone, including tourists and day visitors, in practice the routes included tend to be those that are most popular with local residents and should therefore be considered primarily as local leisure assets rather than tourism assets.

There are three core paths within the 2km study area of the proposed development. Core Path 78 runs from the existing Aberdeen Harbour south towards Nigg Bay, following the route of Greyhope Road, eventually following the coastline along the southern extent of Nigg Bay and onwards to the south. This route connects to the wider core path network including routes locally along St. Fittick's Road (Core Path 104) and at the back of the water treatment plant at the edge of Nigg Bay. Core Path 108 was also recently upgraded as part of the £300,000 East Tullos Burn restoration project, which involved restoring the burn in St Fitticks Park to a more natural state.

There are also a number of themed walks associated with Torry including Torry Coastal Trail and Torry Industrial and Maritime Trail. These trails are promoted by Aberdeen City Council as part of its 'Regenerating the South of the City' initiative. The Coastal Trail follows the route of Core Path 78 with key features of interest including the Inner South Breakwater, Torry Point Battery, Breakwater and Goliath, 'Torry Coo' Foghorn and Lighthouse.

As the descriptions above demonstrate, the character of all of these routes is heavily influenced by industrial and maritime activity. The proposed development is entirely in keeping with this character so the sensitivity of these routes to change has therefore been assessed as low.

3.4.2 Wildlife Watching

In the Aberdeen Local Development Plan 2012, Nigg Bay is classed as a District Wildlife Site (now part of the Balnagask to Cove Local Nature Conservation Site). Nigg Bay, Girdle Ness and Greg Ness are sites where wildlife watching of birds and sea life (such as whales and dolphins) takes place.

The existing harbour mouth is a good location to watch dolphins from the vantage point of the Torry Battery. The RSPB employs two Engagement Officers to run the Date with Nature Dolphinwatch at the Torry Battery during the summer months. Dolphinwatch Aberdeen has been supported by the Aberdeen Harbour's Community Action Fund[12] and the RSPB reported that the 2015 Dolphinwatch, between mid-April and mid-August attracted 5,038 visits[13].

Although it is possible that some tourists who visit Aberdeen make a trip to Nigg Bay to watch wildlife, the majority of users are likely to be local leisure users. This means that any impact on this activity would not affect the local tourism sector.

The fact that there are a number of other Local Nature Conservation Sites in the local area means that Nigg Bay is not a unique leisure resource. For this reason the sensitivity of the Bay as a destination for wildlife watching was assessed as low.

3.4.3 Golf

Balnagask Golf Course is an 18 hole course located on the Balnagask headland to the east of the existing harbour and immediately adjacent to the northern side of Nigg Bay. The Golf Course, which is home to the Nigg Bay Golf Club, is maintained by Aberdeen City Council. A 9 hole pitch and put facility is also located adjacent to the golf course.

Access to the Golf Course would not be affected by the proposed development and so existing leisure users would not be affected. As views over Aberdeen Harbour are already part of the character of Balnagask Golf Course the proposed development would also not change the current character of the Golf Course. For these reasons the Golf Course's sensitivity to change was assessed as negligible. Using the criteria described above this implies that there is no possibility of the proposed development having any significant adverse impact on golfers so this effect is not considered any further.

3.5 Marine Leisure Users

Evidence relating to the number and expenditure of different groups of marine leisure users in the UK is understandably limited. This assessment therefore draws on the best available evidence, highlighting important limitations as appropriate.

Nigg Bay is of potential leisure interest to a variety of marine leisure users including surfers, wind surfers, kayakers and jet skiers. During the course of the wildlife surveys undertaken to support the ES instances of leisure users observed using the bay were also recorded. During these surveys no activity by water sports users was recorded; however, given the implications of the proposed development on the use of the site by marine leisure users it is important that any impacts that the proposed development could have on potential users are explored.

Consultation with local surf groups undertaken to inform this assessment suggests that the physical characteristics of Nigg Bay mean that it is particularly well suited to surfing. The Bay is relatively sheltered from the wind and also has a stone (rather than sand) base, which helps to make wave conditions more predictable. According to local surfers these conditions mean that the Bay is a relatively safe place for surfers.

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[12] http://www.aberdeen-harbour.co.uk/article/dolphin-watch/
[13] http://www.rspb.org.uk/news/details.aspx?id=405763

There are currently two active surf clubs in Aberdeen, the University of Aberdeen Surf Club and the Granite City Surfers. Both of these groups were consulted during the course of preparing this chapter. The club representatives consulted reported that their combined membership was around 300 but suggested that the total number of surfers in the local area was likely to be substantially higher than this because not all surfers choose to join a club.

The Scottish Surfing Federation (SSF) is the representative body for surfing in Scotland. A report published by the SSF in late 2012[14] estimates that there are around 1,500 regular surfers in Scotland who surf more than four times/year and that around 165 of these surfers (11% of the total) may be based in Aberdeen.

The SSF report also estimates that there may be a further 8,500 non-regular surfers in Scotland. Assuming the geographic distribution of these people is similar to the geographic distribution of regular surfers it can be estimated that there may be a further 914 non-regular surfers in and around Aberdeen. This means that the total number of surfers who live in the local area may be around 1,100.

While many of these individuals are likely to use Nigg Bay they are also likely to use other local locations, in particular Aberdeen Beach. The relative popularity of the two locations was explored during the consultation programme.

On the advice of local surfing groups information was sought from Magic Seaweed, a major on-line surf retailer that also provides surf reports and forecasts for various surfing locations across Europe, including Aberdeen Beach and Nigg Bay. The data provided showed that the pages for Nigg Bay and Aberdeen Beach are viewed around 8,190 times/year and that 29% of these views are of the Nigg Bay page. From this it can be inferred that Aberdeen Beach is more than twice as popular as Nigg Bay as a surfing destination[15].

The sensitivity of Nigg Bay as a surfing destination depends largely on how unique the Bay is as a leisure resource and how popular it is with local leisure users. The fact that there is another surfing resource in the local area means that the resource is not unique and there is evidence to suggest that Nigg Bay is not the most popular location for surfing in the City. This suggests that it would be reasonable to assess the sensitivity of the resource as low.

This would however ignore the fact that the physical characteristics of Nigg Bay are very different to the physical characteristics of Aberdeen Beach. Consultation with local surfing groups suggests that the nearest surfing location with comparable physical characteristics to Nigg Bay is Gills Bay on the north coast of Scotland. For this reason the sensitivity of Nigg Bay as a surfing location was assessed as medium.

3.5.1 Surfing Related Expenditure at Nigg Bay

In order to assess the potential economic effects associated with surfing related expenditure it is necessary to have some evidence on the value of surfing related expenditure in the local economy. Such evidence is limited; however, the best

[14] The Scottish Surfing Federation, *Scottish Marine Recreational Resources: Assessment of the Sport of Surfing within Scottish Waters,* 2013

[15] Although this evidence is the best available it should be treated with some caution as anecdotal evidence suggests that Aberdeen Beach is by far the most popular surfing destination in the local area.

available source is a report published in 2013 by Surfers Against Sewage (SAS)[16].

Some caution is required in applying the conclusions of this report for the following reasons:

- the report was commissioned by an environmental charity that is heavily engaged in numerous campaigns to protect the interests of surfers. It cannot therefore be considered unbiased;
- the report is based on a self-selected survey conducted largely via social-media and is therefore likely to reflect the views and expenditure patterns of keen, regular surfers rather than surfers as a whole (most of whom participate in the sport irregularly); and
- the report is based on a sample size of 2,159 people, the vast majority of whom are based in Devon, Cornwall and other parts of the south coast of England. Less than 0.5% of respondents, corresponding to around 9 individuals, were based around the Moray Coast (the closest geographical region in the report to Aberdeen).

Despite these caveats this report represents the best available evidence on the expenditure patterns of surfers in the UK. For the reasons highlighted above however, the expenditure estimates derived from this source should be treated with some caution and the impacts derived from it regarded as a cautious over-estimate.

The SAS report that suggested that on average, surfers from the Moray Firth area spend £1,662 per year on surfing (on surfing equipment, car parking, food and drink and local shops). By multiplying this by the number of regular surfers in Aberdeen (estimated at 165 in section 3.5) it was estimated that the total annual expenditure of regular surfers in Aberdeen could be around £274,000.

The annual expenditure estimate produced by SAS was based on the average annual expenditure of a self-selected sample of surfers so it is likely that that it reflects the expenditure of regular surfers (who would be more likely to respond) rather than the ‘average’ surfer. For this reason it is reasonable to expect that the annual expenditure of occasional surfers would be less than this. In order to estimate the expenditure of occasional surfers in Aberdeen it was therefore assumed that occasional surfers might spend around half the amount of regular surfers each year (i.e. £831).

In section 3.5 it was estimated that there might be 914 occasional surfers in Aberdeen. By multiplying this by an estimated annual expenditure of £831 it was estimated that occasional surfers in Aberdeen might spend around £760,000 per year. This implies that the combined annual expenditure of regular and occasional surfers in Aberdeen could be just over £1.0 million. This estimate does not however account for leakage of expenditure out of the local economy.

Consultation with local surf groups indicates that there is one dedicated surfing shop in Aberdeen and that most surfers purchase the majority of their equipment on-line, much of it from on-line retailers such as Magic Seaweed (which is based in Devon). To estimate the amount of surfing related expenditure retained within Aberdeen it was therefore assumed that leakage might account for around 75% of

[16] Surfers Against Sewage (October 2013), the economic impact of domestic surfing on the UK

total expenditure. This suggests that the total amount of surfing related expenditure retained in Aberdeen City and Shire could be around £256,000.

As highlighted in the previous section Nigg Bay is one of two surfing locations in Aberdeen. By using the number of page views of each location as an indication of the relative popularity of each site it was possible to estimate that the surfing related expenditure directly associated with Nigg Bay could be in the region of £74,700/year (i.e. 29% of total expenditure of £256,000). As highlighted above however, anecdotal evidence suggests that Aberdeen Beach is by far the more popular of the two surfing locations so this is likely to be an overestimate.

4 IMPACT ASSESSMENT

This section considers the magnitude of potential socio-economic, tourism and leisure effects associated with the proposed development.

4.1 Economic Effects

The potential socio-economic effects associated with the proposed development include:

- temporary, beneficial effects generated by additional expenditure made during the construction phase; and
- permanent, beneficial effects associated with any increase in economic activity that could occur as a result of the proposed development.

The permanent beneficial effects could include:

- direct and indirect impacts associated with any increase in activity of Aberdeen Harbour Board including its expenditure on supplies and the expenditure of its staff;
- direct impact of other businesses located within the Harbour and the indirect impact of the expenditure of their staff;
- the direct and indirect impact of tourism expenditure generated by cruise ships visiting Aberdeen Harbour;
- the direct impact of Harbour related logistics activity based outside the Harbour and the indirect impact of the expenditure of people employed by these businesses;
- the direct impact of new industrial development associated with the Harbour and of the expenditure of people employed in these developments; and
- the direct impact associated with oil and gas activity in Aberdeen City and Shire supported by the Harbour and of the expenditure of employees whose jobs are supported by this activity.

The method used to estimate all of these impacts and the assumptions used to do it are described in detail in the technical appendix. The technical appendix also provides a break-down of the total impact by source. The results of the analysis are presented below.

4.1.1 Construction Phase

It is expected that the proposed development would require a total capital investment of £320 million (at current prices). Around £2 million of this investment would be associated with roads infrastructure. This element of the investment could help to stimulate commercial development in the surrounding local area but would not be directly attributable to the proposed investment and as such is included as part of the cumulative impact assessment considered below. The construction impact of the proposed investment is therefore that which would be associated directly with the £300 million investment in harbour facilities.

Section 7.2.2 of the technical appendix to this report describes how this impact was estimated. It concludes that the construction of the proposed development could:

- support 1,215 years of construction related employment in Scotland, of which 175 could be in Aberdeen City and Shire; and
- generate £74 million GVA for the Scottish economy, of which £11 million could be retained within Aberdeen City and Shire.

The magnitude of these impacts for the Scottish and regional economy would be low; however, the impact at the local level could be higher.

It is not possible to accurately assess how much of the economic impact could accrue within the local area but it is likely that that people in the local area would benefit disproportionately from new employment opportunities. This is because while Aberdeen as a whole has a very tight labour market, the local area has higher levels of unemployment, which would make it easier for contractors to recruit local labour.

The nature of the construction activity involved in creating the proposed development is likely to be highly specialised. This suggests that any new employment opportunities created could be relatively skilled. For these reasons the magnitude of this impact at the local level was assessed as medium.

This implies that the temporary construction impact associated with the proposed development would be negligible at the national level but that it could generate a temporary, minor beneficial effect at regional level and a temporary moderate beneficial effect at the local levels. This effect would therefore be significant at the local level but not the national or regional level.

4.1.2 Operational Phase

The magnitude of the operational economic effects was assessed by considering the scale of the net additional economic impact that Aberdeen Harbour could generate if the proposed development proceeds. This was estimated by subtracting the potential economic impact of the Harbour in 20 years time if the proposed development does not proceed (the reference case) from the potential economic impact of the Harbour in 20 years time if the proposed development does proceed.

The assumptions used to estimate these two scenarios are discussed in detail in section six of the technical appendix, which also provides a break-down of the impact by source. This estimates that in 20 years time the proposed development could be:

- supporting an additional 3,020 jobs, of which 2,470 could be in Aberdeen City and Shire; and
- contributing an additional £383 million GVA/year to the Scottish economy, of which £354 million GVA/year could be retained within Aberdeen City and Shire.

This implies that over the full 20 year development period the new harbour could contribute a total of £5.3 billion additional GVA (in today's prices) to the Scottish economy. It is estimated that almost £5.0 billion of this could be retained within Aberdeen City and Shire.

The magnitude of this effect would be medium at the national level and high at the regional and local level. This implies that the proposed development could generate a permanent, minor beneficial effect at the national level and a permanent, moderate beneficial effect at regional and local levels. This effect would therefore be significant at the regional and local level but not the national level.

4.2 Tourism and Leisure Effects

The potential tourism and leisure effects associated with the proposed development include:

- temporary, adverse effects on terrestrial tourism and leisure users during the construction phase as a result of temporary obstruction of paths and roads around the boundary of the site.
- permanent adverse effects on terrestrial tourism and/or leisure users as a result of the diversion of parts of paths and roads around the boundary of the site.

Either of these effects could affect:

  - tourists using the national cycle route one, the EuroVelo 12 Route or the North Sea walking route; or
  - local leisure users using the Core Path 78, one of the walking walks around Torry or seeking access to the area for leisure and recreation.

- permanent, adverse effects on local leisure users who come to the local area for wildlife watching;
- permanent beneficial effects on the regional tourism industry as a result of an increase in the number of cruise passengers visiting the area;
- permanent, adverse effects on marine leisure users as a result of restrictions in access and use of Nigg Bay; and
- permanent, adverse effects on the local economy as a result of a reduction in expenditure by marine leisure users.

Each of these potential effects is considered below.

4.2.1 Diversion of Paths and Routes

The proposed development would require parts of the core path to be permanently diverted. The diversions would apply to the section of the path that currently runs along the northern edge of Nigg Bay and to a section of the path that runs along the east facing side of the Bay. The proposed development would also require the relocation of the public car park currently located off the east facing side of the bay.

Although it will be necessary to reroute part of the path and relocate the public car park the developer is fully committed to maintaining access to the shore for recreational users. There will therefore be no permanent loss of amenity for dog walkers or other terrestrial leisure users. The developer is also anticipating undertaking some amenity improvements to areas of the site where amenity use will be interrupted, which should help to improve the amenity value of the area for leisure users in the longer term. For this reason the magnitude of this impact during the operational phase would be negligible.

It is however likely that there would be some loss of amenity during the construction phase while the path and car park are being re-routed/re-located. As this effect would only apply to sections of the path and would not obstruct recreational use of the area as a whole the magnitude of the impact was assessed as medium. This implies that the overall significance of this effect would be minor and therefore not significant.

4.2.2 Wildlife Watching

The magnitude of any effect on wildlife watching would depend on the extent of any effect on wildlife in Nigg Bay. The effects of the proposed development on wildlife are assessed in the biological sections of the Environmental Statement.

As Nigg Bay is only one of a number of locations within the local area from which it is possible to watch wildlife however, even a significant adverse effect on wildlife in this area is unlikely to have a significant effect on wildlife watchers. Rather it is likely that local wildlife watchers would instead choose to pursue their hobby from an alternative location in the local area. For this reason the magnitude of this effect was assessed as low, which implies that the overall significance of the effect would be negligible.

4.2.3 Cruise Tourism

Aberdeen Harbour currently welcomes around 15 cruise ships each year. Section 5.3.2 of the technical appendix quantifies the current economic impact of the expenditure generated by these ships and their passengers and crew. It estimates that this expenditure currently amounts to around £150,000 per year and that this expenditure generates around £35,000 GVA for the Scottish economy and supports 1 permanent job.

Aberdeen Harbour Board expects that the new harbour at Nigg will enable it to attract between 30 and 40 cruise ships each year. The new harbour will also enable much larger ships to visit. If the proposed development proceeds as planned then in 20 years time the expenditure generated by these ships and their passengers and crew could amount to around £4.4 million/year across Scotland (of which around £3.9 million could be retained in Aberdeen City and Shire). This represents an increase in turnover of around £4.2 million for the regional tourism industry each year.

The economic impact of this expenditure is considered in section 7 of the technical appendix to this report. This estimates that this expenditure could generate around £0.7 million GVA for the regional economy and support around 30 new jobs. This impact was included as part of the overall economic impact of the proposed development considered in section 4.1.2 but this did not consider the wider effects that this could have on the local and regional tourism sector.

The magnitude of this effect at the national level would be negligible and even at the regional level the creation of 30 new jobs would be a low impact compared with the scale of the regional tourism sector. For individual tourism businesses in the local area however the effect could be high. This implies that the proposed development could generate a moderate beneficial effect for local tourism businesses as a result of an increase in the number of cruise ships visiting the City. This effect would be significant.

4.2.4 Restriction of Marine Leisure Uses

If the proposed development proceeds then marine leisure users would no longer be allowed access to the water at Nigg Bay, which would prevent marine leisure users from pursuing their hobby in this area. There will therefore be a permanent adverse effect on marine leisure users who use the Bay.

The magnitude of this impact would depend on the availability of other locations within the local area that could be regarded as suitable alternatives. As discussed in section 3.5, Aberdeen Beach is also used for surfing and other marine leisure activities and there is evidence to suggest that it is the more popular of the two local surfing locations. For this reason it is reasonable to conclude that for the majority of marine leisure users the magnitude of this effect would be negligible .

It is however possible that a minority of users have a strong preference for Nigg Bay and would not regard Aberdeen Beach as a suitable alternative. As discussed in section 3.5, the nearest comparable alternative location for these users is likely to be Gills Bay on the north coast. This location is around 5 hours from Aberdeen by road, which would be a considerable inconvenience for anyone wishing to use it as an alternative to Nigg Bay. For this reason the magnitude of this effect on these users was assessed as medium.

As the number of marine leisure users who would not regard Aberdeen Beach as an acceptable alternative to Nigg Bay is likely to be very small the overall magnitude of this effect on the surfing community as a whole was assessed as low. This implies that the overall significance of this effect would be minor and therefore not significant.

4.2.5 Reduction of Expenditure by Marine Leisure Users

As discussed above it is likely that if the proposed development is approved then most if not all of the marine leisure users who currently use Nigg Bay would simply choose to use Aberdeen Beach or another location in the wider region. There is therefore no reason to expect that the expenditure of most users would change.

It is however possible that a small number of users might instead choose to give up the sport or even leave the area altogether. The number of people choosing these extreme options is however likely to be extremely small. If this were to occur then this would have an adverse impact on the local economy as a result of a reduction in expenditure.

In section 3.5.1 it was estimated that the total surfing related expenditure associated with Nigg Bay that is retained in Aberdeen City and Shire might amount to around £74,700/year. This includes expenditure by both the vast majority of surfers who would be expected to use another location and the small minority who would not. As it is not known how many surfers may take this extreme position, the approach taken by this assessment was to consider the worst case scenario where all of this expenditure might be lost entirely – i.e. all of the surfers who may currently consider using Nigg Bay stop surfing in Aberdeen entirely. It is however important to emphasise that this scenario is extremely unlikely.

Using the same approach and assumptions used to estimate the impact of cruise tourism expenditure above it can be estimated that the direct and indirect impact of this expenditure might support around 1 job and £25,800 GVA within the local economy. For the reasons discussed in section 3.5.1, this estimate is likely to be an overestimate. Even under the worst case scenario where all of this expenditure might be lost (which is highly unlikely) the magnitude of the effect on the local economy would be negligible and therefore not significant.

It is also worth highlighting that even in this worst case scenario any reduction in expenditure by surfers would be more than offset by the substantial increase in tourism related expenditure anticipated as a result of the increased number of cruise vessels expected to visit Aberdeen.

4.3 Mitigation and Enhancement

The only significant adverse effect identified in this assessment would be a permanent, moderate adverse effect on a very small number of marine leisure users as a result of restrictions in access associated with the proposed development. There are no reasonable steps that could be taken by the developer that would help to mitigate this effect. The assessment has however identified a number of potential beneficial effects so it is reasonable to consider how these effects could be enhanced.

These effects would all arise as a result of additional expenditure made by the applicant, appointed contractors and their employees during the construction phase. The magnitude of these beneficial effects in the local area and wider region will depend on the proportion of expenditure that occurs in these areas so in order to maximise these beneficial effects the applicant would need to take steps to ensure that local businesses secure as high a proportion of available contracts as possible.

The applicant's ability to do this will be limited due to European procurement rules; however, such steps are likely to be limited to engaging with local businesses to ensure that they are aware of and know how to find out about new business opportunities. This could be achieved by participating in supplier engagement events that give interested businesses the opportunity to meet the applicant and key suppliers.

Other beneficial effects of the proposed development could arise as a result of increased cruise ship activity at the Harbour. The consultation programme undertaken to support this assessment also suggests that there may be other opportunities to increase the tourism benefits associated with the Harbour. For example there is an appetite within the local area to encourage tourism events such as the Tall Ships Race to visit Aberdeen and there may also be opportunities to encourage yacht based tourism in the city.

In the past these opportunities have not been practical because of space constraints within the existing harbour and incompatibility with other operational requirements. It is however likely that the proposed development would help to ease these pressures and make realising these opportunities more realistic. In order to achieve this close collaboration would be required between Aberdeen Harbour Board, the City Council and local tourism bodies.

4.4 Residual Effects

The significant residual effects identified by this assessment include:

- a temporary, moderate beneficial effect on the local area generated by additional expenditure made during the construction phase;
- a permanent, moderate beneficial effects at the regional and local level associated with any increase in economic activity that could occur as a result of the proposed development; and

- a permanent moderate beneficial effect for local tourism businesses as a result of an increase in the number of cruise ships visiting the City.

4.5 Cumulative Effects

This assessment has identified two potential cumulative effects that could be associated with the proposed development:

- a permanent beneficial effect that could arise as a result of additional commercial development that could be stimulated elsewhere in the local area by the proposed development; and
- a permanent adverse effect that could arise if the combined effect of the proposed development on different groups of leisure users resulted in a significant reduction in the quality of life available in the local area.

4.5.1 Industrial Development Opportunity

If the proposed development proceeds then this could help to stimulate wider commercial development in the local area. The potential effects of this enhanced development scenario are considered in the technical appendix.

This estimates that if the proposed development proceeds and complementary investment is also made in the surrounding roads infrastructure then in 20 years time Aberdeen Harbour could be contributing a net benefit of £2.0 billion GVA to the Scottish economy and supporting 15,510 jobs. This could include £1.8 billion GVA and 12,355 jobs in Aberdeen City and Shire.

This represents a *net additional* impact of £897 million GVA/year to the Scottish economy and 7,165 Scottish jobs (£794 million GVA/year and 5,555 jobs for Aberdeen City and Shire). This implies that over the full 20 year development period the proposed development could contribute a total of £13.5 billion additional GVA (in today's prices) to the Scottish economy. It is estimated that almost £12.0 billion of this could be retained within Aberdeen City and Shire.

The magnitude of this cumulative effect would be high at the national level and very high at the regional and local levels. This implies that the proposed development could generate a permanent, moderate beneficial effect at the national level and a permanent, major beneficial effect at regional and local levels. This effect would therefore be significant at the national, regional and local levels.

4.5.2 Quality of Life

The quality of life available in a local area helps to attract and retain highly skilled workers, which makes it an important and widely recognised driver for long-term economic prosperity. The availability of high-quality leisure resources within an area contributes to overall quality of life so the loss of such resources could ultimately have adverse economic consequences. The second potential cumulative effect of the proposed development could arise if the combined effect of the proposed development on different groups of leisure users were to significantly reduce quality of life in the local area.

The extent to which this might occur would depend on the availability of alternative leisure resources in the local area. As discussed elsewhere in this chapter there are alternative leisure resources available for each group of users within the local area. The magnitude of this effect was therefore assessed as low, which implies that it would not be significant.

4.6 Summary

The main conclusions of this report are that, if approved, the proposed development would help Aberdeen to maintain its competitive position in the global oil and gas sector and enable Aberdeen Harbour to take advantage of new and emerging opportunities in areas such as decommissioning and off-shore renewables. This could generate a significant moderate permanent beneficial effect on the local and regional economies. Once operational the proposed development could also generate a permanent moderate beneficial effect for local tourism businesses as a result of an increase in the number of cruise ships visiting the City.

If simultaneous investment were to be made in the transport infrastructure around the site then the proposed development could also help to stimulate wider commercial development in the local area. If this were to occur then the economic impact of Aberdeen Harbour could be substantially higher. These effects were considered as part of the cumulative impact assessment, which concluded that the proposed development could have a major, permanent beneficial cumulative effect on the local and regional economies and a moderate, major, permanent beneficial cumulative effect on the national economy.

The proposed development could also generate a significant moderate temporary beneficial effect on the local economy during the construction phase. This effect could be particularly beneficial for unemployed people living in the immediate local area who may benefit from temporary labouring opportunities created by the proposed development.

This assessment has not identified any significant adverse effects associated with the proposed development. The only notable adverse effect could arise as a result of restrictions in access and use of Nigg Bay, which could result in a permanent, adverse effect on some local marine leisure users. It is however important to emphasise that this effect would only apply to marine leisure users who do not regard Aberdeen Beach as an acceptable alternative to Nigg Bay and the number of such users is likely to be extremely small. This effect would not be significant in EIA terms from either a recreational or an economic perspective.