

Hunterston Master Plan

Consultation Draft

May 2019

More than Ports



Contents

Foreword	4
Executive Summary	6
1.0 Introduction	10
2.0 Context	14
3.0 Business Vision	16
4.0 Socio-Economic Study	20
5.0 Planning, Transport & Marine Policy	60
6.0 Environmental Considerations	70
7.0 Transportation	94
8.0 Stakeholder Engagement	98
9.0 Implementation & Review	104
Glossary	106
Appendix	108



Foreword

The term ‘unique’ is often overused but in Hunterston’s case it is wholly appropriate. No other single site in the UK offers Hunterston’s unrivalled combination of deep-water, extensive land area (300-acre brownfield site) and transport links.

As such, this historic industrial site has the potential to transform Scotland’s prospects in a variety of key economic sectors, providing jobs, skills development, import and export opportunities for decades to come.

Hunterston is owned by Peel Ports Group, one of the largest port operators in the UK handling over 70 million tonnes of cargo annually. Our network also includes the Port of Liverpool, Manchester Ship Canal, Port of Heysham, London Medway at Sheerness, Great Yarmouth Port and MTL Dublin.

In recent years, the government has changed its preferred energy policy from fossil fuels towards renewable resources. The result is Hunterston Port’s role, as a major importer of coal was previously burnt in Scottish power stations, is now obsolete.

Therefore, it is our responsibility to set out a new strategy for the port. Several years of preparation have led us to propose a Master Plan that outlines a viable and sustainable transformation over the coming 20 years.

Indeed, we now refer to Hunterston Port as Hunterston Port and Resource Centre (PARC), highlighting the much broader purpose that is now central to the site’s future.

Hunterston PARC has the potential to be the major employer and driver of business growth in the North Ayrshire region, as well as being a nationally important infrastructure asset. To that end, we have engaged with North Ayrshire Council, Scottish Government, Scottish Enterprise and many businesses in the course of preparing this Master Plan. We would like to thank them all for their guidance and feedback.

This collaboration must continue. The intended benefits that we have set out can only be achieved with the input of the local community, public sector agencies and commercial partners. These benefits will be realised over many years to come.

Please spend some time reading and commenting on this Master Plan. Your comments are important to us and will help us to create a final version that reflects the shared ambitions of the people who live, work and invest in North Ayrshire.



Andrew Hemphill
Port Director, Peel Ports Clydeport

Executive Summary

Hunterston

Introduction

Hunterston Port and Resource Centre (PARC) is nationally significant industrial and transport hub which is capable of supporting over **1,700 jobs** and adding over **£140m in economic value to Scotland**.

In recent years, the change in Government energy policy away from fossil fuels towards renewable sources has meant there is no longer a role for Hunterston as a major import terminal for coal.

Hunterston PARC now has the potential to transform Scotland's prospects in a variety of key economic sectors, providing jobs, skills development and import and export opportunities for decades to come. It can also support the recently announced Ayrshire Growth Deal, which will see new investment in the area.

The Master Plan process

The Master Plan describes our vision for the site and some of the critical issues we need to consider. We have prepared the Master Plan using the "Guidance on the Preparation of Port Master Plans" which was published by the Department for Transport (DfT) in December 2008.

The guidance is such that that there is no requirement for a port to produce a Master Plan and furthermore it is for the port to determine its legal obligations to do so. The status of a Master Plan is non-statutory.

The main purposes of a Port Master Plan are to:

- clarify the port's own strategic planning for the medium to long term;
- assist local planning bodies and transport network providers in preparing and revising their own development strategies; and
- inform port users, employees and local communities as to how they can expect to see the port develop over the coming years.

A Master Plan does this by setting out:

- how the port expects to grow and develop its business over time;
- where changes of land use are likely to be required to support growth areas;
- what environmental measures will be taken to ensure that adverse effects are mitigated and that as far as reasonably possible the port makes a positive contribution to environment and amenity;
- how people will be consulted both within the master planning process itself and beyond
- how the port's development plans integrate with, support and inform the regional and local economic, transport and planning policy context.

The local challenge

The long term decline in population and jobs in North Ayrshire has the potential to undermine future economic prosperity, particularly in the context of an ageing population.

Economic development through schemes such as Hunterston PARC is likely to be crucial, both in bringing jobs back to North Ayrshire and also by encouraging working age migration into the area. This in turn will help to maintain and boost the viability of local services such as schools, GP surgeries and retail centres. The relatively high level of unemployment, low economic activity rates and net out-commuting across the occupations also suggest that there is scope for greater utilisation and retention of the existing resident workforce.

North Ayrshire's declining population is likely to make delivering even the relatively modest forecast for **1,050 jobs** (Oxford Economics Local Authority District Forecasting Model) over the next 10 years a challenge.

Without population growth, unemployment rates will need to fall below historic lows, and net commuting will need to improve either by convincing Glasgow City Region-bound workers to move to local jobs or encourage more in-commuting from GCR (which itself raises issues of environmental sustainability).

The opportunity

The priority afforded to Hunterston in national policy places it at the forefront of Scotland's strategy to be a major contributor to a low carbon, circular economy.

The development of Hunterston PARC can also directly contribute to several Scottish Government policies and strategies:

- Investing in people and infrastructure
- Innovation
- Internationalism
- Energy generation
- Support for the circular economy

At a regional level, the recently announced Ayrshire Growth Deal – funded by both the Scottish and UK governments - is expected to act as a major economic stimulus, which the PARC is ideally positioned to support.

Identified potential examples for uses at Hunterston PARC can be found at the back of this document in an illustrative plan.

The environment

Environmental considerations relating to the current and potential future operations at Hunterston PARC are very important. As a statutory harbour authority, licensing authority and landowner, Peel Ports has environmental duties laid out in statute. Government policy also requires harbour authorities to strike an appropriate balance between the long-term protection of the environment and securing of sustainable economic growth.

Environmental considerations form key elements of regulatory applications through formal environmental assessment, with mitigation measures often secured through imposition of planning or Marine Licence conditions.

In discharging its roles, Peel Ports remains committed to its continuing compliance with all applicable environmental legislation, other relevant requirements in the pursuit of its duties and powers

and will take these fully into account in its actions and decisions.

This will be done alongside its pursuit of the sustainability objectives established by the Government. The Master Plan identifies a range of environmental issues that could form the basis of a formal Environmental Impact Assessment process this is dependant on the nature of the project.

Transport

The success or otherwise of a port is inextricably linked to the ability for freight to be moved in a congestion free and efficient manner. Therefore, port access routes (be they road, rail or coastal shipping) are of paramount importance. We would seek to maximise sea freight and rail freight mindful of potential HGV traffic generation.

The choice of transport mode is principally driven by commercial factors. However, there are other determinants for some supply chains that include reliability and speeds and minimising carbon emissions as some transport modes are more sustainable than others.

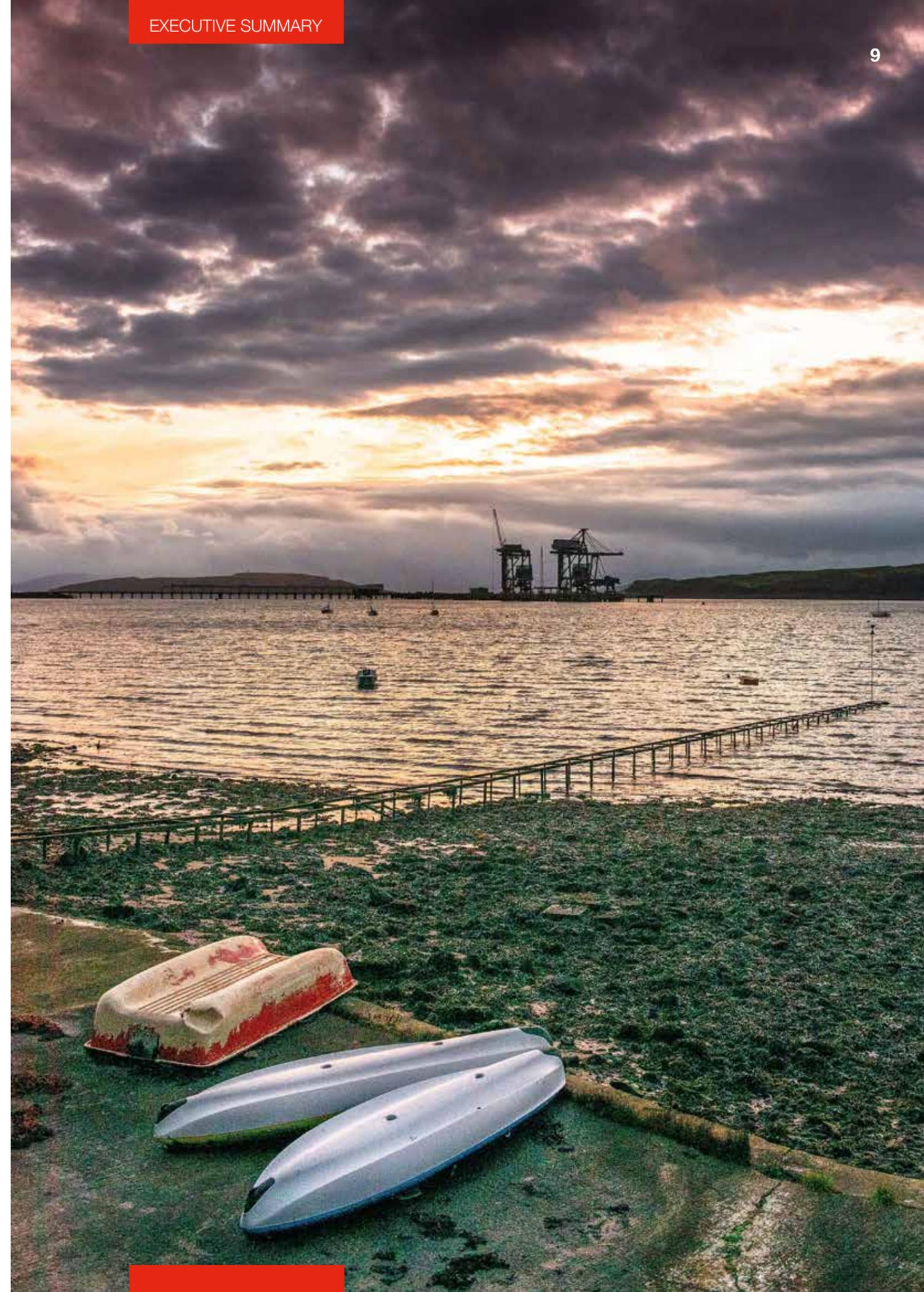
Have your say

As an overarching principle we welcome active liaison and discussion with all stakeholders. We are mindful that there can sometimes be differences of opinion or approach but this should not be to the detriment of continual and open dialogue.

The guidance we have followed in preparing this Master Plan advises an effective master plan is achieved through engagement with interested parties, including local and regional planning bodies and transport network providers, both during the master planning process and once the Master Plan has been published as an adopted version.

This has been proven to be effective in our Master Plans for Mersey Ports and the Port of Sheerness.

We encourage all residents, businesses and other stakeholders with an interest in the economic future of North Ayrshire to contribute to our consultation.



1.0 Introduction

PEL PORTS GROUP
Hunterston

Introduction

- 1.1 Hunterston Port and Resource Centre (PARC) is on the West Coast of Scotland in North Ayrshire. The port handled a peak volume of 10.3 million tonnes of coal in 2005.
- 1.2 In recent years its primary trade of coal imports has diminished to zero as legislation and aged power stations, such as Longannet, have made the use of coal for energy production prohibitive.
- 1.3 In more recent times, the port has been looking towards further opportunities with the Marine Yard being utilised as an onshore wind turbine test centre. The two turbines are now in the process of being removed.
- 1.4 The site is currently being remediated and the time frame for the removal of obsolete equipment is predicted to be completed by 2020.
- 1.5 In the past 40 years, freight traffic through UK ports has increased by 75% with some 95% of total UK freight being handled through UK ports. This freight traffic is predicted to rise further still, accompanied with an overall increase in investments by the ports sector into extending and building infrastructure to support growth.
- 1.6 The essential role of ports in the Scottish economy is highlighted within the National Planning Framework 3. As Scotland is part of an island economy, there are limited alternatives available to sea transport when it comes to the international movement of freight and bulk commodities.
- 1.7 National Planning Framework 3 was published in 2014 and identified that Hunterston was an area that required co-ordinated action for industrial and employment use, with the key assets of the site being a driver for future developments.
- 1.8 The Master Plan describes our vision for the site and some of the critical issues we need to consider. We have prepared the Master Plan using the “Guidance on the Preparation of Port Master Plans” which was published by the Department for Transport (DfT) in December 2008. The guidance is such that there is no requirement for a port to produce a Master Plan and furthermore it is for the port to determine its legal obligations to do so. The status of a Master Plan is non-statutory.
- 1.9 The credibility of a Master Plan is significantly enhanced through consultation and engagement with local stakeholders.
- 1.10 The main purposes of a Port Master Plan are to:
- clarify the port’s own strategic planning for the medium to long term;
 - assist local planning bodies and transport network providers in preparing and revising their own development strategies; and
 - inform port users, employees and local communities as to how they can expect to see the port develop over the coming years.

- 1.11 A Master Plan does this by setting out:
- how the port expects to grow and develop its business over time;
 - where changes of land use are likely to be required to support growth areas;
 - what environmental measures will be taken to ensure that adverse effects are mitigated and that as far as reasonably possible the port makes a positive contribution to environment and amenity;
 - how people will be consulted both within the master planning process itself and beyond
 - how the port's development plans integrate with support and inform the regional and local economic, transport and planning policy context.
- 1.12 The Master Plan is not an application for planning permission and will not in itself grant approval for any works. The Master Plan provides a framework for setting out the ports' medium and long term aspirations. It will also assist in informing the consideration of projects and planning applications made as and when necessary.
- 1.13 It is our intention to submit planning applications, Harbour Orders and any other regulatory permissions as and when required. All proposals will be subject to full and appropriate appraisal, including in respect of the Town and Country Planning (Environmental Impact Assessment) Regulations Scotland 2017
- 1.14 The responsibilities of Peel Ports are restricted to the areas of land which they own and operate for port purposes. Clydeport Operations Limited, also within the Peel Ports group is the Statutory Harbour Authority responsible for the harbour, pilotage and conservancy matters for 450 square miles of the River Clyde.

- 1.15 The eastern limit of the Port of Clydeport is Albert Bridge in the City of Glasgow.
- 1.16 The southern limit of the port is from Corriegills Point close to Brodick on the east side of the Isle of Arran to a position south of Lapock Rock (approximately mid-way between the harbours of Troon and Irvine) on the mainland.
- 1.17 The western limit is from the north west coast of the Isle of Arran to the cost of Kintyre.
- 1.18 Following the Master Plan consultation process, all written comments submitted will be collated and analysed and a report will be prepared summarising the issues raised in a Statement of Community and Stakeholder Involvement and Consultation document. Following a review of feedback, it is anticipated that the final Master Plan will be published within 12 months from the end of the consultation period. This consultation period will be for 6 weeks from May 2019 to June 2019 and will be subject to review every five years.
- 1.19 From a policy perspective, Peel Ports will continue to work closely with agencies and local authorities to ensure that the importance of the ports and maritime sector and their continued success are fully enshrined within the planning, transport, marine and economic development policies at national and local levels.
- 1.20 Relevant representations have also be made to North Ayrshire Council's emerging Local Development Plan 2, anticipated Autumn 2019, to ensure any proposed development within the Master Plan is supported by local planning policy.



2.1 In September 2003, Hunterston Terminal (forming part of Clydeport) became part of the Peel Ports Group, one of the largest port operators in the UK handling some 70 million tonnes of cargo annually. Peel Ports' interests also include the Port of Liverpool, Manchester Ship Canal, the Port of Heysham, Great Yarmouth, the Port of Sheerness and a container terminal in Dublin.

A History

2.2 Hunterston Port on the Ayrshire Coast was initially identified in 1968 as a site which could provide an ore-importing terminal to service the iron and steel industry. It was adjacent to naturally deep-water of 80 feet and had large intertidal sandbanks which were able to be reclaimed to provide the necessary flat land. The proposals were to reclaim 605 acres of these sands for an ore stockyard and to construct a 4,500 foot long jetty into the natural deep water. This did not require dredging, saving on a potential maintenance expense.

2.3 It was determined that the natural deep water and the ability to approach the terminal's jetty would negate extensive manoeuvring and in suitable conditions it would also render tugs unnecessary for the majority of vessel movements.

2.4 The nationalisation of the steel industry in 1968 meant that the recommendations to build at Hunterston were not immediately actioned and the approval for the iron ore terminal was not granted until December 1970 by the Secretary of State. Clyde Port Authority obtained a parliamentary order for the marine works in November 1973 and work began in April 1974.

2.5 When built, Hunterston Ore Terminal was one of the deepest water ore/coal terminals in the world and it was primarily used to supply the needs of the British Steel Corporation's Scottish works. It was directly linked by rail to the large integrated Ravenscraig Steelworks in Motherwell some 40 miles inland.

2.6 At the north of the site, a lagoon and bird sanctuary were developed to accommodate the wildlife. A long conveyor belt and twin cranes were built to serve the ships laden with ore and coal. To the south another conveyor was built, this time crossing the re-aligned A78, and this made its way up to the railway to serve the large loader unit.

2.7 When the terminal was built it was intended to handle iron ore for British Steel servicing the Ravenscraig Steelworks. Ravenscraig closed in 1992 and British Steel became Corus. Eventually the site was sold to Clydeport, which was also private by this point. Clydeport was then purchased by Peel Ports in 2003.

2.8 Hunterston Marine Yard represents a key opportunity within the Master Plan, covering an area of 100 acres of reclaimed coastline on the site of the former Poteath or Gull's Walk and Poteath Cottage. The Hunterston Construction Yard was constructed in the 1970's by infilling onto Hunterston and Southannan Sands.

2.9 Accesible from all waters of the UK Continental Shelf (UKCS) the site includes a 230m x 130m dry dock, capable of accommodating large floating assets. The yard has previously been used to build oil platforms between 1978 and 1983, a Trident dry dock between 1988 and 1993 and a Gravity base Tank between 1993 and 1996. The Marine Yard has planning permission for marine related construction and decommissioning.

The future

2.10 The development of Hunterston PARC can directly contribute to several Scottish Government policies and strategies.

2.11 Firstly, it can support three priorities in Scotland's economic strategy:

- 'Investing in our people and infrastructure' – with an extra 400-600 jobs created and new facilities for material handling and power generation;
- 'Innovation' – with investment in new ways to reuse and recycle our resources and the establishment of a site on which entrepreneurs will co-locate and collaborate;
- 'Internationalism' – with the creation of facilities for foreign investors in value-adding processing of product (targeted for export as well as domestic markets) and the increase in trade arising from new facilities in Scotland's only deepwater port facing the Americas.

2.12 Secondly, it can contribute to the Draft Scottish Energy Strategy through investment in renewable energy generation, and also better use of power with the co-location of generators with high energy use businesses.

2.13 Thirdly, it can support Scotland's circular economy strategy 'Making Things Last', especially the fourth priority area – energy infrastructure – with the decommissioning of oil and gas structures in the redeveloped Hunterston dry dock. However, it can also contribute to the strategy through re-use with the location of on site waste management recycling specialists, and that will help Scotland capture the value of the metal that it currently exports and then re-imports.

2.14 At a regional level, the recently announced Ayrshire Growth Deal – funded by both the Scottish and UK governments - is expected to act as a major economic stimulus, which the PARC is ideally positioned to support.

2.15 Nationally, the site is identified in the UK Government's 'Maritime 2050 Navigating the Future' strategy, published in January 2019, as one of only two Scottish port infrastructure projects. This highlights its importance to the country's industrial capabilities.

3.0 Business Vision

Hunterston PARC represents a unique asset: it combines a set of characteristics which are not evident in one place anywhere else in the UK. For this reason, Peel Ports has embarked on a project to fully engage in the development agendas of a number of industrial sectors and of course the Scottish Government.

The Vision

- 3.1 Peel Ports has developed a clear understanding of how Hunterston PARC could once again play a part in serving the economic prospects of North Ayrshire, the West Coast and indeed Scotland as a whole.
- 3.2 This is against a backdrop of long term decline in the population and jobs in the area, which has the potential to undermine future prosperity, particularly with an ageing population.
- 3.3 In contrast to this, the emerging North Ayrshire Local Development Plan 2 and the Ayrshire Growth Deal set a local context for growth that is significantly above trend based forecasts.
- 3.4 Therefore, economic development through schemes such as the PARC is likely to be crucial in bringing jobs back to North Ayrshire and encouraging working age migration into the area. This in turn will help to maintain and boost the viability of local services such as schools, GP surgeries and shops.
- 3.5 At a national level, the priority afforded to the site as a flagship infrastructure asset means it can be at the forefront of Scotland's strategy to be a low carbon, circular economy.
- 3.6 Our ambition is for the site to support industrial growth in Scotland with investment that enables:
- efficient logistics for the resources it uses,
 - smart management and recycling of its assets, and
 - the production of energy to drive new industry on site.
- 3.7 The PARC can become a multi-modal centre for exporting, importing, processing, recycling, and distributing resources that support the economic growth of the North Ayrshire region, Scotland and the UK as a whole.

- 3.8 Given the further decommissioning of the Hunterston nuclear power station, we also see a particular mission for the PARC in:

- transforming Scotland's energy supply
- transforming our use of resources responsibly.

Shaping the future

- 3.9 In achieving the goals set out above, and considering how we pursue them, we have been guided by six principles:
- Make it clean: focus on commodities and technologies of the future
 - Support the circular economy: use our assets to play our part
 - Control risk: diversify the business, for the sake of us and the community
 - Create employment: re-establish a thriving place for the community
 - Exploit our special capabilities: make the most of the PARC's special marine and land assets
 - Address the big challenges: prioritise activity that is valuable to all
- 3.10 We have also considered a wide range of potential facilities and activities for the site. These are discussed in more detail in the next chapter but can broadly be described as follows:
- Bulk handling for importing, processing and distributing dry and liquid bulk cargoes, including aggregates, agri-bulks and liquefied natural gas (LNG)
 - Development of the offshore wind sector
 - Construction for marine and offsite manufacturing projects, from aquaculture to civil engineering
 - Decommissioning vessels and oil and gas structures
 - Materials management to ensure reuse and recycling
 - Power generation from LNG and renewable sources
 - Heat and power generation to support energy-intensive operations
 - Support for target industrial sectors, especially to reduce supply chain carbon emissions

A trio of benefits

3.11 The development of the PARC in the sectors we have identified could provide three benefits for the local and national economy, with consequent benefits for communities and future generations.

Create industrial 'ecosystems' that could unlock economic advantages for businesses and make investments viable

3.12 The combination of planned activities on-site would enable businesses to enjoy lower costs of logistics, energy and production and so construct business models that would otherwise be inaccessible.

3.13 The extensive development footprint, deep water marine area and dry dock could combine to make the PARC an attractive proposition as a campus for the scaled manufacturing and servicing of the next generation of offshore wind assets.

3.14 The governmental and energy sector interest in developing an economic solution for floating wind power generation, and the desire to establish in Scotland a supply chain that can serve this emergent sustainable power source, mean that the PARC could accommodate an eco-system of researchers, fabricators, suppliers, and service companies.

3.15 Furthermore, the marine yard is uniquely combined with substantial set down land, which could make the PARC an attractive proposition for decommissioning oil and gas structures and vessels. Projects become viable when assets can be held until commodity markets peak.

3.16 The decommissioning work could feed waste management and recycling activities on site. There will be limited need for road transportation of materials taken from dismantled vessels or oil and gas structures.

3.17 The reuse of materials – as prioritised in the Scottish Government's Making Things Last strategy – could be provided for with the location on site of businesses associated with this activity. Peel Ports has links with operators in construction and other sectors that value opportunities for reused materials.

3.18 The deep-water berths of the port enables import of LNG and other renewable fuelstocks. These commodities could be used for distribution inland and to fuel onsite power-generation.

3.19 The low cost energy provision envisaged for the site could enable the PARC to attract processors and manufacturers that would otherwise face cost and operational challenges with powering their operations. This could be a route to fulfilling the goal for 'innovative local energy systems' outlined in the 2050 vision in Scotland's 2017 Draft Energy Strategy consultation.

3.20 Peel Ports is already in discussion with prospective PARC tenants from high-value, energy-intensive sectors, such as material processors. Peel Ports intends to explore how electricity and heat generated on site could benefit the local community.

3.21 The processing of imported materials could be supported by the unique berth and quay equipment.

Create a variety of local jobs, including those in skilled and emerging sectors

3.22 The provisional master planning undertaken by Peel Ports has concluded that new employment levels in excess of 1,700 full-time equivalents may be attainable on the site. Given the nature of some of the activity, these positions could extend from plant operatives to clerical workers to engineers in advanced technology.

Allow Scotland to open up new markets

3.23 In many cases, the developments described could enable Scotland to unlock economic opportunities that have previously been unviable.

3.24 For example, the development of a site for scaled manufacturing and assembly of floating offshore wind assets could generate substantial employment (an energy sector estimate indicated that a facility deployed to construct assets for a 500mW floating offshore wind farm would result in 2,000 to 3,000 new jobs).

3.25 Similarly, the development of an arc furnace on site (as a result of the link with the PARC's power generation and decommissioning activity) could help Scotland address the annual export of 700kt of scrap metal and reimport of steel products. The site can help keep the 'value add' industries in this country.

3.26 The rail, road and sea links of the site are attractive to manufacturers and processors who look to use the West Coast as a hub from which they would distribute to the rest of the UK and Europe.

3.27 Goals related to reuse and recycling, as set out in the Scottish Government's strategy for the circular economy, would be supported through the intended inclusion of waste management activities on a site adjacent to industry and power generation.

3.28 The use of the dry dock in combination with the extensive set down land means that the loss of projects to other countries (e.g. Turkey) to dismantle assets that have been used in offshore oil and gas production could be reversed.

3.29 With the Scottish taxpayer to fund decommissioning projects, the PARC enables more of the value from material reuse and recycling to be kept on Scottish soil and more of the decommissioning work to be kept for Scottish workers.

4.0 Socio-economic study

This section is based on a study prepared by Barton Willmore, an independent planning consultancy, on behalf of Peel Ports. The purpose of their study was to provide a socio-economic evidence base relating to Hunterston PARC.

The first part addresses the current situation and recent history of the area. The second part looks at the prospects for growth.

Current and historical situation

Summary

Population Profile

North Ayrshire has suffered from a declining population and has fewer residents today than in 1991. The population is also ageing, with a 5% decline in working age residents over the last 10 years. South/East Ayrshire, which have experienced less significant job losses in recent years, compared with a 23% increase in the over 65s.

Economic Participation

Economic Activity rates in North Ayrshire are below national average, both overall and in most age/gender groups.

Unemployment rates are also significantly above national average at 7%, although they have fallen somewhat from a peak of 13% in 2013. Most job seekers are searching for work in service sectors, though it is estimated that more than 500 seek positions in traditionally blue collar occupations.

Total Employment and Productivity:

The overall number of jobs in North Ayrshire is 17% lower than in 1991. Over this time, the Manufacturing sector has experienced the most significant declines with nearly 10,000 (net) job losses, although fewer than 2,000 of those have occurred in the last 10 years. Despite a tough economic climate, productivity (Gross Value Added per job) is only 1.8% lower than in South/East Ayrshire, which have experienced less significant job losses.

Industry Sectors

North Ayrshire is specialised in the Manufacturing, Utilities, Energy and Arts/Recreation sectors, though the largest sectors (by number of jobs) are Retail and Health. In recent years, the administrative and support sector has experienced the strongest growth with more than 2,000 jobs added over the last 10 years.

Deprivation

The Scottish Index of Multiple Deprivation (SIMD) ranks North Ayrshire as the third most deprived Council area in Scotland. The most deprived locations within North Ayrshire are the three towns and Irvine.

Skills, Qualifications and Earnings

Overall skill levels in North Ayrshire are lower than national average, with fewer residents having Level 4+ qualifications than the average for Scotland. Despite this, median weekly pay for local residents is slightly higher than the national average.

Commuting

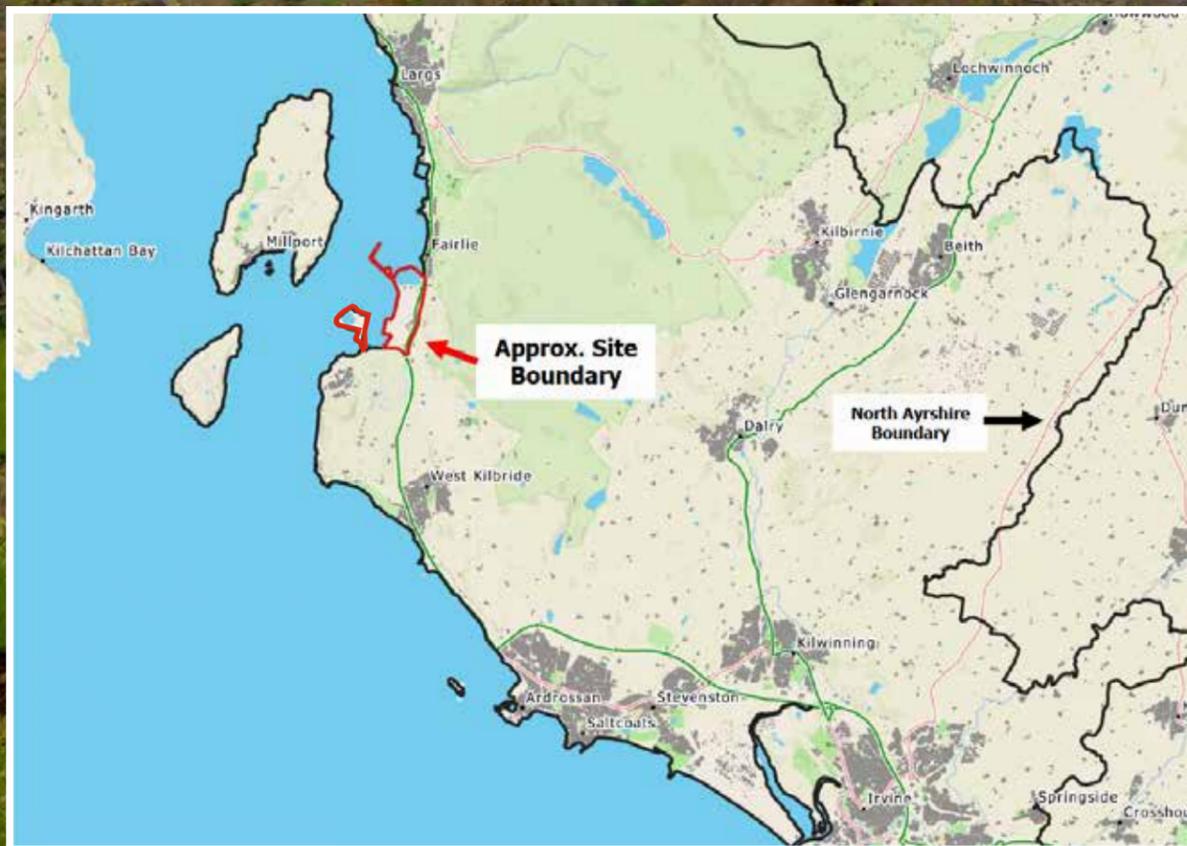
There are 1.24 employed residents for each job, meaning that North Ayrshire is a net exporter of labour. For those commuting out, the most popular destinations are Glasgow City and East Ayrshire.

Defining the Area of Impact

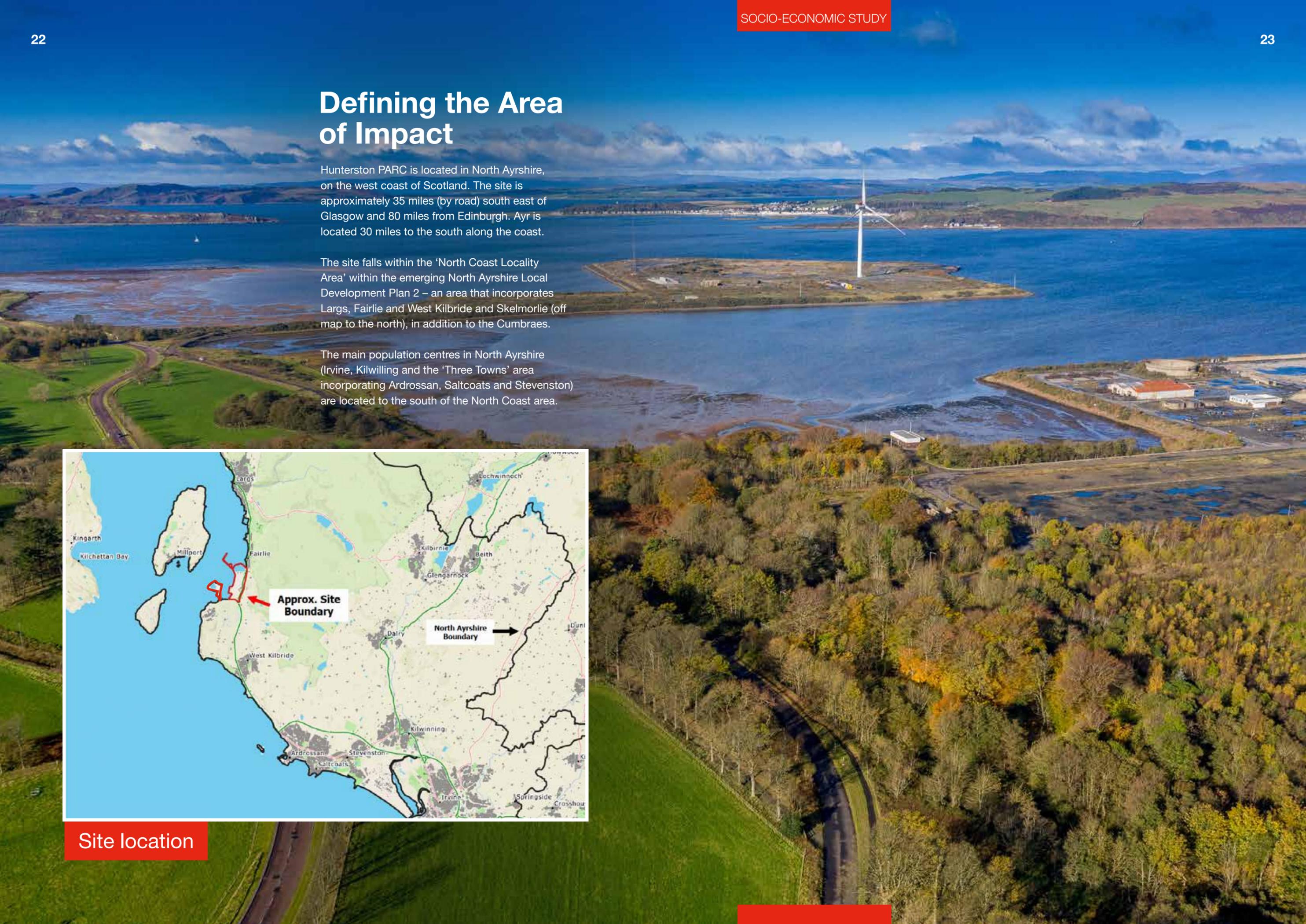
Hunterston PARC is located in North Ayrshire, on the west coast of Scotland. The site is approximately 35 miles (by road) south east of Glasgow and 80 miles from Edinburgh. Ayr is located 30 miles to the south along the coast.

The site falls within the 'North Coast Locality Area' within the emerging North Ayrshire Local Development Plan 2 – an area that incorporates Largs, Fairlie and West Kilbride and Skelmorlie (off map to the north), in addition to the Cumbraes.

The main population centres in North Ayrshire (Irvine, Kilwinning and the 'Three Towns' area incorporating Ardrossan, Saltcoats and Stevenston) are located to the south of the North Coast area.



Site location



In September 2016, the ONS published its latest Travel to Work Area (TTWA) boundaries for Great Britain, derived from Census 2011 data.

Travel to Work Areas are a useful starting point for understanding the spatial extents of labour markets.

Each TTWA has a high degree of self-containment; meaning that the vast majority of people who work within the TTWA also live in that same area. Hunterston PARC falls within the northern part of the Kilmarnock and Irvine TTWA

Given that Hunterston is not the focus of this TTWA, however, it is useful to analyse travel to work flow data in more detail to understand commuting patterns specific to the local area.



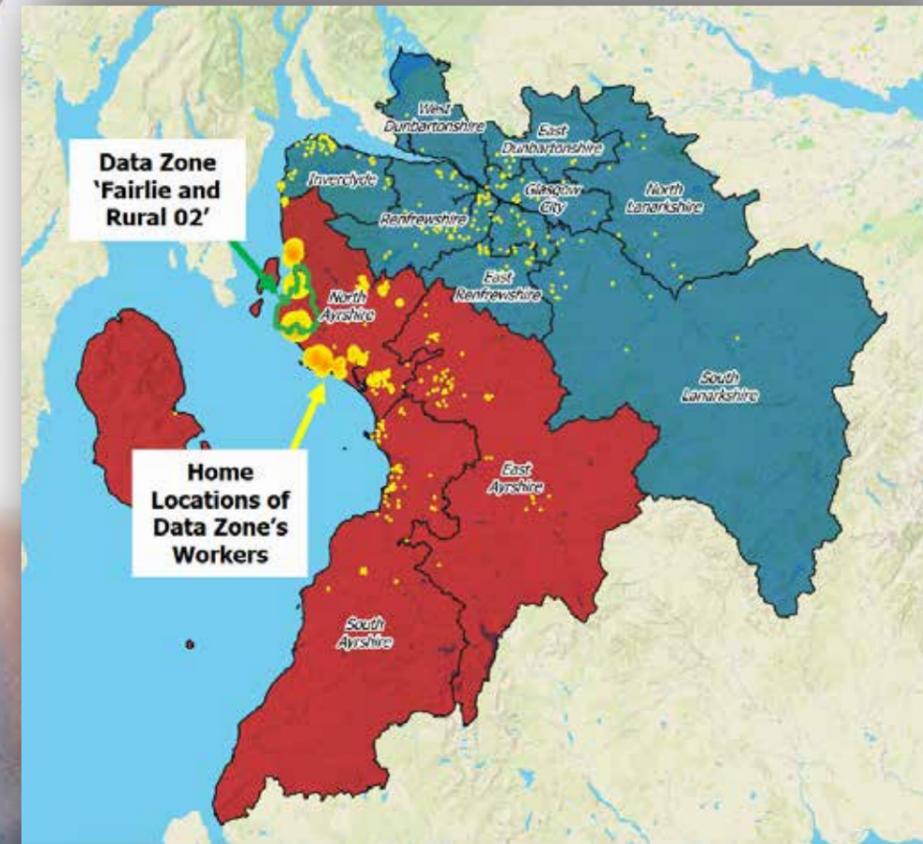
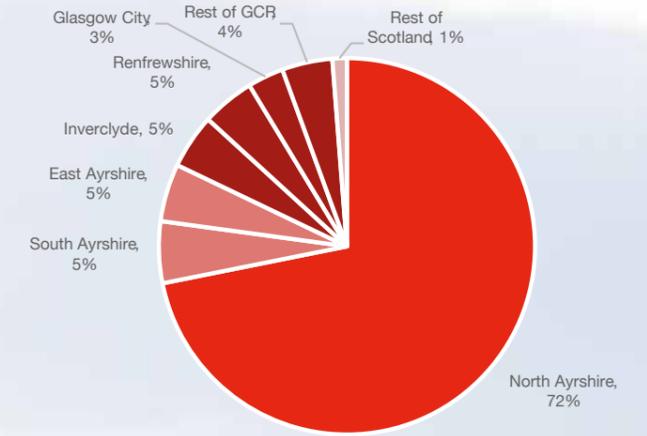
Travel to work areas



The map below shows the home locations of those who were working in the local area (Data Zone 'Fairlie and Rural 02') at the time of the 2011 Census.

This 'Data Zone' incorporates the previous operations at the PARC site plus the nearby nuclear power station, and a number of smaller/rural businesses operating in the area.

The chart (right) summarises the proportion of workers originating in each Council area. Nearly 72% originate from North Ayrshire, 10% live in East or South Ayrshire, and a further 17% live in the Glasgow City Region.



Local Area - Worker Origins

Worker Origins - Detailed

The chart opposite [below] shows the main towns and villages within North Ayrshire where local area (Data Zone) workers live, according to the 2011 Census.

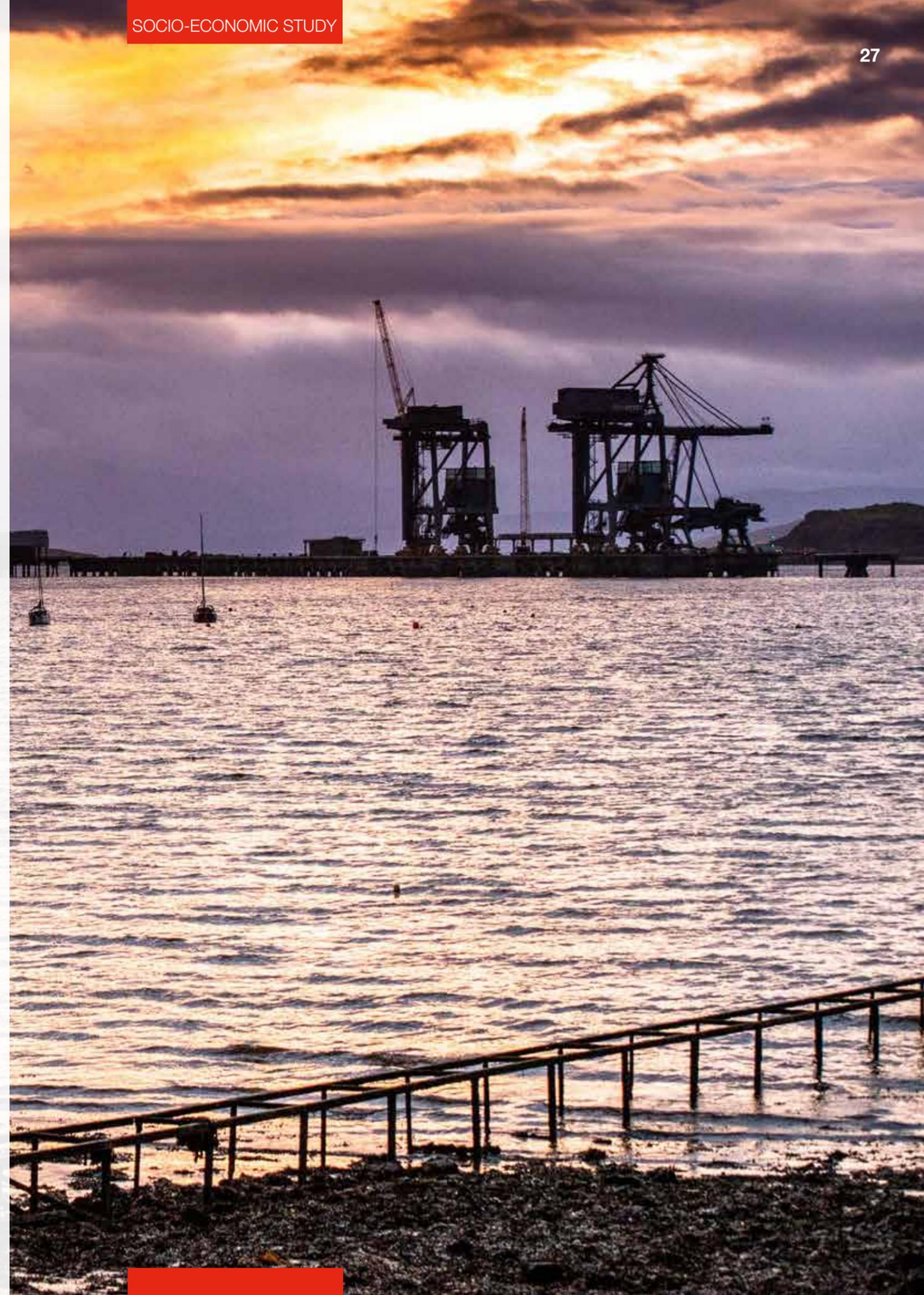
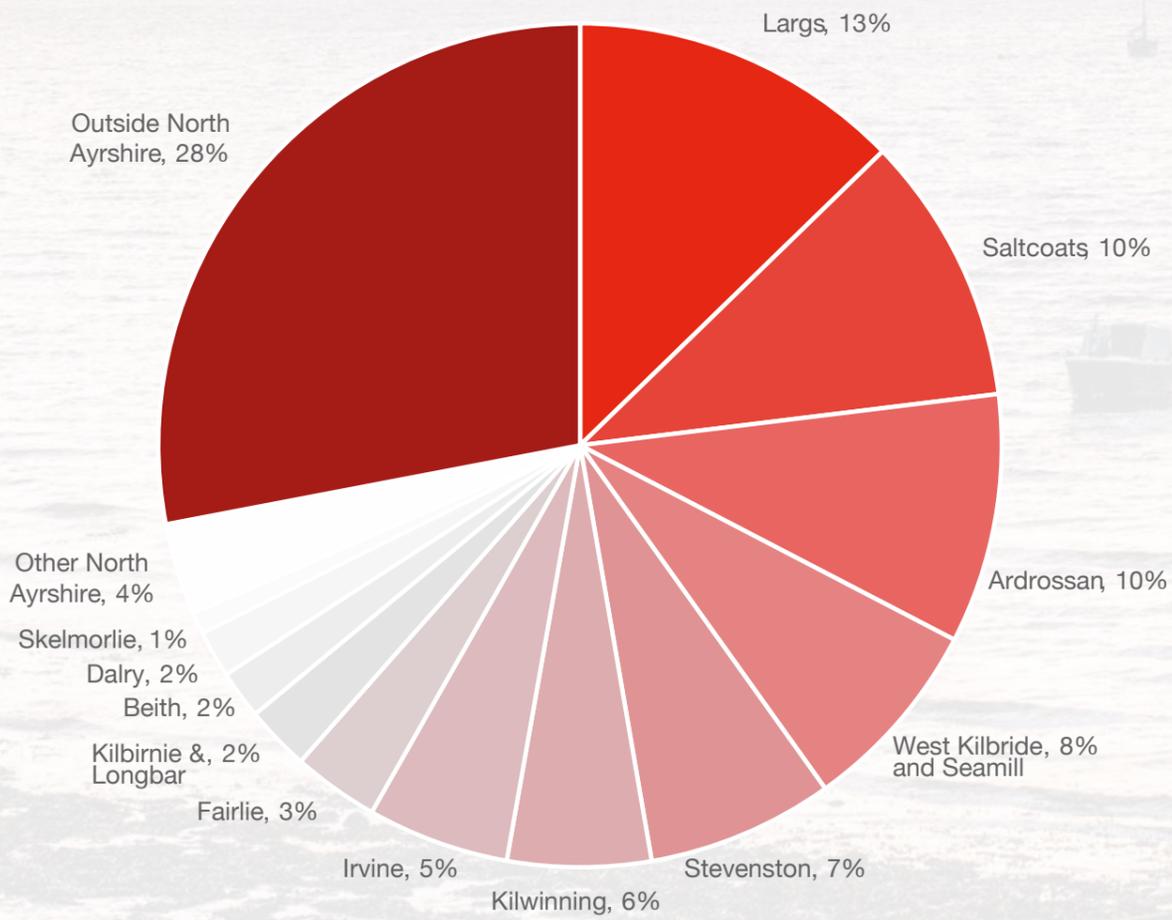
There is no single dominant settlement and although Largs is the single settlement that accounts for the most workers (13%), the 'Three Towns' of Ardrossan, Saltcoats and Stevenston account for a combined 27%.

Irvine and Kilwinning, the two largest settlements in North Ayrshire, account for 5% and 6% respectively. Just under a third (32%) live either in rural North Ayrshire or in other Council Areas.

On the basis of this analysis of Census Travel to Work data, the area that is likely to experience the greatest economic benefit from development at Hunterston PARC is North Ayrshire as a whole, the local authority where the majority of its workforce is expected to originate.

A wider area incorporating East and South Ayrshire, plus the Glasgow City Region, may also experience an impact, although this may be weaker than the impact on North Ayrshire.

As such, this assessment addresses impact on North Ayrshire alongside East and South Ayrshire and the Glasgow City Region.



Socio-Economic Baseline and Trends

Population Growth Trend and Age Profile

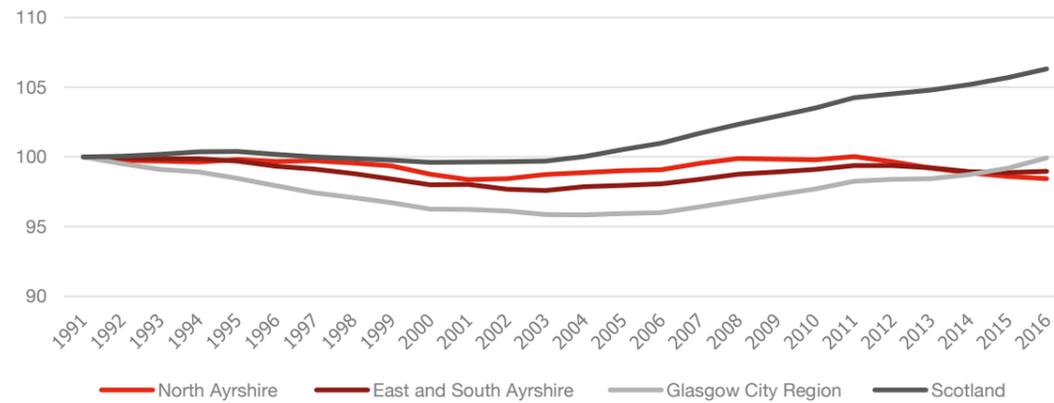
Between 1991 and the mid-2000s, the population of North Ayrshire and the wider study area was in decline, against a backdrop of the population remaining fairly constant across Scotland as a whole (See Figure 6i).

the population aged 65+ has grown by 23%, whereas the core working age population (16-64) has declined by 5%. Although the 65+ population is also ageing rapidly at national level, the working age population is continuing to grow.

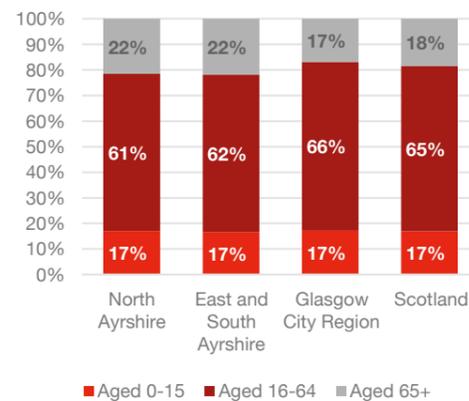
After this point, the nation population began to grow (as did the Glasgow City Region population), but the three Ayrshire Council areas have started to experience decline once more after a period of recovery in the late 2000s. The population of North Ayrshire remains below its 1991 level. The local population is also ageing; over the last 10 years,

There has also been a significant drop (10%) in the number of children in North Ayrshire over this same 10-year period, which is likely to be putting pressure on the viability of local schools, particularly in rural areas.

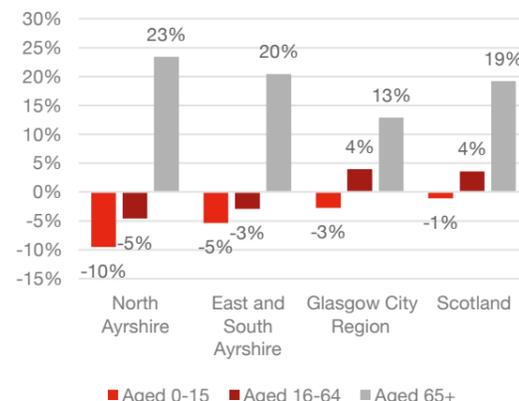
Total Population Trend 1991-2016 (100 = 1991)



Age Profile - 2016



10yr Population Change (2006-2016)



Source: ONS, MidYear Population Estimate

Economic Activity Rates

Economic activity rates represent the proportion of working age population (16-64) which is actively participating in the labour market (i.e. employed, self-employed or unemployed but actively seeking work).

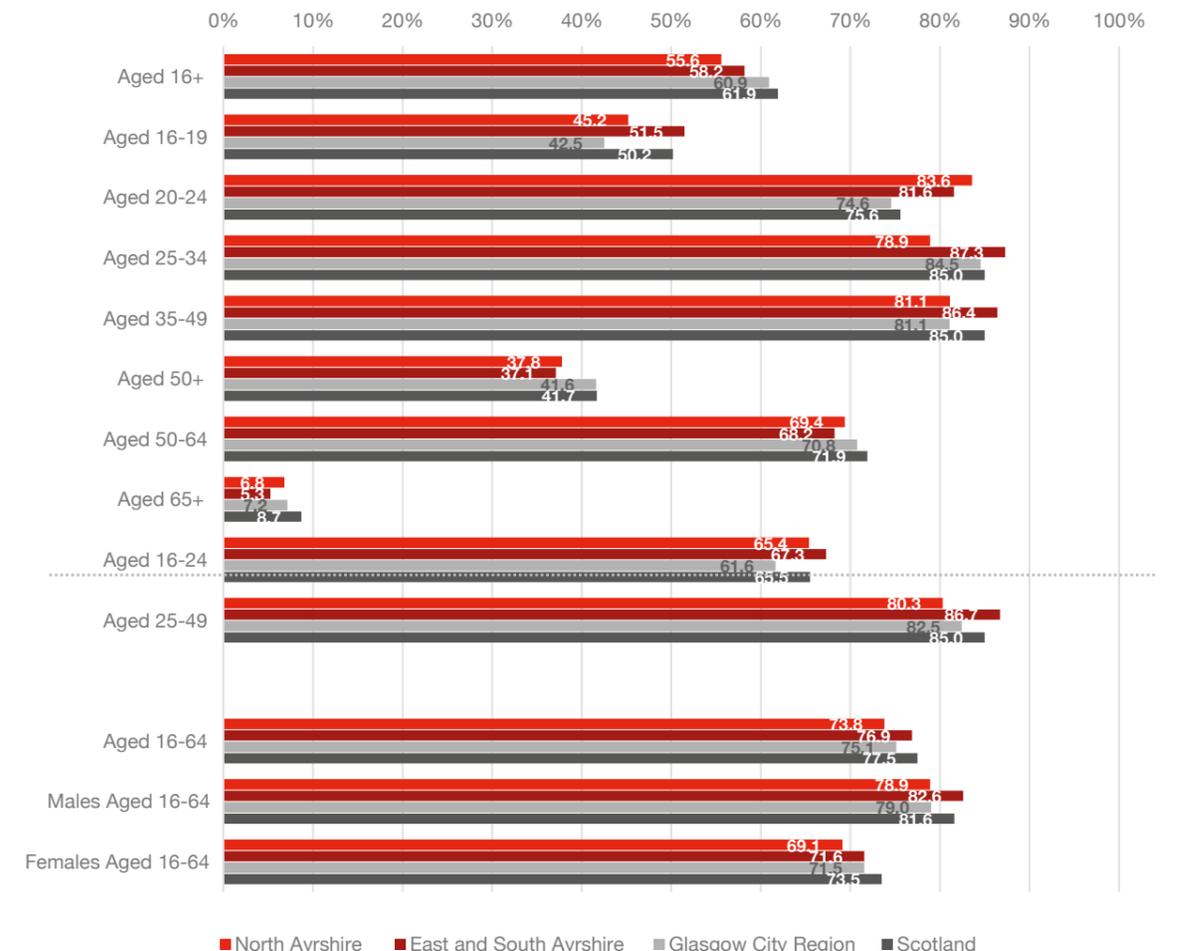
Economic activity rates are below national average in each age cohort with the exception of those aged 20-24. The 25-34 activity rate (78.9%) is significantly lower than national average (85.0%).

As of December 2017 the economic activity rate for North Ayrshire was 73.8%. This is lower than national average (77.5%) and also lower than the rates for East/South Ayrshire combined and the Glasgow City Region.

Of those who are economically inactive, around 23% want a job but are not immediately available to work and therefore fall outside of the definition of unemployed. This equates to around 4,800 people in North Ayrshire in the 16-64 age group (with an additional 300 aged 65+). Those who fall within this category are sometimes described as being on the margins of the labour market.

Male economic activity rates are slightly closer to national average than Female economic activity rates.

Economic Activity Rates by Age and Gender - December 2017



Source: ONS, Annual Population Survey

Unemployment Rates and Job Seekers

Unemployment rates in North Ayrshire are also significantly higher than national average (Figure 8). This was particularly apparent during and after the 2008 recession, though even the most recent data shows unemployment of 7% (compared with a national average of 4%).

The wider study area also shows above average unemployment rates, though closer to national average than in North Ayrshire.

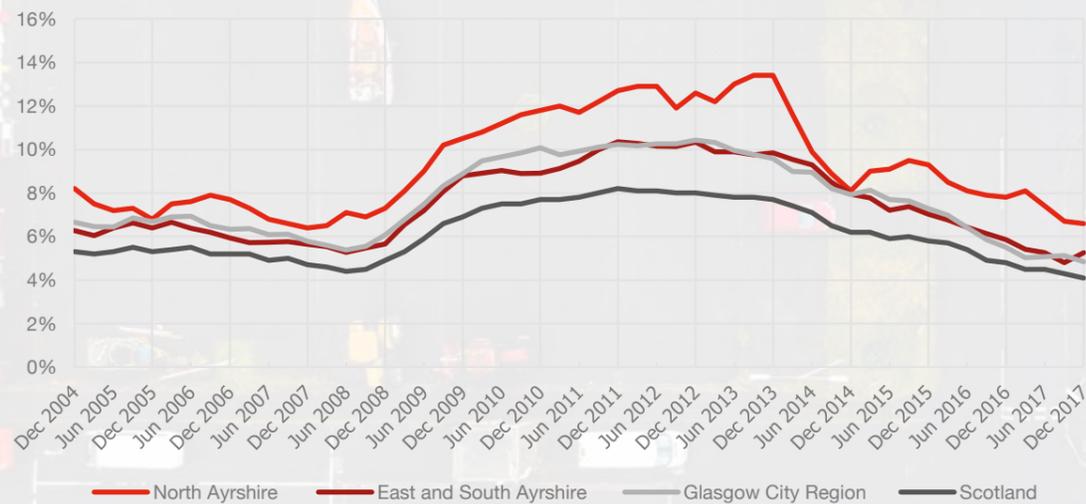
Over the course of 2017, there were an average of 1,817 people claiming job seeker's allowance each month in North Ayrshire.

Among this number, more than half (1,069) were seeking jobs in Sales and Customer Service occupations.

Smaller but still significant numbers were also seeking jobs traditionally blue collar occupations, such as Skilled Trades, Process, Plant and Machine Operatives and Elementary occupations (a total of 522).

Over the wider study area, a total of 3,252 people were seeking work in these three blue collar occupation classes.

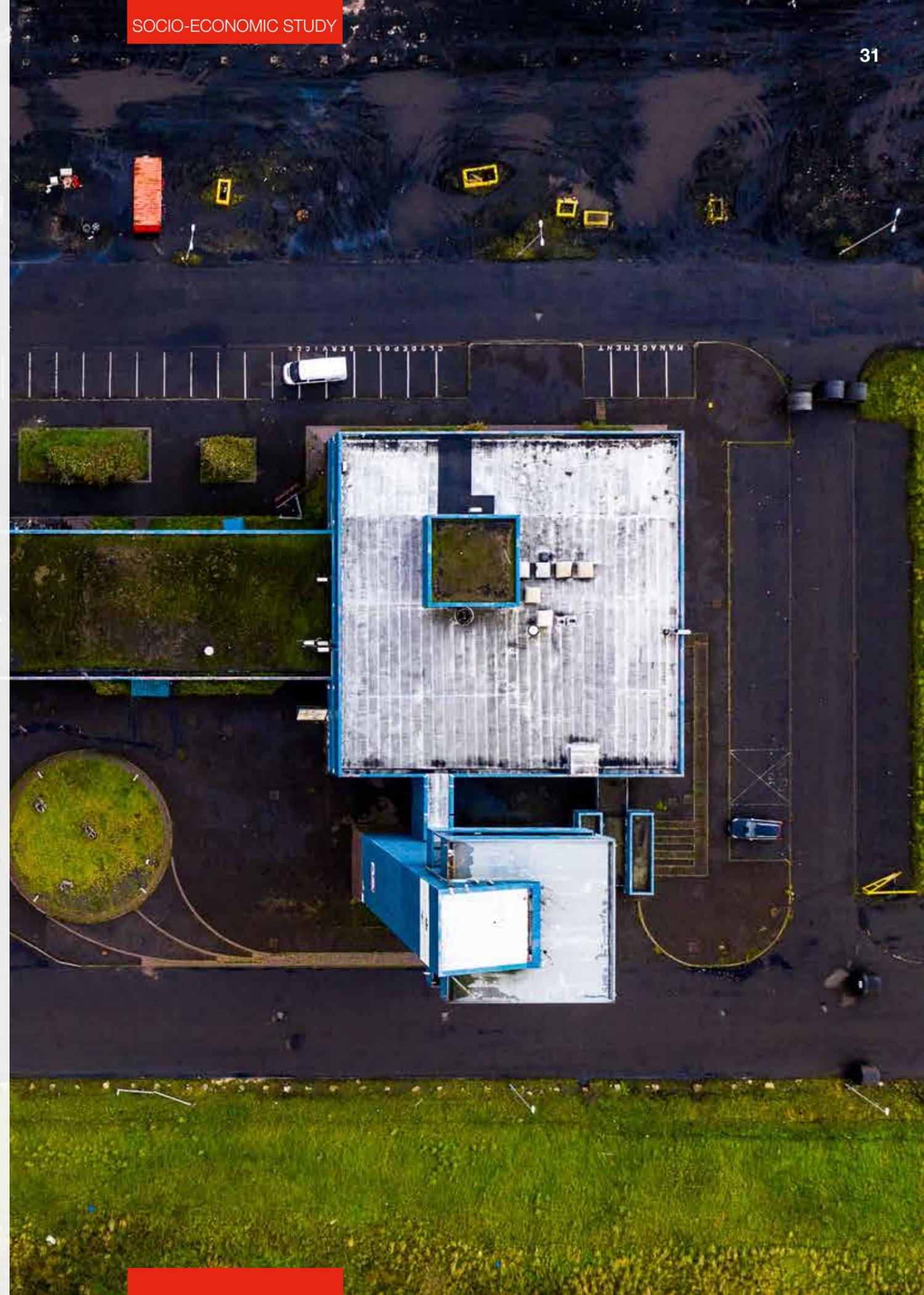
Unemployment Rate Trend 2004-2017



Occupations Sought by Job Seekers

Occupation	North Ayrshire	East and South Ayrshire	Glasgow City Region	Scotland
0 : Occupation unknown	37	71	395	1,976
1 : Managers and Senior Officials	40	42	1,333	4,414
2 : Professional Occupations	8	9	64	246
3 : Associate Professional and Technical Occupations	23	30	194	774
4 : Administrative and Secretarial Occupations	64	91	525	1,454
5 : Skilled Trades Occupations	89	124	358	1,311
6 : Personal Service Occupations	54	55	306	1,516
7 : Sales and Customer Service occupations	1,069	1,475	10,170	26,131
8 : Process, Plant and Machine Operatives	82	120	407	1,446
9 : Elementary Occupations	351	427	1,816	5,846
TOTAL	1,817	2,445	15,569	45,115

Source: ONS Annual Population Survey (Model-based estimates of unemployment); ONS Jobseekers Allowance database





Total Employment and Productivity

As observed in the population change trend there has been a downward trend in the number of jobs in North Ayrshire since the early 1990s. As of 2016, there are 17% fewer jobs than in 1991, though job numbers have been steadily increasing since 2012.

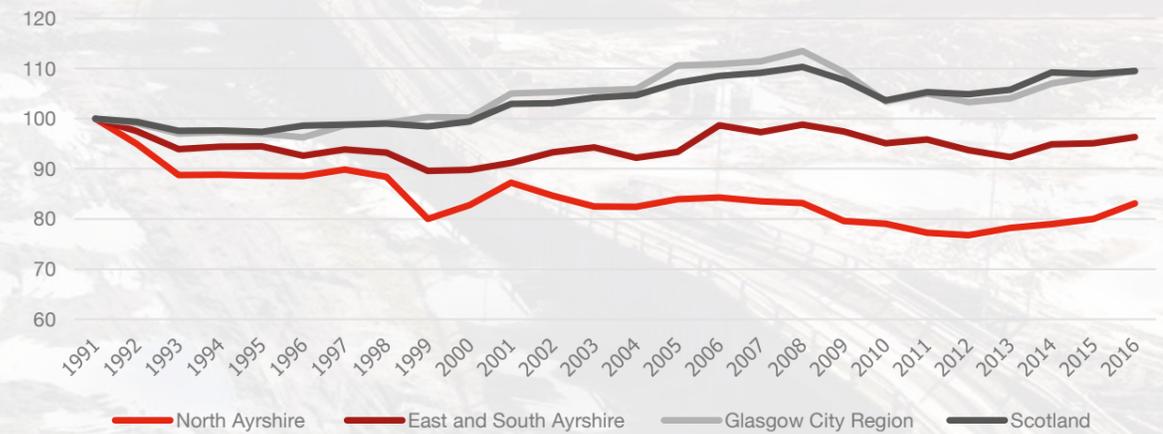
East and South Ayrshire have also experienced a decline in total number of jobs, though the number has not fallen as far.

This is against a backdrop of modest job growth across Scotland as a whole, with the exception of 2008-2010.

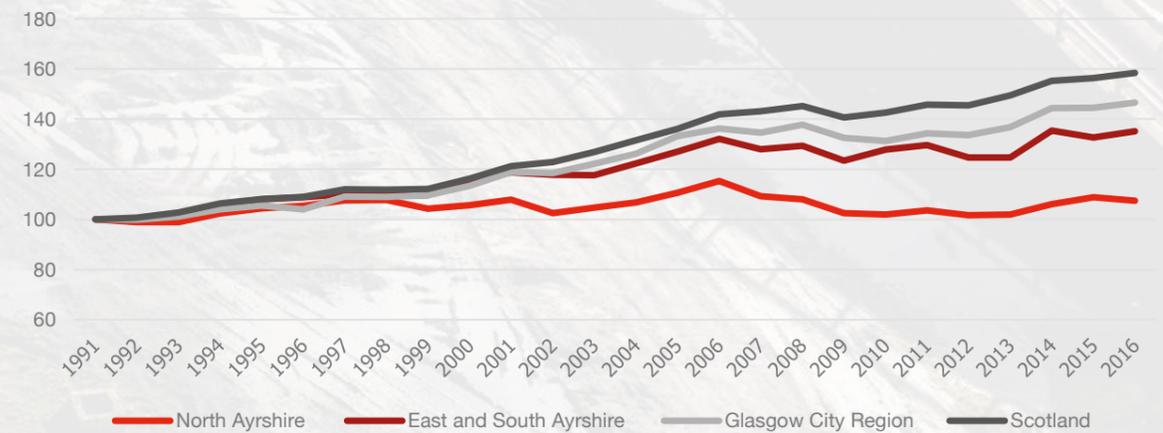
The lack of job growth has resulted in very low economic growth as measured by gross value added (GVA), compared with strong GVA growth at the national level.

Despite this slow growth, GVA per local job (a measure of productivity) at £43,250 is only 1.8% lower than in East/South Ayrshire (£44,000), though it remains 10% below national average (£47,750).

Total Employment Trend 1991 -2016 (100 = 1991)



Total Gross Value Added (GVA) Trend 1991 -2016, 2015 prices (100 = 1991)



Source: Oxford Economics, derived from ONS BRES and ONS Regional Accounts

Employment by Sector

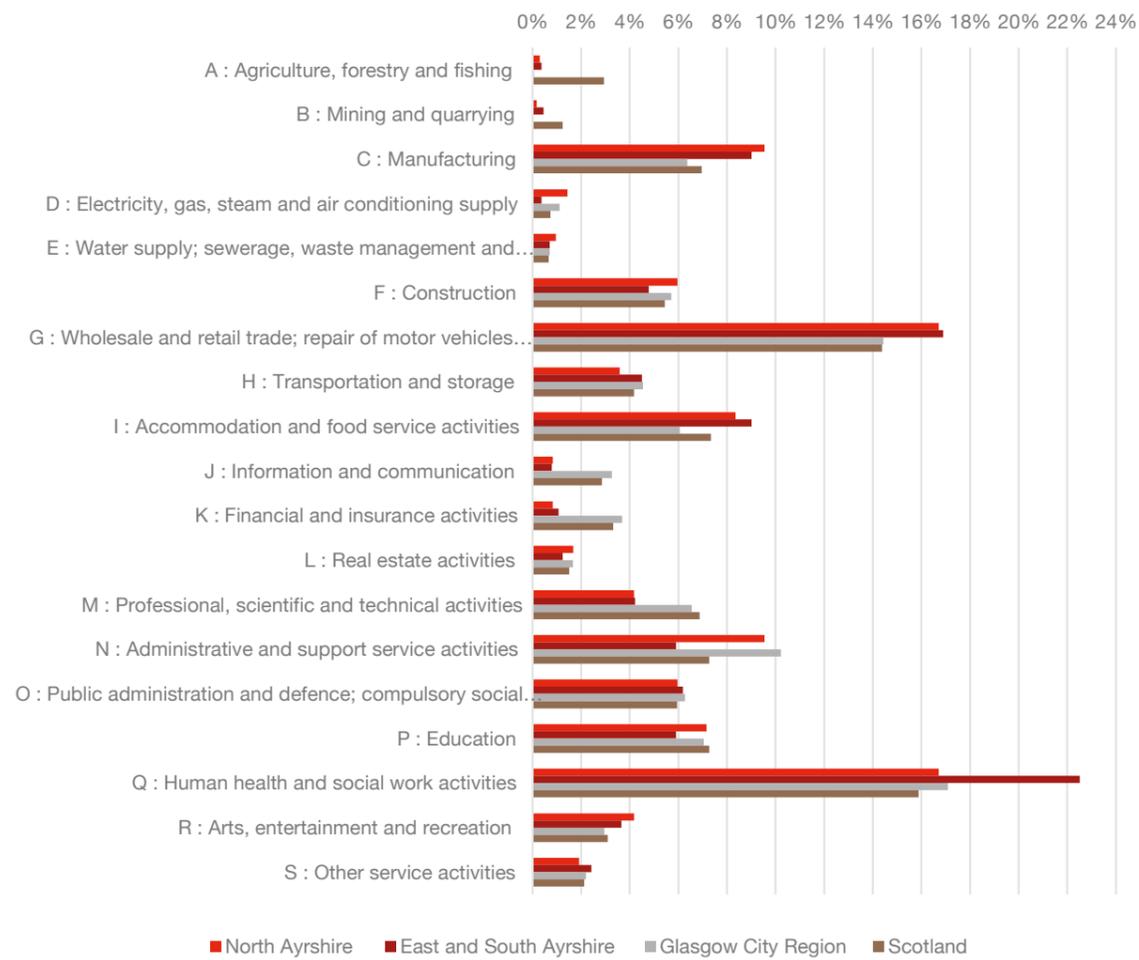
The three largest industry sectors by employment in North Ayrshire are Wholesale and Retail, Health and Social Care and Manufacturing, followed by Administrative and Support services and Accommodation and Food service.

Though accounting for less than 2% of total employment, the Electricity, Gas, Steam and Air Conditioning supply sector has a location

quotient of 1.95, meaning that there are nearly twice as many jobs in this sector than national average. Other specialisms relative to national average, include Utilities, Manufacturing and Arts, Entertainment and Recreation.

Conversely, the Information and Communication, Financial and Insurance and Professional and Scientific sectors are significantly smaller than national average.

Employment by Standard Industrial Sector (2016)



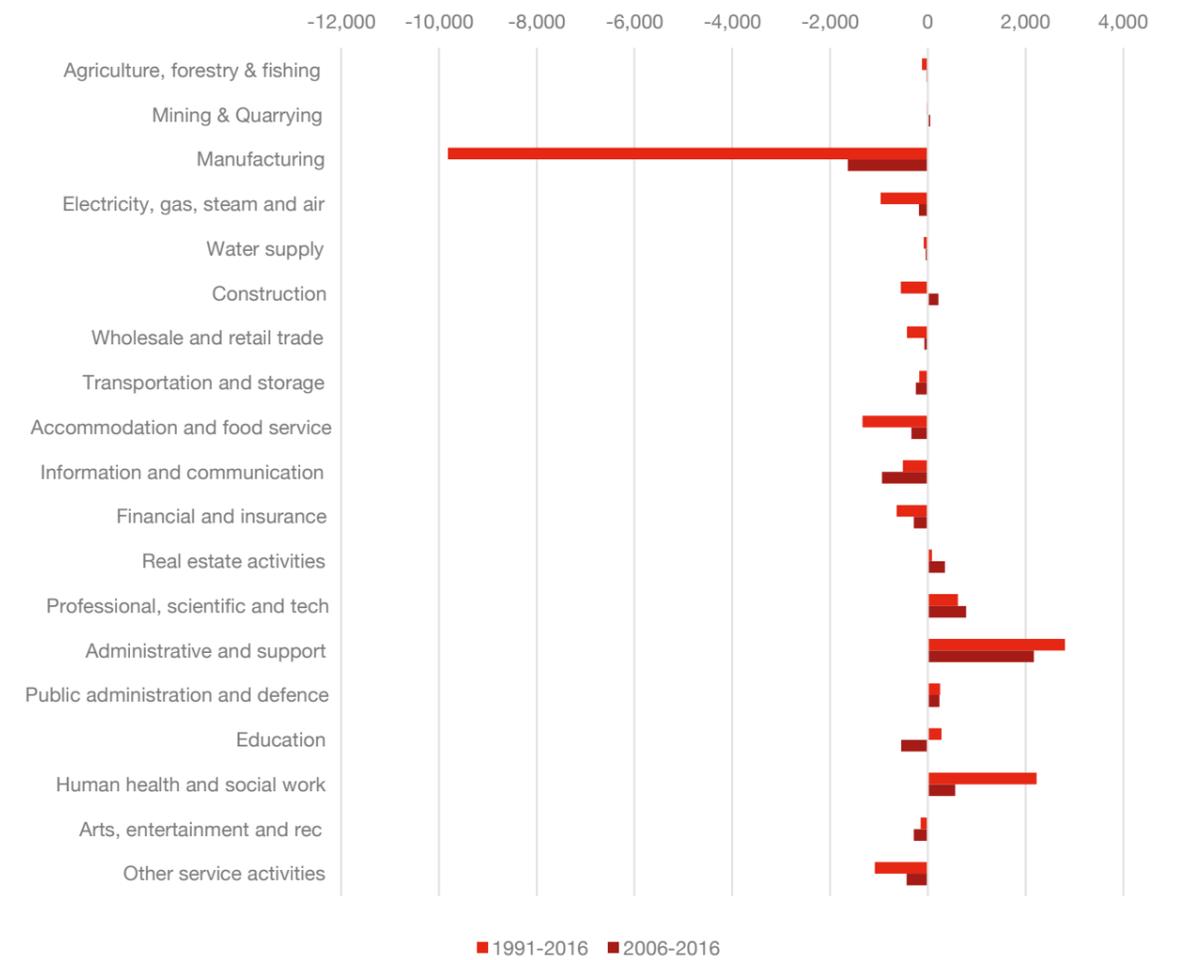
Source: ONS. Business Register Employment Survey 2016

Change in Employment by Sector

Since 1991, nearly 10,000 (net) Manufacturing jobs have been lost in North Ayrshire, though less than 2,000 of those net job losses have occurred in the last 10 years. The main growth sectors over this period have been Administrative and Support services and Health and Social Care, both of which have experienced net growth in excess of 2,000 jobs.

The loss of jobs in Manufacturing is typical of most parts of the UK, though given North Ayrshire's relative specialism in the sector, it is likely that this loss will have had a more significant impact than in areas which are less specialised in Manufacturing.

North Ayrshire - Employment Change by Sector, 25yrs and 10yrs to 2016



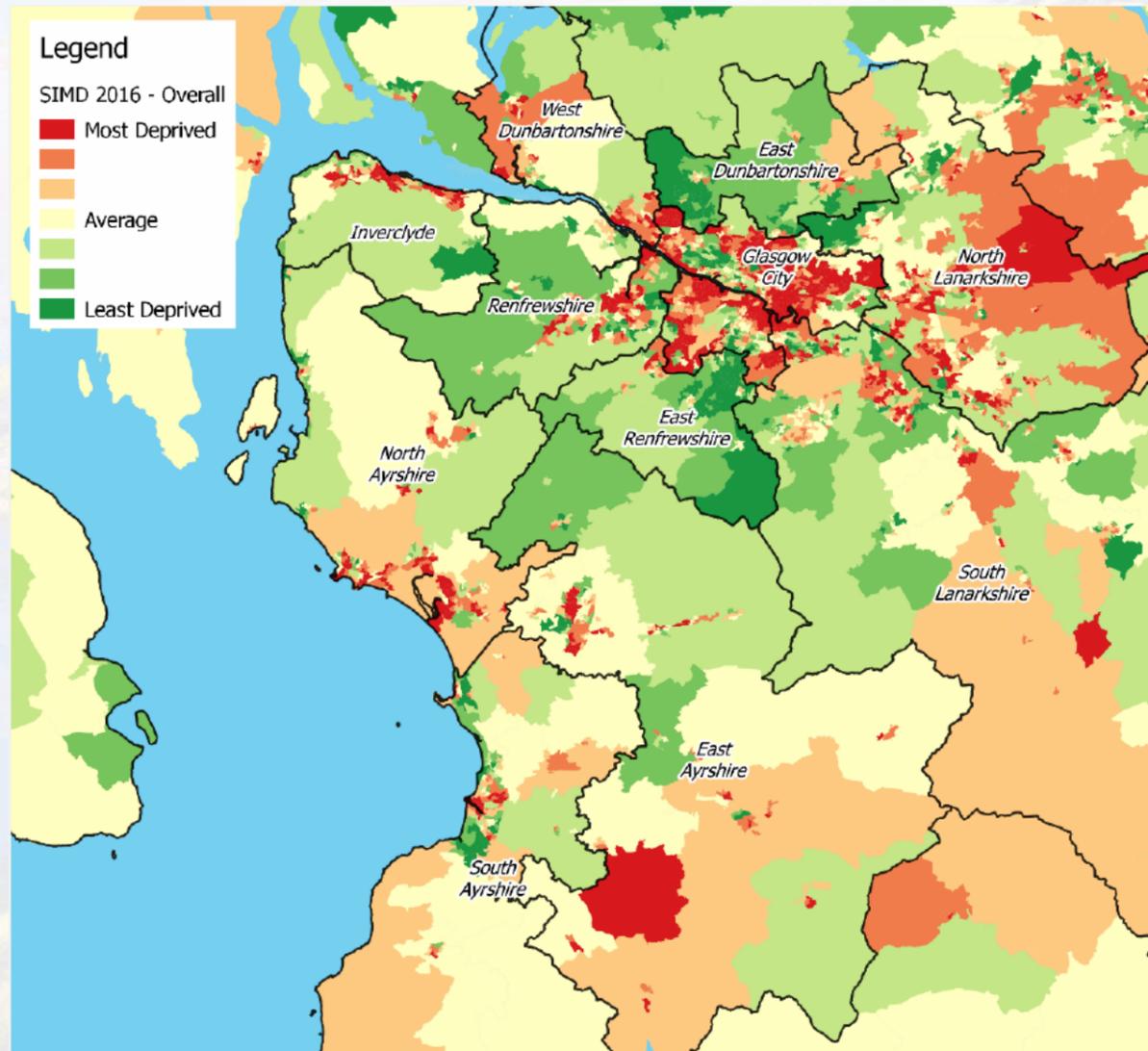
Source: Oxford Economic, derived from ONS BRES

The Scottish Index of Multiple Deprivation (SIMD), most recently revised in 2016, ranks small areas (Data Zones) across Scotland by their relative level of deprivation across seven 'domains':

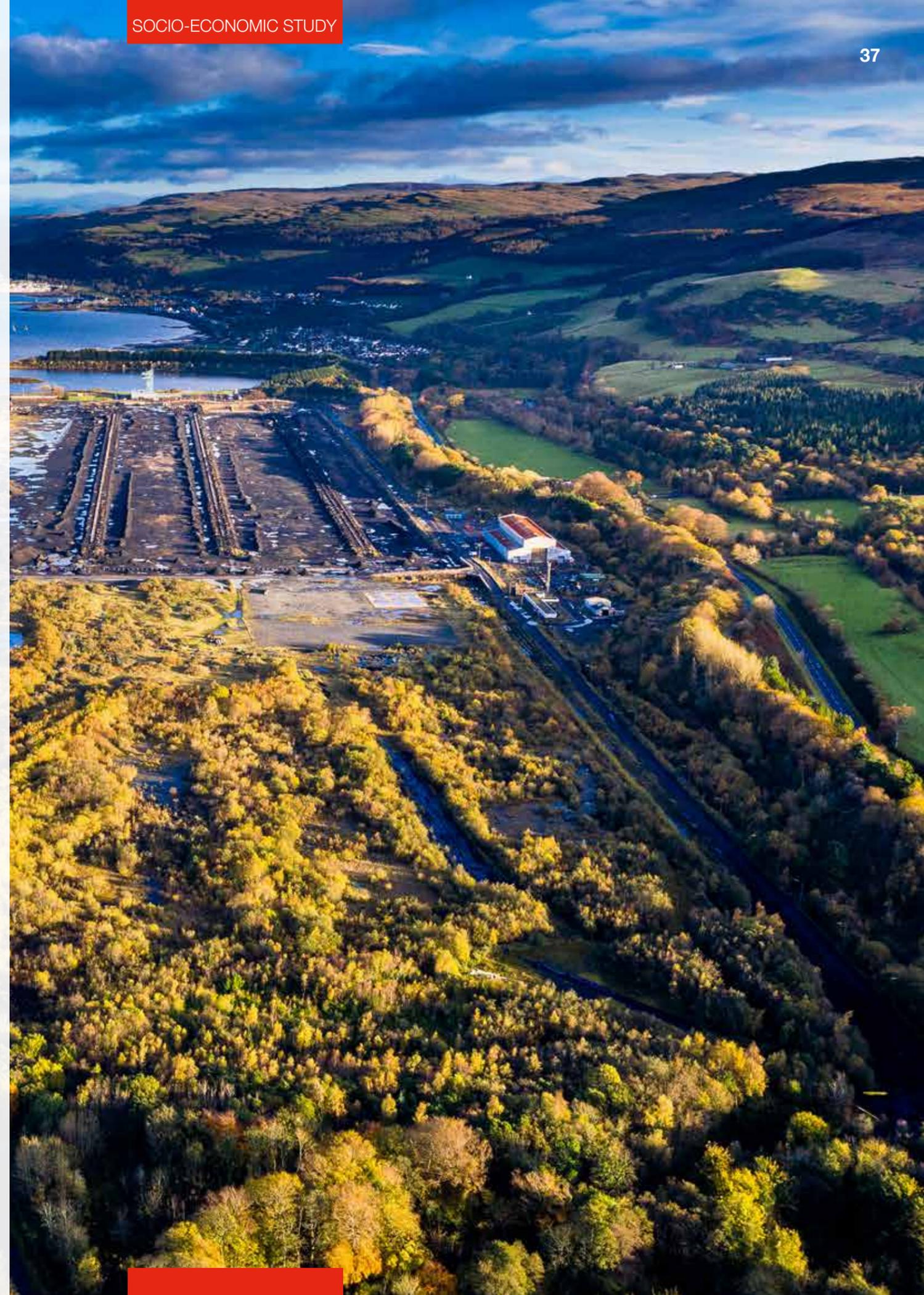
- **Employment;**
- **Income;**
- **Education;**
- **Health;**
- **Access to Services;**
- **Crime;**
- **Housing.**

The map below shows the spatial distribution of deprivation across the study area. Areas in red are most deprived, whereas areas in green are least deprived

Taking an average of the ranks of Data Zones within each Council area, North Ayrshire is the third most deprived Council area in Scotland (after Glasgow City and West Dunbartonshire). The more deprived areas, however, are concentrated in the southern part of the authority area (in and around the three towns, Kilwinning and Irvine).



Deprivation



Qualifications and Earnings

Fewer North Ayrshire residents of working age have degree-level or higher qualifications (Level 4+) than national average, with higher proportions having Level 2 qualifications (such as Standard Grades) or no qualifications at all.

East and South Ayrshire have similar qualifications profiles to North Ayrshire, though Glasgow City Region has a qualifications profile broadly in line with the Scottish average.

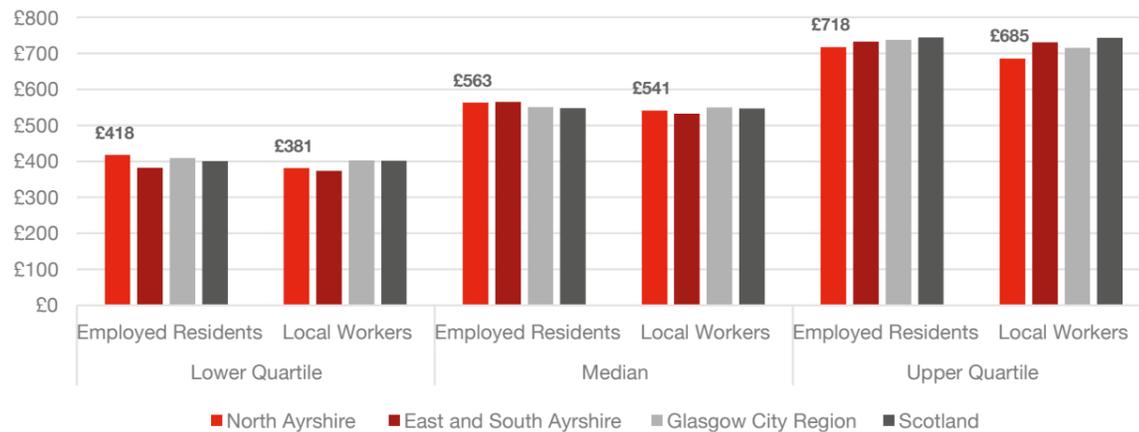
Despite having lower overall qualification levels, the median pay of North Ayrshire residents is actually slightly above the national average.

Employed residents of North Ayrshire earn, on average, slightly more than the average level of pay for local jobs. This suggests that some people are commuting out of North Ayrshire to more highly paid jobs elsewhere.

Highest Level of Qualification, Residents aged 16 -64 (2016)



Median Weekly Pay of Full Time Workers (2017)



Source: ONS, Annual Population Survey 2016; Annual Survey of Hours and Earnings 2017

Commuting

According to data from the 2011 Census, there are 1.24 employed residents of North Ayrshire for each local job. This means that North Ayrshire is a net exporter of labour.

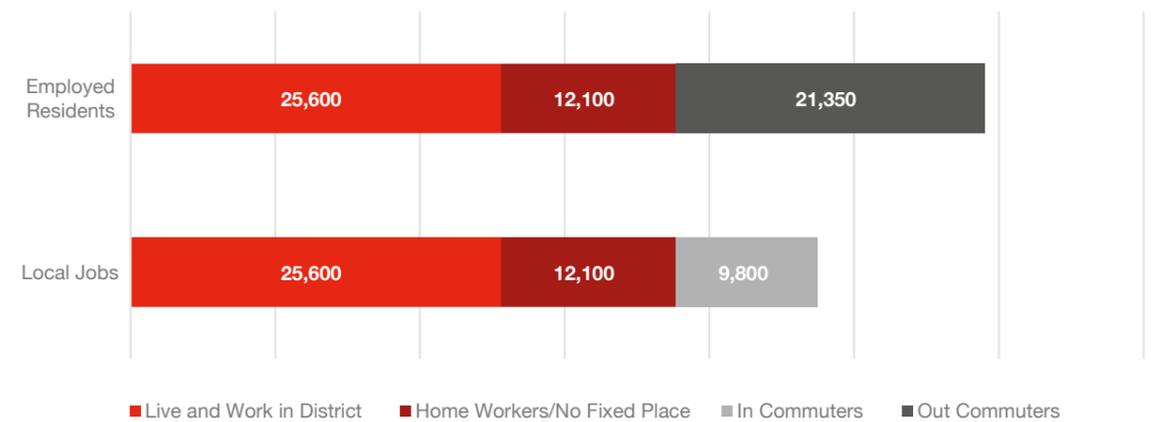
Around 25,600 local residents are employed in jobs within North Ayrshire, whilst a further 12,100 work mainly from home or have no fixed place of work.

9,800 people commute in to North Ayrshire from outside the Council area, whilst 21,350 commute out.

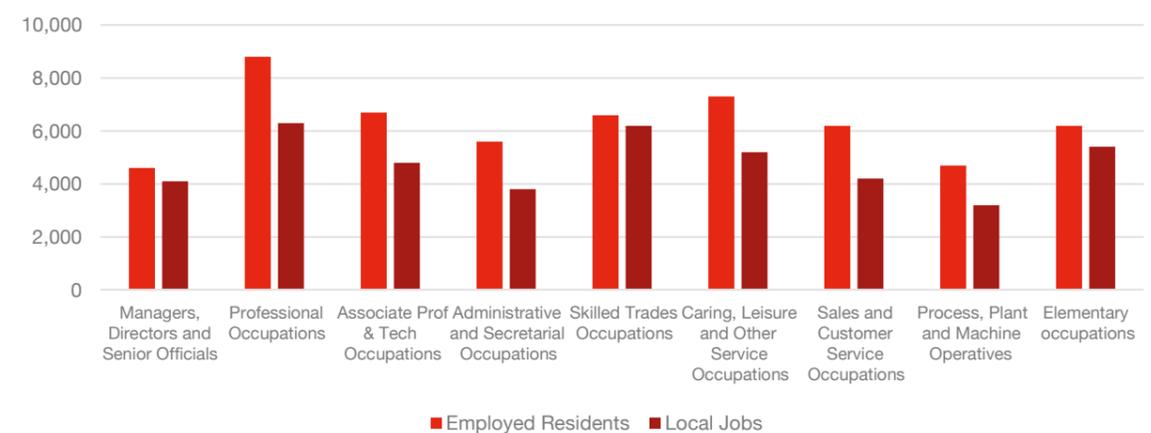
Given the significant new outflow of workers, it is unsurprising that all major occupational groups have more employed residents than local jobs. The largest gaps are in white collar jobs (Professional occupations, Associate and Technical occupations and Administrative and Secretarial occupations). There are smaller net outflows of residents employed in Skilled Trades and Elementary occupations.

The largest out-flow of working residents from North Ayrshire is to Glasgow City (5,500), followed by East Ayrshire (4,300), South Ayrshire (3,500), and Renfrewshire (3,500).

Net Commuting Ratio = 1.24



North Ayrshire - Occupations of Employed Residents and Local Jobs



Source: ONS, Census 2011

Conclusions

The long term decline in population and jobs in North Ayrshire has the potential to undermine future economic prosperity, particularly in the context of an ageing population.

Economic development through schemes such as Hunterston PARC is likely to be crucial, both in bringing jobs back to North Ayrshire and by encouraging working age migration into the area. This in turn will help to maintain and boost the viability of local services such as schools, doctors surgeries and retail centres.

The relatively high level of unemployment, low economic activity rates and net out-commuting across the occupational spectrum also suggest that there is scope for greater utilisation and retention of the existing resident workforce.

Should it be required, there is a large pool of highly skilled labour living nearby in the Glasgow City Region.

Future Growth

Summary

The latest official National Records of Scotland (NRS) population projections for North Ayrshire show a decline in population over the next 25 years, driven primarily by natural change (i.e. more deaths than births).

East and South Ayrshire have similar projections, whilst Glasgow City Region is projected to grow significantly through net international migration.

The projected decline in North Ayrshire's population is not offset by increasing economic activity rates among the over 65s.

Reducing unemployment, improving the net commuting balance and boosting population growth could all help to create capacity for job growth.

Oxford Economics Local Authority District Forecasting Model forecasts job growth of 1,050 jobs over the next ten years (105 jobs per annum).

Hunterston is acknowledged in national and emerging local policy as a key location of particular significance in growing a low carbon economy and as a priority for industrial and employment use. As such it has a key role to play in delivering national economic and planning policy.

Baseline Population Growth Projection

The most recent NRS population projections (2016-based) anticipate a continuing decline in North Ayrshire's population (see right).

By 2026, the population is expected to decline by 3,000. Over this same period, the working age population is expected to decline by 7,000.

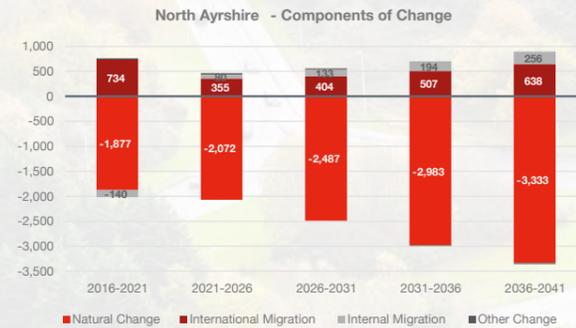
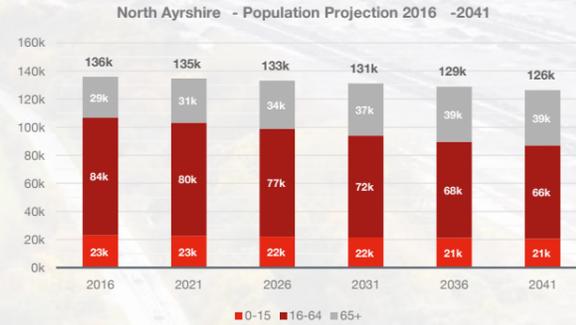
Over the full 25-year projection, the total population is expected to decline by 10,000, with the working age population declining by 18,000.

Further analysis of the components of population change (see right) reveals the drivers of this decline. Over each five year period, the most significant influence is natural change – in this case there being significantly more deaths than births.

Whilst Scotland is also projected to experience negative natural change, net migration (International and from the rest of the UK) more than compensates, resulting in projected growth in the national population.

North Ayrshire is projected to receive just 0.8% of net migration into Scotland, despite accounting for 2.5% of Scotland's total population.

Internal Migration (i.e. migration within Scotland) is also relatively low, with a net out-flow expected in the first five years of the projection followed by 20 years of modest in- flows.

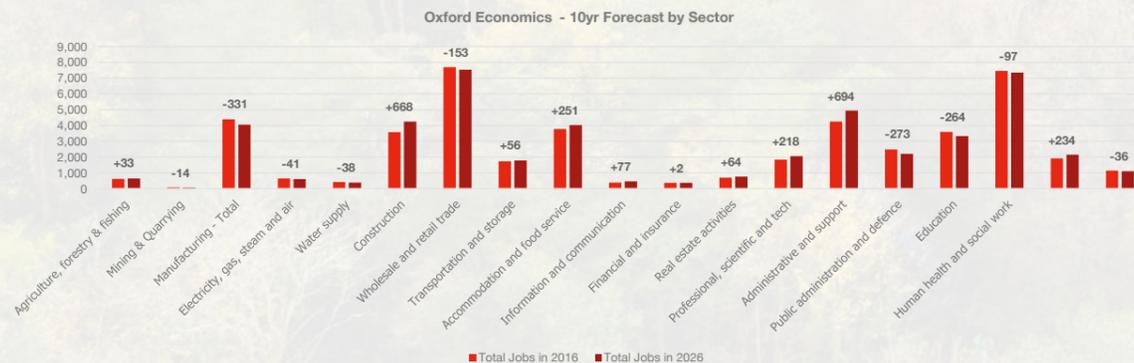


Baseline Economic Growth Forecast

The chart below summarises (by industry sector) the Oxford Economics Local Authority District Forecasting Model 10-year total employment forecast for South Ayrshire.

Overall, the forecast shows a net increase of 1,050 jobs, driven by growth in Administrative and Support services, Construction and Accommodation and Food services.

A number of other sectors, however, are forecast to decline, including Manufacturing, Retail, Education and Health. The former is likely to be due to the ongoing macro-level decline of manufacturing in the UK, whilst the latter are likely to be due to the projected decline in North Ayrshire's population (and corresponding decline in available retail spending and demand for public services).



Baseline Labour Force Capacity Growth Projection

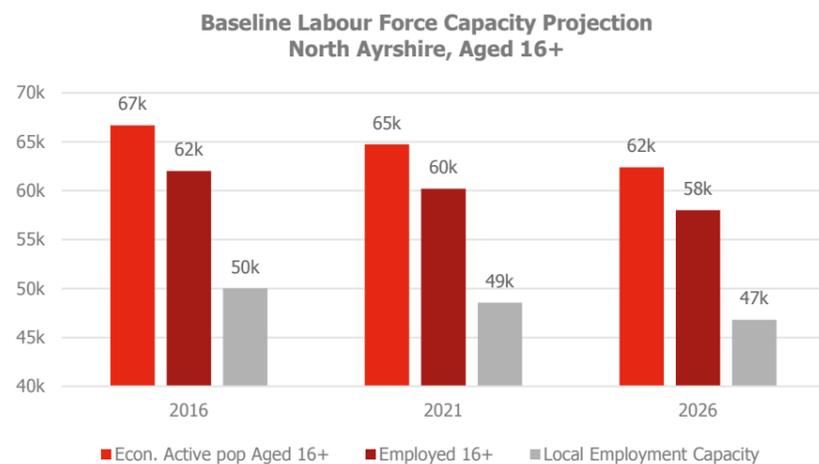
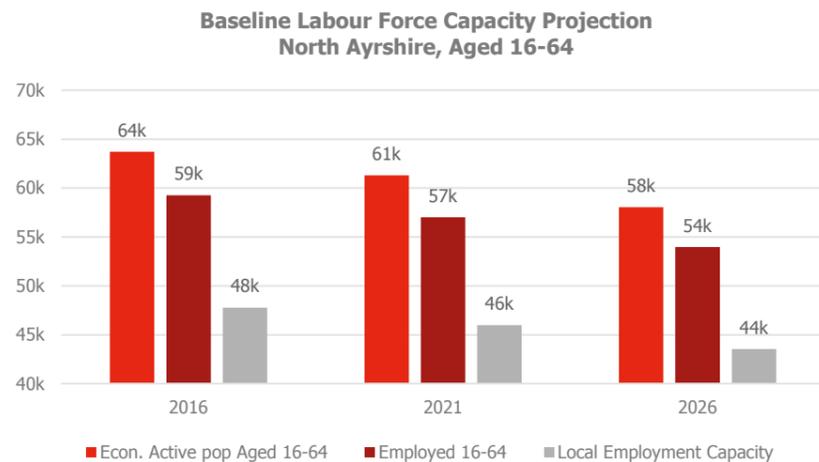
The charts below show forecast labour force capacity over a ten year period (from a 2016 baseline), in terms of the economically active population, the employed population and the capacity for local jobs.

Future economic activity has been forecast using the Office for Budget Responsibility participation rate projections from the January 2017 Fiscal Sustainability Report. This takes into account factors such as increasing participation rates among women and older people and changes to the state pension age.

To calculate the employed population, the unemployment rate applied has been taken from the December 2017 Annual Population Survey, published by ONS.

Local jobs capacity has been calculated using the net commute ratio from the 2011 Census. The projected decline in the population of North Ayrshire is reflected in declining labour force capacity. It is estimated that there were c.64,000 economically active 16-64s in 2016, with an additional c.3,000 economically active people aged 65+. By 2026, it is estimated that there will be c.6,000 fewer economically active 16-64s and c.1,000 more economically active over 65s.

On this basis, the 16-64 population has the capacity to support just 44,000 local jobs (based on current commuting patterns), although the population age 65 and over could add around 3,000 to this capacity. As such, based on projected economic activity rates and current unemployment and commuting rates, there is no capacity for job growth in North Ayrshire.



Job Growth Capacity – Sensitivity Tests

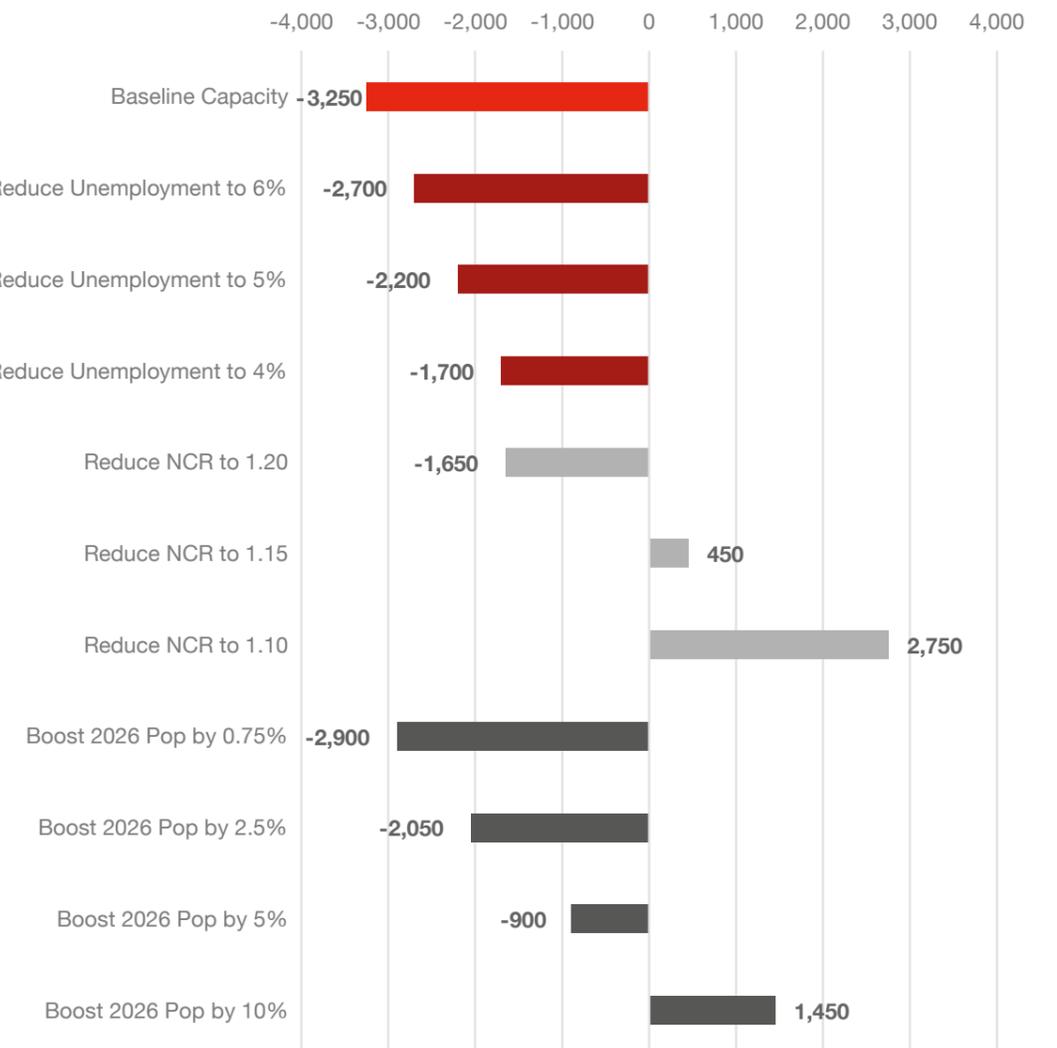
As the baseline projection does not offer any surplus capacity for new job creation (and indeed shows capacity declining over time), we have carried out sensitivity analysis to test the circumstances in which North Ayrshire would be able to support forecast job creation of 1,050 jobs over a 10 year period plus employment growth at Hunterston PARC.

Reducing Unemployment Rates provides some capacity, though unemployment is already at its lowest point since 2005. Reducing unemployment to 4%, in line with current national average, would provide an improvement relative to the baseline, but alone would not provide capacity for net job growth.

Reducing the Net Commuting Ratio, by retaining more of the workers who currently work outside North Ayrshire, produces more significant changes. Reducing the ratio to 1.15 alone would deliver some surplus capacity, whilst reducing to 1.10 would deliver significant capacity.

Boosting Population by 2026, through increased migration, would also create additional capacity. The National Records for Scotland 2016-based Sub National Population Projections (SNPP) high migration variant produces a population in 2026 just 0.75% higher than the principal projection, creating limited capacity. A much higher boost of 10% would create a surplus sufficient to accommodate the Oxford Economics Local Authority Forecasting Model employment forecast.

Job Growth Capacity - Sensitivity Tests (not cumulative)





Population Growth Projection – Wider Study Area

As demonstrated through analysis of local commuting patterns, around a quarter of local workers commute in to the area from outside (primarily East/South Ayrshire and the Glasgow City Region).

Though the most sustainable option would be to encourage employment of workers living locally, the wider area is also likely to contribute some of Hunterston PARC's workforce.

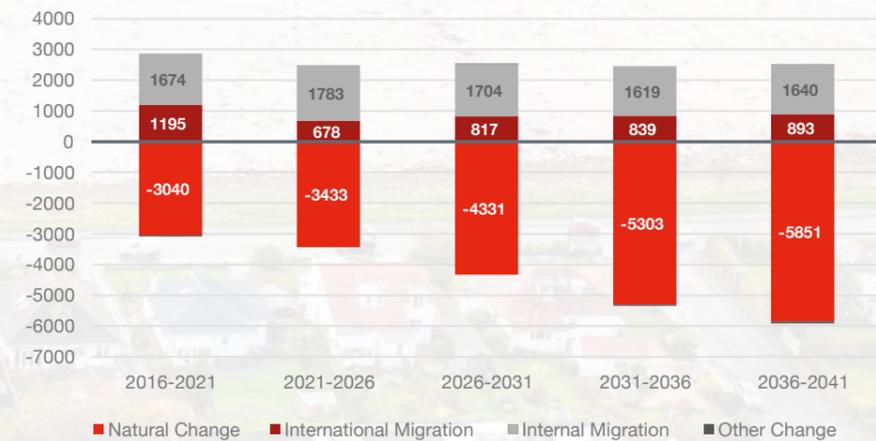
The charts below show the projected components of population change (based on the National Records of Scotland 2016-based SNPP) over the course of the 25-year projection.

East and South Ayrshire (combined) is likely to experience similar change to North Ayrshire; a decline in population owing to negative natural change, with insufficient net migration to balance it out.

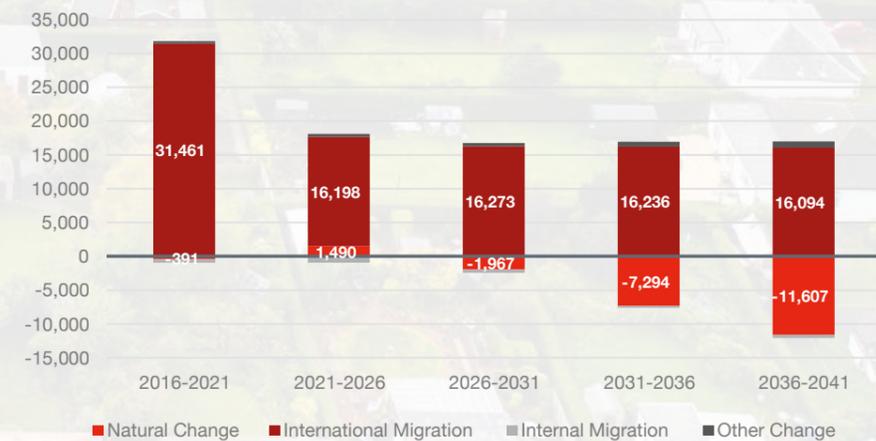
Glasgow City Region, however, is expected to see significant population growth – particularly in the first five years – due to strong net international migration.

It appears unlikely, therefore, that there will be spare labour force capacity in South or East Ayrshire to support growth in North Ayrshire. As a result, North Ayrshire may become more reliant on commuters from Glasgow City Region.

East and South Ayrshire - Components of Change



Glasgow City Region - Components of Change



Conclusions

North Ayrshire's declining population is likely to make delivering even the relatively modest forecast for 1,050 jobs (Oxford Economics) over the next 10 years a challenge.

Without population growth, unemployment rates will need to fall below historic lows, and net commuting will need to improve either by convincing Glasgow City Region bound workers to move to local jobs or encourage more in-commuting from Glasgow City Region (which itself raises issues of environmental sustainability).

The priority afforded to Hunterston in national policy places it at the forefront of Scotland's strategy to be a low carbon, circular economy.

The emerging North Ayrshire Local Development Plan 2 and the Ayrshire Growth Deal set a local context for growth that is significantly above trend based forecasts. Hunterston is central to this ambitious growth agenda.



Impact of Potential Development

Indicative Development

Peel Ports has supplied an illustrative land use plan for Hunterston PARC, outlining potential broad land uses for the redeveloped site.

The indicative uses include:

- Liquid Natural Gas import and storage;
- Combined Cycle Gas Turbine (CCGT) power station;
- Train manufacturing plant;
- Modular housing manufacturing plant;
- Concrete Batching;
- Marine construction and decommissioning;
- Land based Aquaculture;
- Plastics Recycling and Storage.

The above uses are considered in more detail overleaf.

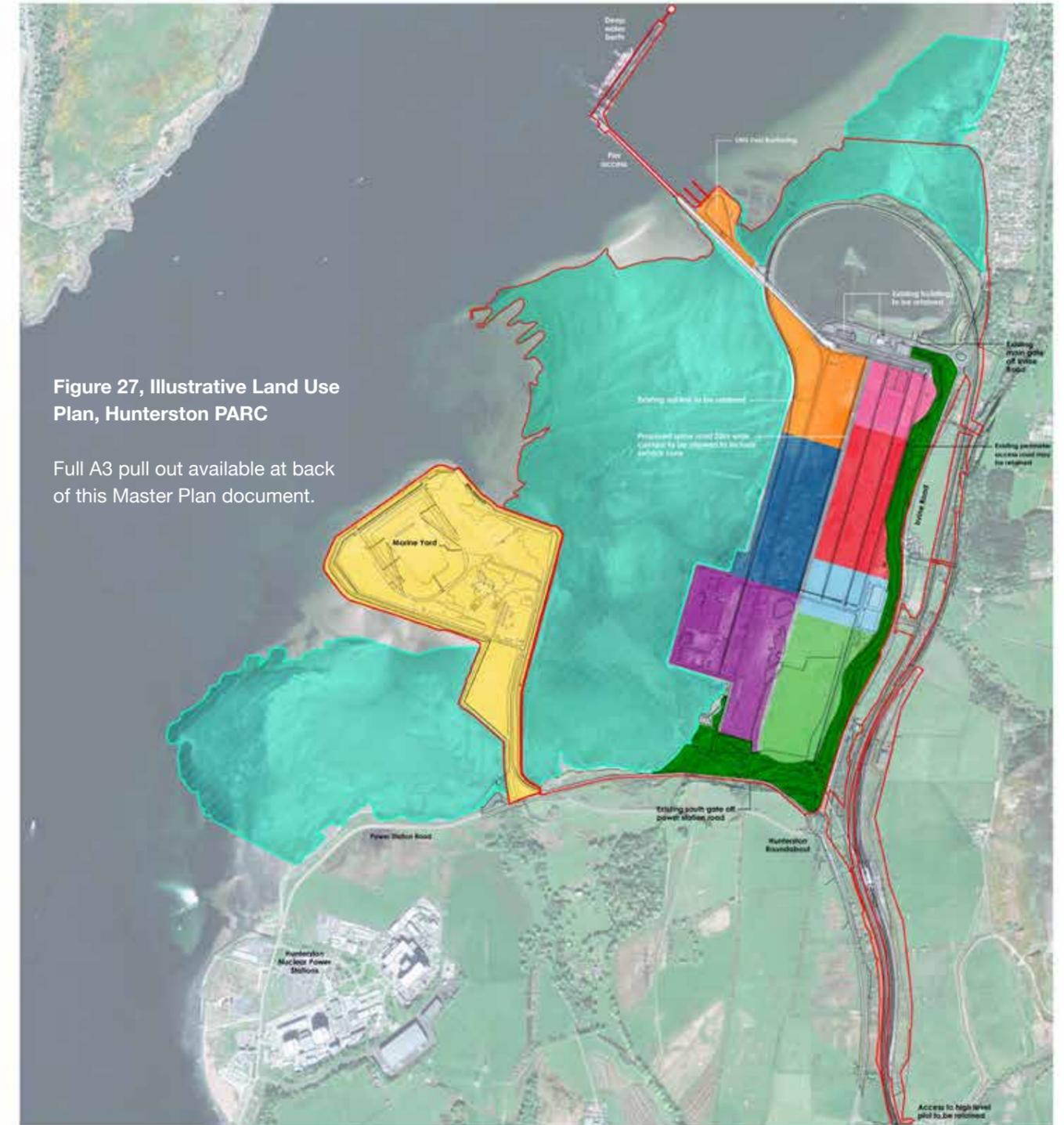


Figure 27, Illustrative Land Use Plan, Hunterston PARC

Full A3 pull out available at back of this Master Plan document.

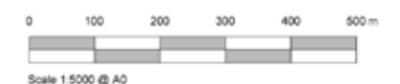
Indicative Use	Land Area (ac)	Jobs
LNG Storage	30	100
CCGT Power Station	40	40
Train manufacturing Plant	40	1,030
Modular manufacturing	30	218
Concrete batching	15	20
Marine Construction and Decommissioning	100	240
Aquaculture	15	60
Plastics recycling and storage	30	29
Total	300	1,737



- Southannan Sands Site of Special Scientific Interest
- Hunterston PARC site boundary
- Existing landscaped / TPO buffer zone to be retained

Hunterston PARC Illustrative Plan

Estimated potential Gross Value Added = £140 million



Impact of Potential Development

Energy Storage and Supply

Energy system security and flexibility is one of six energy priorities of the Scottish Energy Strategy (2017) and states that 'Scotland should have the capacity, the connections, the flexibility and resilience necessary to maintain secure and reliable supplies of energy to all of our homes and businesses as our energy transition takes place'

The need to maintain a reliable, resilient and stable energy supply, leads to the Scottish Energy Strategy concluding that efficient and flexible natural gas fired generation will remain an important part of Scotland's energy mix for the foreseeable future.

A long-term reliance on natural gas fired generation is amplified by the Scottish Government's continued opposition to new nuclear stations and the decommissioning of Hunterston B in 2023 and Torness in 2031, which will cease nuclear generation in Scotland.

Nuclear accounted for about 35% of Scotland's energy generation mix in 2015, a significant contribution that will need to be met from other energy sources in the future, including natural gas.

The key role of natural gas fired generation in meeting Scotland's future energy need brings the supply of gas to Scotland sharply into focus. By 2025, it is forecast that 67% of UK gas supplies will be imported from outside of the UK, through pipelines from continental Europe or from liquified natural gas (LNG) from international markets. In 2050 both pipeline and LNG are expected to be key sources by which the demand for gas in Scotland will be satisfied.

According to research by Scottish Enterprise, about 17% of UK gas is currently imported by ship as LNG. However, despite the role LNG plays in supplying energy to the Scottish Independent

Undertakings (SIUs) in Oban, Campletown, Wick and Thurso, there is currently no major LNG infrastructure in Scotland and LNG for these SIUs travels up by road tanker from the Isle of Grain in Kent.

To address the gaps in Scotland's LNG infrastructure, the opportunity exists to develop an LNG terminal at Hunterston PARC, both for use at a gas fired power station there and for onward distribution and use.

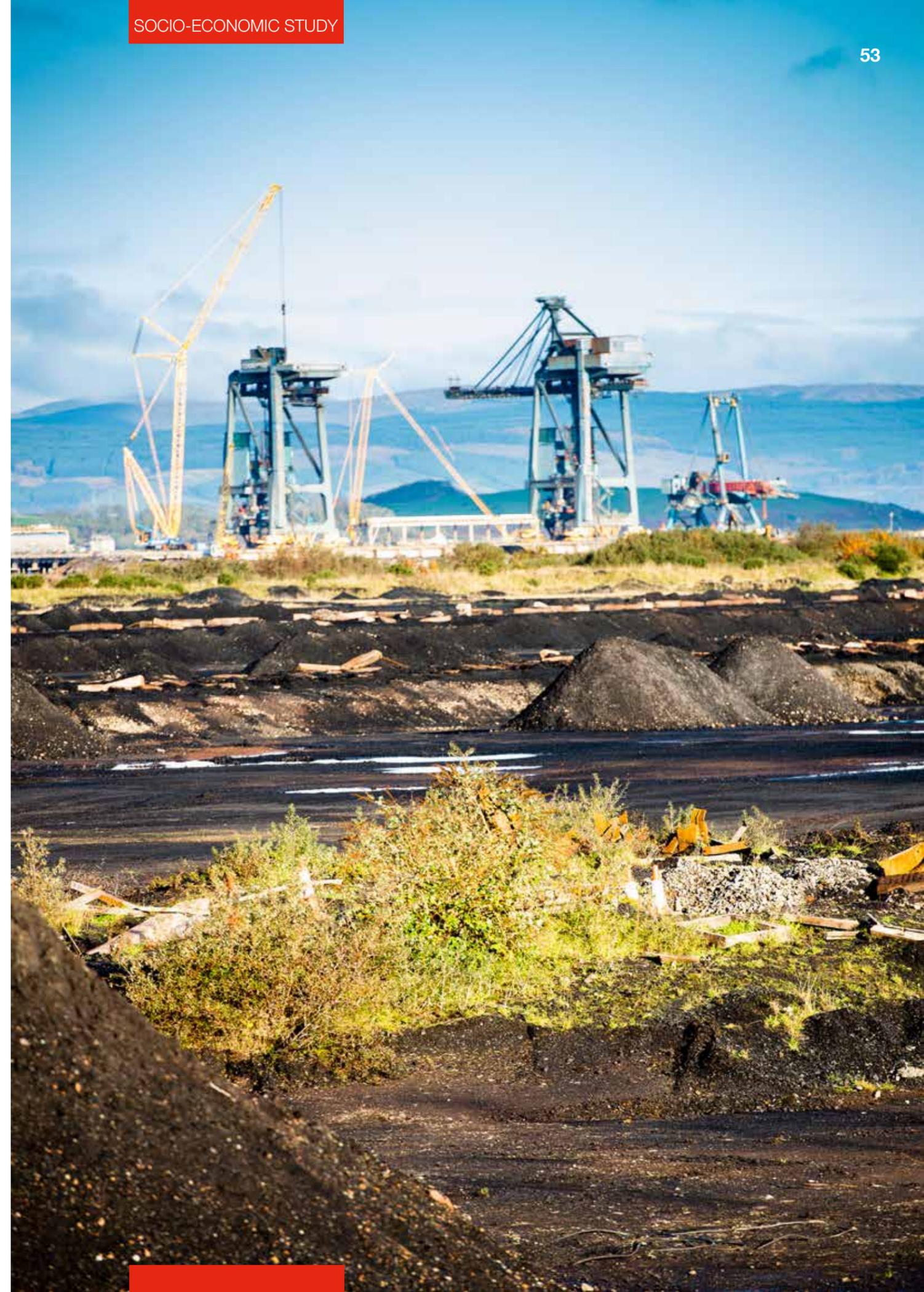
Liquid Natural Gas Terminal

Scottish Enterprise's report concludes that Hunterston PARC is suitable for an LNG importation and distribution terminal, capable of servicing the following:

- i) marine transport demand (LNG vessels) from the Firth and Clyde Ports
- ii) road transport demand in the north of England and Scotland
- iii) power generation demand (noting that electricity generation has the potential to be the largest single user of LNG in the foreseeable future)
- iv) Energy intensive industries and other identified off grid users

In line with expected demand for electricity generation, the predominate LNG use at Hunterston PARC will be for a natural gas power station (described below), requiring 2.5 million tonnes of LNG storage. The other major use will be for distribution into the network, requiring a further 2.5 million tonnes of LNG storage. Finally, a supplementary use to supply LNG vessels, trains, cars and other identified off grid users such as remote farmers and distilleries, which will require 0.5 million tonnes of LPG storage.

LNG would arrive at Hunterston PARC by carrier vessel LNG and pumped from the LNG Carrier to the above ground storage tanks. Alongside the storage tanks, re-gasification units (vapourisers) are



Impact of Potential Development

required to convert the liquid to its gaseous form, to enable a regulated flow into the pipeline (for use by the power station for example).

According to Scottish Enterprise, the LNG terminal could be expected to employ at least 100 full time equivalent employees and generate 16.7m GVA per annum at £167,000 GVA per worker.

Combined Cycle Gas Turbine (CCGT) Power Station

The power station will provide for improvement in electricity supply capacity and security of energy supply and benefits from being adjacent to the LNG terminal. In addition, it creates the potential to use surplus heat to supply electricity and heat to Hunterston PARC occupiers.

The recently consented (July 2017) 299 Mwe Wrexham CCGT power station is expected to provide 30 skilled jobs once operational. The larger 884 MW Carrington CCGT power station employs 40 permanent staff on site. The production of electricity is a high-value activity.

Data from the Annual Business Survey reveals GVA per worker in this sector to be £214,000 per annum. Based on the CCGT power stations discussed above, GVA would be between £6.4m and £6.8m per annum. Adjacent to the power station, land for a carbon capture plant will be set aside, anticipating the development of technology that allows CO2 capture on site.

Large-Scale Manufacturing

Hunterston PARC is capable of accommodating a number of large plots, suitable for large scale premises and laydown areas/outside storage. Deep water, rail and road connections make it capable of receiving bulk materials and components required for intermediate consumption, final assembly and forwarding of large scale intermediate and finished goods for national and international markets.

Train Manufacturing Plant

It is understood that discussions have previously taken place with Talgo for example, regarding the possibility of a train manufacturing plant linked to HS2 occupying part of the site (around 40 acres).

To predict potential economic impacts, we have analysed operations at the Bombardier train factory in Derby, East Midlands. According to Bombardier around 30% of the site footprint is 'roofed' workshop space, with the remainder being used for test facilities, site infrastructure, landscaping etc.

Research undertaken by the University of Derby in 2017 (and reported in the local press) suggests that 2,329 staff are employed across 101,000 sqm of workshop space – 43 sqm per job or 47 sqm per FTE (assuming 92% of jobs are full time, in line with the ONS Annual Survey of Hours and Earnings 2017 figures for the Manufacturing sector).

We have provisionally allocated a plot for this plant, an area of 40 acres in total. Applying the metrics discussed above, we estimate that a train manufacturing plant at Hunterston PARC would support just over 1,000 FTE jobs.

In terms of economic output, data from ONS suggests that the plant could generate around £72,000 GVA per FTE, based on data for the 'Manufacture of other Transport Equipment' sector (which includes train manufacturing) in recent years. On this basis, once fully operational, GVA per annum.

Off-Site Manufacturing and Construction

Uniquely on Scotland's West Coast, Hunterston's deep-water port combines with rail and motorway connections and development land, all 40 minutes from Glasgow and the Central Belt. This makes it an ideal base for off-site pre-fabrication to supply constrained construction sites across the UK.

Modular Manufacturing

The UK Government is encouraging investment in modular housing (engineered off-site in a factory environment) so that supply increases from 15,000 homes a year to 100,000 by 2020.

Because modular building is quicker and more efficient than traditional housebuilding, it delivers productivity and environmental benefits.

Insight into how it should be planned is provided by Berkeley Homes' recent consent for a 165,000sq ft (around 15,300sqm) modular homes factory in Ebbsfleet, Kent, which will produce 1,000 homes a year and is expected to create around 240 jobs – 64sqm per job, or 70sqm per FTE (assuming 92% of jobs are full time, based on ONS data for the Manufacturing sector).

A similar sized facility at Hunterston could generate around £67,500 GVA per FTE, based on ONS data for the manufacturing sector, £14.3m GVA per annum in total. A 30-acre plot has been earmarked with an indicative 218 FTE jobs being supported.

Concrete Batching

Expansion at Heathrow Airport is a notable example of the demand for off-site construction to ensure timely, cost effective and low carbon completion of major infrastructure projects.

Hunterston PARC is strategically positioned to function as a base for the production, storage and timely onward transportation of large concrete slabs. This would involve importing aggregates from nearby super quarry Glensanda by sea (deep water port to deep water port), for batching and consolidation at Hunterston PARC, the slabs then sent from Hunterston's rail head to locations throughout the UK.

Data from ONS suggests that the plant could generate around £69,500 GVA per FTE, based on data for the 'Manufacture of concrete products

for construction purposes' in recent years. Our review of similar operations leads to the conclusion that direct employment would be low and our working assumption is that 20 FTE jobs would be created. A concrete batching operation at Hunterston employing 20 FTE would give rise to £1.4m GVA per annum in total.

Marine Construction and Decommissioning

Accessible from all waters of the UK Continental Shelf (UKCS) the Hunterston Marine Yard site covers an area of including a 230m x 150m drydock, capable of accommodating large floating assets, making it ideal for the construction and decommissioning of large marine structures.

Hunterston PARC Decommissioning Facility

The current North Sea offshore Oil and Gas inventory is estimated comprise 560 steel platforms and over 100,000 tonnes of subsea equipment. To date, only 10% of platforms have been decommissioned and activity is now expected to increase significantly.

According to the Oil and Gas Authority, 165 projects will cease production by including 804 platform wells and 462 subsea wells. As a result, a total of 801,660Te of infrastructure is estimated for removal from UKCS, a total of 15,241 days onshore work, peaking in the early 2020s.

The economic opportunity presented by onshore oil and gas decommissioning is significant. However the extent to which the UK will benefit is by the limited number of port locations of sufficient size to accommodate:

a) Large platforms and other structures in dry dock and on lay down areas;

All stages of onshore decommissioning, in order to reduce the cost and environmental

Impact of Potential Development

impact associated with a current decommissioning model that relies upon multiple global operations in order to complete the full scope of onshore decommissioning works.

Enabling works necessary to bring the Construction Yard up to the required specification have commenced, supported by funding from Scottish Enterprise. The works comprise installation of 22m high caisson gates the replacement and completion of the existing jetty.

Ironside Farrar estimate that a throughput of 45,000 tonnes (three assets) per annum would support 240 gross permanent FTE jobs equating to £14m GVA per annum.

Aquaculture

A recent impact study (2017) commissioned for Highlands and Islands Enterprises and Marine Scotland, The Value of Aquaculture to Scotland, concludes that Scotland's aquaculture sector has a more certain future, in terms of customer demand and scope to grow to meet this, than many other Enterprises sectors of its economy. To that end, it supports the 2016 industry led strategic plan Aquaculture Growth to 2030, to double production by 2030.

Land-Based Aquaculture

Atlantic salmon production dominates the Scottish aquaculture sector by volume and value, accounting for 95% of finfish production by volume.

About 21% of salmon production is focussed in the south west of Scotland and 76% of rainbow trout is produced in the west of Scotland. In total, in 2014/15, salmon and rainbow trout production accounted for 10,800 full time equivalent (FTE) jobs, earnings of £280m and GVA of £560m.

Reflecting on the national aim to double production, The Value of Aquaculture report suggests that a

50% might be a more realistic outcome, increasing employment, earnings and GVA by about 20%. For finfish production density (salmon and trout), a 20% increase would result in an additional; 2,200 FTEs, £56m earnings and £108m GVA.

The industry acknowledges that innovation will be fundamental to realising the estimates of future growth and has identified closed containment as one such innovation that will both address capacity and disease management.

Hunterston PARC is a suitable location for a land-based closed containment finfish (salmon, trout) production facility and on a plot of 10 to 15 acres could accommodate a recirculating aquaculture system (RAS) fish farm in a 18,500sqm footprint building.

The benefits of RAS include the ability to recycle waste resources and nutrients, reduce water consumption, prevent sea-lice and parasites, ensure consistent quality and afford the opportunity to apply renewable energy concepts.

The nature of RAS finfish production means that much of the building will be occupied by tanks and systems for feeding, oxygenating and recirculation. A technology driven, automated solution to production that is relatively low density (workers per square metre of floorspace) but relatively high skilled.

Our working assumption is that the facility could employ 60 full time equivalents. Data from the Annual Business Survey reveals GVA per worker in this sector to be £90,000 per annum. Based on our employment estimate, GVA could be in the region of £5.3m per annum.

Materials Recovery

Making Things Last. A Circular Economy Strategy for Scotland (2016) and the UK Industrial Strategy (2017) make a clear commitment to moving towards a more circular economy, that makes better use of valuable products and materials - changing the way they are produced and a managed to have less impact on finite natural resources and create greater economic benefit.

Plastic Recycling and Storage Facility

In order to support the move towards a more circular economy it will be necessary to promote of recycling and a strong secondary materials market. To that end, the development of a mixed plastics recycling and storage facility could divert plastic waste from landfill and use it to produce polypropylene flakes that would then be then be sold on and used in the manufacture of new, food grade products. Such facilities are uncommon, the notable example being Biffa Polymers facility in Redcar Middlesbrough.

A comparable facility at Hunterston would be capable of processing c50,000 tonnes of mixed plastic packaging per annum and employ about 30 people within a facility of 8,500 sqm, plus feedstock storage area At 285 sqm per job or 293 sqm per FTE (assuming 92% of jobs are full time, as per ONS data for the Materials Recovery sector), we estimate GVA to be £1.9m per annum, assuming £64,400 GVA per worker, according to raw material recovery sector performance in recent years.

Proposed Uses, Estimated Direct Employment and Gross Value Added (GVA)

Indicative Use	Assumed Use Class	Land Area (ac)	Land Area (sqm)	Plot Ratio	GEA (sqm)	Employment Density	Jobs	GVA
LNG Storage	SG	30	105,000	30%	30,000	294	100	£16,700,000
CCGT Power Station	SG	40	165,000	30%	50,000	1189	40	£8,600,000
Train manufacturing Plant	5	40	170,000	30%	50,000	47	1,030	£74,200,000
Modular manufacturing	4	30	125,000	13%	15,000	70	218	£14,300,000
Concrete batching	5	15	60,000	5%	3,000	140	20	£1,400,000
Marine Construction and Decommissioning	5	100	400,000	10%	40,000	158	240	£15,000,000
Aquaculture	4	15	60,000	31%	20,000	293	60	£5,400,000
Plastics recycling and storage	4/5	30	125,000	7%	10,000	293	29	£1,900,000

Total Land Area (ac)	300
Total GEA (sqm)	220,000
Overall Plot Ratio (building footprint)	18%
Total GIA (sqm)	210,000
Total Jobs	1,737
Overall Employment Density (sqm per FTE)	127
Total GVA per annum	£140m
Overall GVA per FTE	£80,000

Notes:

Floor areas and GVA estimates are rounded
Plot ratio calculated from the assumed building footprint size, the remainder being a combination of: laydown, open storage, yard, parking, access roads.

Gross Value Added (GVA) based on data relating to activities that correspond to each of the proposed uses, collected through the Annual Business Survey across the UK to ensure the greatest possible sample size.

Conclusions

Hunterston PARC – Catalyst for Growth

The area most likely to be impacted by development at PARC will be North Ayrshire as a whole. A wider area incorporating East and South Ayrshire, plus Glasgow City Region, may also experience an impact, although this is likely to be weaker than the impact on North Ayrshire.

The long-term decline in population and jobs in North Ayrshire has the potential to undermine future economic prosperity, particularly in the context of an ageing population.

Economic development through schemes such as PARC, is likely to be crucial, both in bringing jobs back to North Ayrshire and also by encouraging working age migration into the area.

It is important that the Local Development Plan provides a positive planning policy framework that enables both job creation and migration into the district.

This in turn will help maintain and boost the viability of local services such as schools, doctor's surgeries and retail centres. The relatively high level of unemployment, low economic activity rates and net out-commuting across the occupational spectrum imply that there is scope for greater utilisation and retention of the existing resident workforce.

Should it be required, there is also a large pool of highly-skilled labour living nearby in the Glasgow City Region.

North Ayrshire's declining population is likely to make delivering even the relatively modest Oxford Economics Local Authority Forecasting

Model forecast for 1,500 jobs over the next 10 years a challenge, reinforcing the importance of a Local Development Plan Framework that enables sustainable growth.

Without population growth, unemployment rates will need to fall below historic lows, and net commuting will need to improve either by convincing GCR-bound workers to move to local jobs or encourage more in-commuting from GCR (which itself raises issues of environmental sustainability).

The priority afforded to Hunterston in national policy places it at the forefront of Scotland's strategy to be a low-carbon, circular economy, the development potential of Hunterston PARC responding directly to the UK Industrial Strategy's drive to improve productivity.

The ambitions for growth expressed in national economic policy are reflected in the emerging North Ayrshire Development Plan and the Ayrshire Growth Deal, which together set a local context for growth that is significantly above trend-based forecasts.

Hunterston PARC is central to this ambitious growth agenda, it is a unique asset of national significance capable of supporting the creation of over 1,700 jobs with a value of over £140m GVA annually in industries that will support the Scottish and UK Governments ambition for a circular economy.

5.0 Planning, Transport and Marine Policy

- 5.1 The policy context within which Hunterston PARC operates is important to the future of the site, as this sets the framework against which specific development projects are evaluated.

Planning

Scottish Planning Policy (2014)

- 5.2 Scottish Government Planning policy is a material consideration in the planning system. Therefore regard must be given to the policies laid out within this document which advise on nationally important land use planning matters, with a focus on developments which contribute to the economic regeneration. With regards to Scottish coasts and specifically the uses at the coast, the onus placed upon Local Development Plans in this document is to provide for the development requirements of uses by Ports, associated offshore energy projects and other uses discussed further in the Socio-Economic chapter of this document.

Scotland's Third National Planning Framework (NPF) 2014

- 5.3 Scotland's NPF is a statutory document which influences more specific land uses within Scotland. At national level there is not a dedicated port policy in Scotland. This is to allow for the greatest flexibility for ports to tailor propositions to the individual ports needs and capabilities circumstances. Therefore, with awareness of this we have produced this Master Plan in the spirit of Peel Ports other Master Plans which adhere to the National Ports policy (adopted January 2012) and the Department for Transport's "Guidance in the preparation of Port Master Plans" (December 2008) which is applicable in England and Wales.
- 5.4 The National Planning Framework 3 (NPF3) sets the context for development planning in Scotland and provides a framework for the spatial development of Scotland until the publishing of NPF4

which is expected in 2020. The NPF identifies national developments and other strategically important development opportunities in Scotland, where Hunterston "...has long been identified as a priority for industrial and employment use." (NPF3).

- 5.5 The Key Planning outcomes within this document for Scotland are:

- A successful sustainable place – supporting economic growth; regeneration and the creation of well-designed places;
- A low carbon place – reducing our carbon emissions and adapting to climate change;
- A natural resilient place – helping to protect and enhance our natural cultural assets and facilitating their sustainable use;
- A connected place – supporting better transport and digital connectivity

- 5.6 The role of ports within the UK is recognised in the National Infrastructure Delivery Plan 2016-2021. This document collates the identified need in the UK for future infrastructure projects for differing sectors. Ports are recognised as requiring support in delivering road and rail connectivity to assist with projected increased capacity.

- 5.7 The relevant determining authority for a new development maybe the local planning authority, SEPA (Scottish Environment Protection Agency), North Ayrshire or Scottish Ministers. This is dependent on the siting, scale, nature and significance of the proposal at local or national level.

- 5.8 The role of ports as infrastructure assets, contributing to the economic well-being of Scotland, has long been acknowledged. The previous iteration of the National Planning Framework (NPF2), had two ports, Hunterston and Aberdeen, identified as national developments, i.e. those that affect the country as a whole or at least a significant proportion of Scotland.

- 5.9 In NPF3, Hunterston is now acknowledged as an energy hub and most decisions are determined primarily through the Local Planning Authority (LPA).
- 5.10 Ports projects can be determined by Marine Scotland or North Ayrshire Council dependent upon whether the projects are marine or land based. Marine Scotland was established under the Marine (Scotland) Act 2010. The Act states that amongst other functions, Marine Scotland is the determining body for offshore sub-threshold port development applications. Marine Scotland also determines Harbour Revision Order applications and is involved as a statutory consultee in Major and National applications that are within the marine environment.

Local Development Planning

- 5.11 The determination of planning applications within the Hunterston PARC estate (that do not constitute permitted development (referenced in 3.25) are considered in line with Section 25 of the Town and Country Planning (Scotland) Act 1997 "Status of development plan":
- "Where, in making any determination under the planning Acts, regard is to be had to the development plan, the determination is, unless material considerations indicate otherwise—
- (a) to be made in accordance with that plan"

- 5.12 This plan led system which makes the Development Plan the determinant of decision unless material considerations indicate otherwise. In the case of Hunterston the statutory development plan constitutes the development plans prepared and implemented by North Ayrshire Council. The Planning and Compulsory Purchase Act 2004 (PCPA) was enacted to establish a new system for the preparation of spatial development plans across the country. Section 20 of the PCPA 2004 (as amended) states that local plans must be positively prepared, justified, effective and consistent with national policy and the NPF.
- 5.13 When first introduced in 2004, the development plan system was known as the Local Development Framework. The Localism Act (Scotland) 2011 changed this to the Local Plan system, with the regulations for preparing Local Plans issued to all LPA's in 2012.
- 5.14 Within the first and proposed second Local Plan, recognition is given to the need to set down direction for the future for key areas within North Ayrshire. This includes Hunterston PARC. The Draft Local Plan acknowledges the importance of the Port at a National level and strongly supports the inclusion of Hunterston in the forthcoming NPF4.

- 5.15 North Ayrshire Council do include the use of Hunterston for many potential future uses such as renewables generation, maritime construction and other storage and processing uses, to help enable the site to provide economic benefit for the local communities.

Adopted Local Development Plan May 2014

- 5.16 Current policies which are relevant to Hunterston are:
- 5.17 Policy IND1, Strategic Business Locations where Hunterston is identified and prioritised for investment, improvement and protected from inappropriate uses.
- 5.18 Policy IND2 Hunterston National Development identifies the site for uses such as Maritime construction and decommissioning, energy related development and industrial development in line with the previous NPF2, which classified Hunterston as a National Development.
- 5.19 Policy STRAT2: Employment. Hunterston is identified as having the potential for major employment generating development.



Emerging Local Development Plan 2

5.20 Strategic Policy 3, Development Area 1 is the recognition of the National importance of Hunterston as an energy hub and a deep-water port. Reference is made to the reinstatement of Hunterston in National Planning Framework 4, as it previously was in NPF 2.

5.21 Policy 24 Alignment with Marine Planning highlights that:

“We will, in principle, support developments with a marine component or implication (such as marinas, ports, harbours, marine tourism and recreation, fish farming, and land-based development associated with offshore energy projects and defence establishments) where they are within a recognised developed coastal location and provided they are consistent with Scotland’s National Marine Plan and the emerging Regional Marine Plan for Clyde Marine Region. All marine proposals should identify environmental impacts and mitigate against these to ensure there are not any unacceptable adverse impacts. Developments on coastal areas with significant constraints will be supported, in principle, providing they contribute to the economic regeneration or well-being of communities whose livelihood is dependent on marine or coastal activities. Developments on undeveloped sections of coast which possess special environmental or cultural qualities, such as wild land will generally be resisted unless there would be a significant economic value of the development and that environmental impact issues can be satisfactorily addressed.”

Permitted Development

5.22 There are instances whereby operations at Hunterston PARC are dependent upon implementation of development projects that entail some form of reconfiguration in layout and/or the erection of buildings.

Under the terms of The Town and Country Planning (General Permitted Development) Order 1992 Hunterston PARC benefits from several concessions such that there is no necessity to apply for formal planning permission as follows:

Part 13 Class 35: Development by Statutory Undertakers in respect of Dock, pier, harbour, water transport, canal or inland undertakings

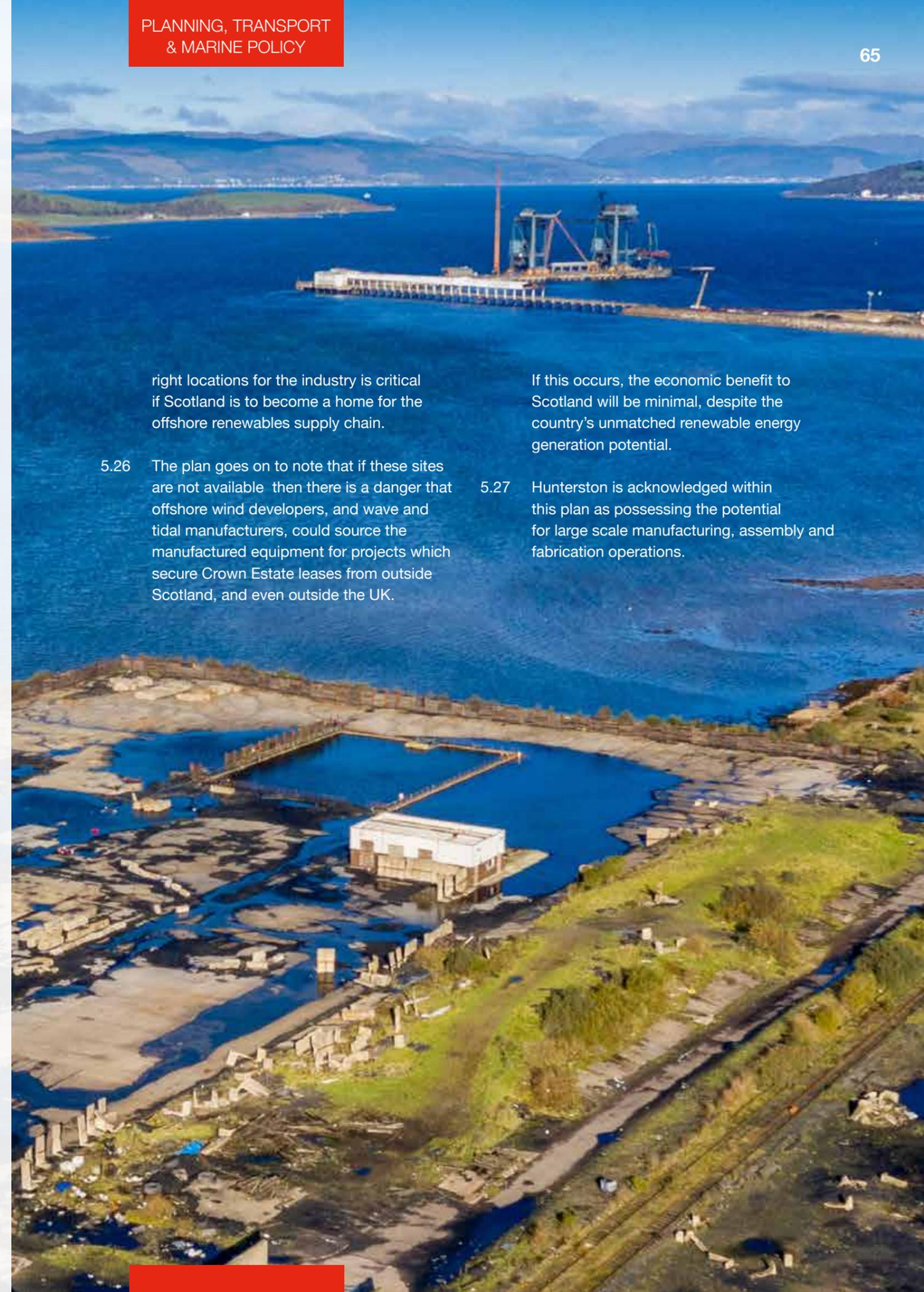
This class permits development upon our operational land as undertakers and by our lessees, for shipping and for dock, pier or harbour related activities (for passengers, livestock or goods), or connected with the movement of traffic by canal or inland navigation, or any railway forming part of the undertaking.

5.23 The availability of the rights is significant in terms of our operational port requirements. For example, there are often scenarios whereby buildings, are required at short notice for the safe and weatherproof storage of import or export cargoes.

5.24 It is of course acknowledged that where such projects are likely to result in significant environmental effects, the Class B rights are overridden such that an Environmental Statement would be required in association with a formal planning application. Likewise, we are mindful of relationships with local planning authorities and those third parties potentially affected in our exercising of these rights. For this reason, the Port actively engages and consults with Council representatives and any local residents that may reside in close proximity prior to undertaking any development works.

National Renewables Infrastructure Plan 2014

5.25 The objective of the national renewables infrastructure plan is to make sure that appropriate sites are available in the right locations to provide the platform for the growth of industry. It states that having the



right locations for the industry is critical if Scotland is to become a home for the offshore renewables supply chain.

5.26 The plan goes on to note that if these sites are not available then there is a danger that offshore wind developers, and wave and tidal manufacturers, could source the manufactured equipment for projects which secure Crown Estate leases from outside Scotland, and even outside the UK.

If this occurs, the economic benefit to Scotland will be minimal, despite the country’s unmatched renewable energy generation potential.

5.27 Hunterston is acknowledged within this plan as possessing the potential for large scale manufacturing, assembly and fabrication operations.

Transport

Transport (Scotland) Act 2005

The Bill for this Act of the Scottish Parliament was passed by the Parliament on 29th June 2005 and received Royal Assent on 5th August 2005.

This Act of the Scottish Parliament to provide for the setting up and functions of new transport bodies and to enable the Scottish Ministers to:

- Discharge certain transport functions; to provide further for the control and co-ordination of road works and for the enforcement of the duties placed on those who carry them out
- To set up national concessionary fares schemes; and to make other, miscellaneous modifications of the law relating to transport.

Strathclyde partnership for Transport Regional Transport Strategy 'A catalyst for change' 2008-21

'A Catalyst for Change – The Regional Transport Strategy for the west of Scotland 2008 – 21' was approved in 2008.

It sets out the Strathclyde Partnership for Transport (SPT) vision and priorities for transport across the region. It is structured around improving connectivity, providing access for all, reducing emissions and the delivery of attractive, seamless and reliable travel.

The plan identifies a range of infrastructure that is needed for the Ayrshire region. This includes:

- Investing in improved capacity and journey time reliability on key routes including the A78
- Encouraging Transport Scotland and local authorities to improve road maintenance and management
- Reviewing signage to direct hauliers onto the most appropriate routes

North Ayrshire Council

Any requirements to upgrade the road network in North Ayrshire in relation to proposed developments at Hunterston PARC will require to be identified through an appropriate Transport Assessment.

Strategic Rail Freight Network

- 5.28 In September 2009 the DfT published A Strategic Rail Freight Network: The Longer-Term Vision. This acknowledges the key role for rail freight in delivery of a sustainable distribution system, which contributes to the achievement of the UK's economic and environmental objectives. The Strategic Rail Freight Network (SFN) is designed to optimise the freight performance of our intensively utilised mixed-traffic rail network, allowing the efficient operation of more, longer and selectively larger / heavier freight trains. Furthermore, the SFN seeks to improve gauge clearance along specific corridors to cater for 9' 6" high, and pallet wide shipping containers.
- 5.29 Several interventions will be required to:
- Optimise freight trunk routes to minimise passenger/freight conflicts.
 - Make the network available 24-hours a day, all year round.
 - Eliminate pinch points.
 - Upgrade network capability; removing heavy axle weight restrictions for trains conveying bulk products and improving gauge clearance for trains conveying maritime containers and intermodal swap bodies.
- 5.30 In parallel, Network Rail has published several Route Utilisation Strategies (RUS) which set out the strategic vision for specified parts of the rail network. Hunterston PARC has 2 rail terminals, with scope for sidings to be installed to serve various uses in import and export such as bulk freight including aggregates.

Marine Policy

- 5.31 Marine Scotland is the government body responsible for managing Scotland's seas and coastal waters, for supporting sustainable economic growth from Scotland's marine assets and safeguarding its valuable marine ecosystems. Marine Scotland was established in April 2009 with three main functions: Marine Scotland Compliance, Marine Scotland Science and

Marine Scotland Policy. These three areas work collaboratively to research and monitor Scotland's seas to provide evidence for decision making, recognise Scotland's interests, and enable Marine Scotland to ensure the sea is used sustainably and, through engagement with all stakeholders, to protect Scotland's marine environment. The Marine (Scotland) Act 2014 facilitated Marine Scotland's creation of Scotland's National Marine Plan which amongst other things, encourages economic development of marine industries and incorporates environmental protection into decision making. In addition, the Act gives Scottish Ministers the power to designate Nature Conservation Marine Protected Areas (MPAs). In July 2014, 30 new Nature Conservation MPAs were designated in Scottish seas.

The Marine Policy Statement

- 5.32 The UK Marine Policy Statement (MPS) (2011) has been adopted by all UK Administrations. It provides the high-level element of the new system of marine planning introduced across the UK for "clean, healthy, safe, productive and biologically diverse oceans and seas".
- 5.33 The MPS provides support for the preparation of national and regional Marine Plans and promotes sustainable use of marine resources across social, environmental and economic platforms, in addition to mitigating against the effects of climate change. The high-level policy provided through the MPS assists with the development, implementation, monitoring and amendment of national and regional Marine Plans to enable consistency in Marine Plans across the UK.

Scotland's National Marine Plan

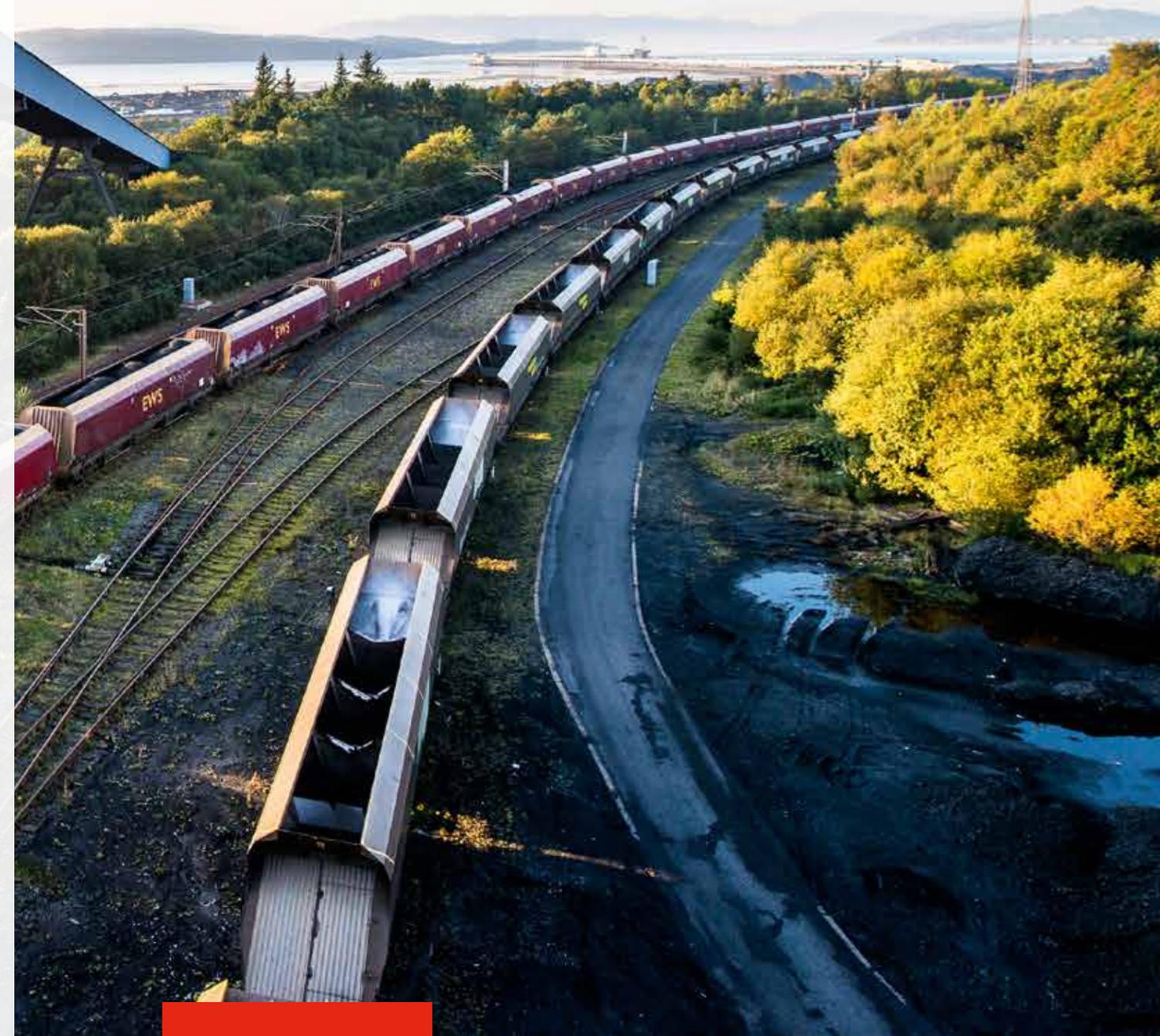
- 5.34 Under the Marine (Scotland) Act 2010 Marine Scotland developed Scotland's first National Marine Plan in 2015. The Plan provides a framework for decision making on activities in the marine environment, and it covers in-shore waters out to 12 nautical miles and off-shore waters 12-200 nautical miles from the coast.

Clyde Marine Planning Partnership

- 5.35 Marine Scotland defines Scottish marine regions for the development of Regional Marine Plans through the Marine (Scotland) Act 2010 and under the National Marine Plan. In the Clyde Marine Region, Scottish Ministers have delegated the authority for developing the statutory Clyde Regional Marine Plan to the Clyde Marine Planning Partnership (CMPP). In preparing the Regional Marine Plan, the CMPP is working with stakeholders representing a range of interests (including shipping, fisheries, aquaculture, defence, transport, conservation, recreation, local authorities and central government) to

develop relevant social, economic, environmental and climate change policies. The marine planning process brings all these groups and interests together with the aim of creating well-coordinated policies and plans which meet the desired outcomes for the area. The draft Clyde Regional Marine Plan is currently subject to public consultation.

- 5.36 The marine and terrestrial planning regimes overlap in the intertidal zone, between low and high-water spring tides. Where local authority areas of jurisdiction adjoin the Marine Plan area, the latter will interact with existing terrestrial planning legislation.



6.0 Environmental Considerations

- 6.1 This Chapter details the potential environmental considerations relating to the current and potential future operations at Hunterston PARC. As a statutory harbour authority, licensing authority and landowner, Peel Ports has environmental duties laid out in statute. Government policy also requires harbour authorities to strike an appropriate balance between the long-term protection of the environment and the securing of sustainable economic growth. Environmental considerations form key elements of regulatory applications potentially through a Environmental Impact Assessment (EIA), with mitigation measures often secured through imposition of planning or Marine Licence conditions.
- 6.2 In discharging its roles, Peel Ports remains committed to its continuing compliance with all applicable environmental legislation and other relevant requirements in the pursuit of its duties and powers and, Peel Ports will take these fully into account in its actions and decisions. This will be done alongside its pursuit of the sustainability objectives established by the Government.
- 6.3 As such, it is the Company's policy that it shall:
- Follow best environmental practice regarding its own activities and provide appropriate management of the operational port estate;
 - Set objectives and targets through the implementation of an environmental management programme with a view to:
 - i. Minimising any significant adverse environmental impacts of new developments through the use of integrated environmental management procedures and planning;
 - ii. Development of environmental performance evaluation procedures and associated indicators;
 - iii. Preventing pollution, reducing waste and the consumption of resources (materials, fuel and energy), and committing to recovery and recycling, as opposed to disposal, where feasible;
 - iv. Educating and training employees, contractors and customers in good practice environmental management principles;
 - v. Communicating with the relevant authorities, regulators and stakeholders and consulting where there are areas of common interest;
 - vi. Working towards sustainable development; and,
 - vii. Encouraging responsible environmental behaviour by suppliers and contractors.
 - Work to prevent environmental damage and maintain a high level of preparedness to reduce the effects of any incidents (e.g. pollution) within Hunterston PARC.
- 6.4 Hunterston PARC is committed to continual improvement in its performance.

Biodiversity

- 6.5 The Hunterston PARC Master Plan area is located within the mouth of the Firth of Clyde. This location is such that operations at Hunterston PARC co-exist with a number of nature conservation sites of national importance.
- 6.6 The spatial distribution of the nationally designated nature conservation sites within 5km is illustrated in Figure 6.1 below and summarised in Table 6.1. The relevant designations are Sites of Special

Scientific Interest (SSSI) which are protected areas under the Wildlife and Countryside Act 1981 for the protection and conservation of flora and fauna. Under the Nature Conservation (Scotland) Act 2004, Scottish Natural Heritage (SNH) (the statutory nature conservation body) is responsible for monitoring the condition of these protected areas and advising on development proposals that have the potential to affect protected areas.

- 6.7 Where a project is located close to, or

within, an area designated or proposed under the Birds and/or Habitats Directives (European sites) and/or the Ramsar Convention (Ramsar sites), the requirements of The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) may apply.

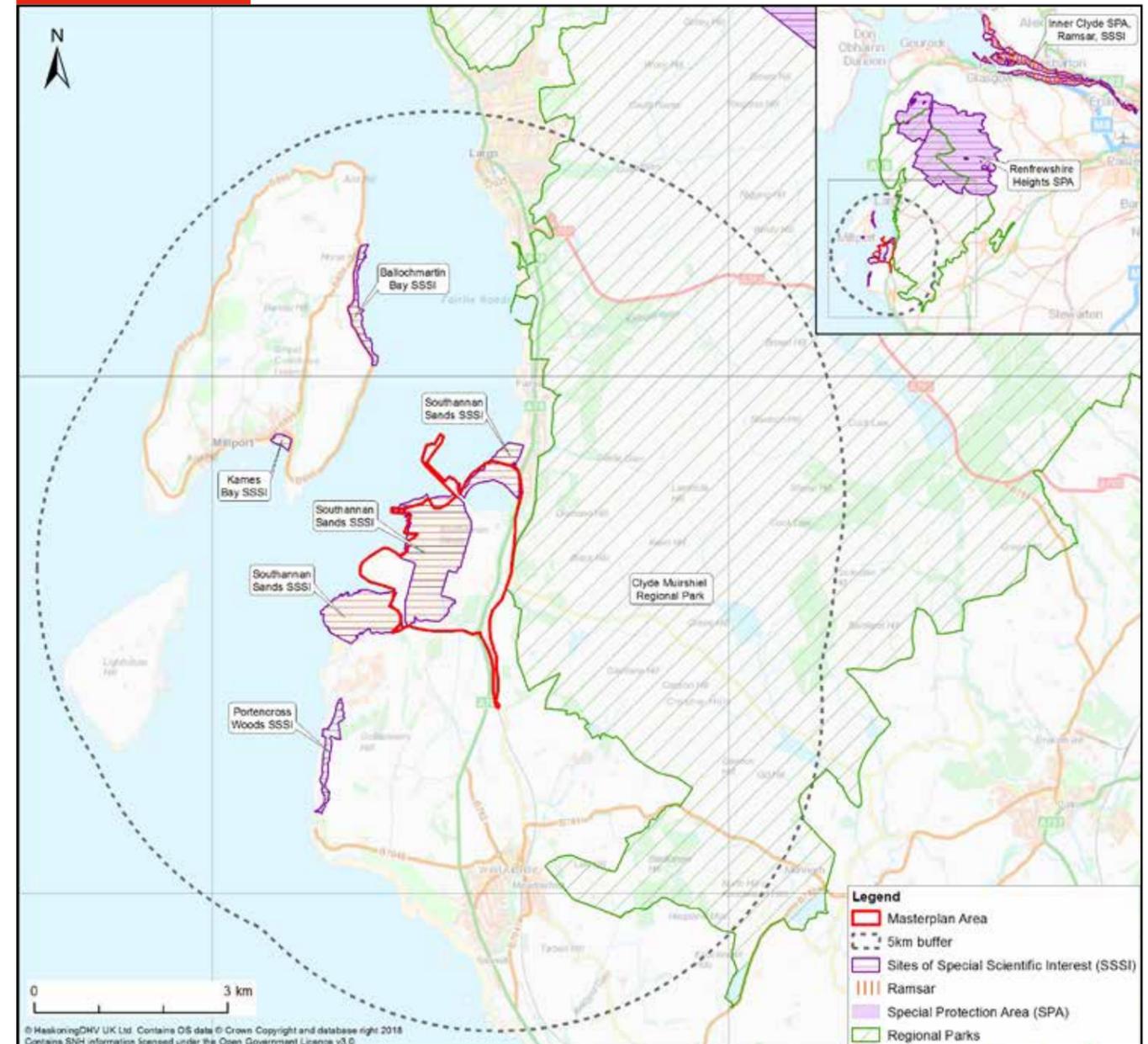
- 6.8 The nearest Special Protection Area (SPA)

site is Renfrewshire Heights, located approximately 12km north-east from Hunterston. This site is designated for terrestrial qualifying interest features. In addition to Table 6.1 the nearest marine designated site is the Inner Clyde SPA, Ramsar and SSSI site, located more than 25km to the north-east. The Cumbrae Islands lie approximately 2km north west of Hunterston and are covered by a Marine Consultation Area.

Table 6.1 Nature conservation designated sites

Site	Designation	Distance and direction from Hunterston	Description
Southannan Sands	SSSI	0km	Intertidal sandflats Extensive intertidal sandflats habitat, with areas of the nationally scarce dwarf eelgrass species.
Portencross Woods	SSSI	1.5km south	Upland mixed ash woodland Botanically-rich mixed deciduous woodland is situated on steep-sided maritime cliffs.
Ballochmartin Bay	SSSI	1.5km north	Coastland The beach is backed by herb-rich grassland and roadside verges supporting slow-worms and a number of uncommon higher plant species.
Kames Bay	SSSI	2 km north-west	2 km north-west Coastland Most intensively studied site for intertidal marine biology in Scotland.

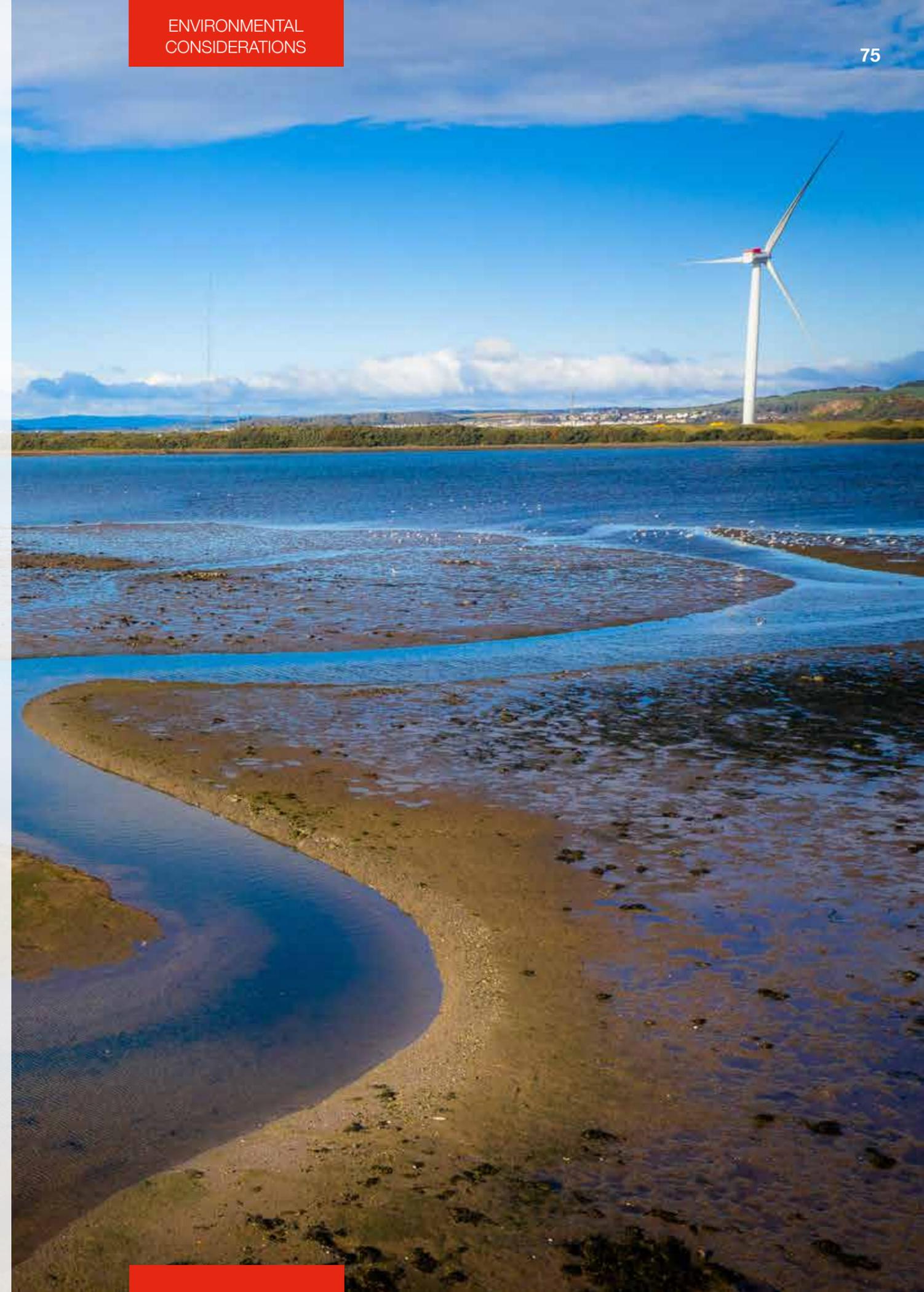
Figure 6.1



- 6.9 The Marine (Scotland) Act 2010 provides for the designation of Marine Protected Areas (MPA) in Scottish inshore waters (within 12 nautical miles (nm) of the territorial baseline) to protect habitats and species considered to be of national importance. Hunterston PARC is over 10km from the nearest MPA.
- 6.10 Southannan Sands SSSI extends for over 4km along the coast, and is subdivided by Hunterston PARC (Figure 6.1). The marine construction yard and the coal terminal conveyor extend beyond the Mean Low Water Spring (MLWS) tide mark and sub-divide the sandflats and mudflats into three areas: Hunterston Sands, Southannan Sands and Fairlie Sands. Areas of the nationally scarce dwarf eelgrass (*Zostera noltii*) are a biologically and structurally important component across this site. Although not notified features of the site, the sandflats and mudflats are a food source for a range of wildfowl and waders species, particularly during the winter months, with communities of polychaetes (marine annelid worms such as lugworms), crustaceans (including species of crab and shrimp) and molluscs (such as mussels and cockles) present, especially on the lower shores (SNH, 2018).
- 6.11 When the Hunterston Ore Terminal was built between 1974 and 1979, a lagoon and a bird sanctuary island was developed to the north. The Master Plan includes the potential for a visitor centre, enabling potential access to this bird sanctuary.
- 6.12 Other nearby designations include Portencross Woods SSSI, which is of national importance for its ancient coastal mixed ash woodland, situated on steep-sided maritime cliffs ; Kames Bay SSSI, a small sandy bay with rocky margins provides a feeding ground for wader species. Ballochmartin Bay SSSI is backed by herb-rich grassland and roadside verges which support slow-worms and a number of uncommon higher plant species.
- 6.13 There are no nature conservation sites designated for marine mammals or basking sharks in the immediate vicinity of Hunterston. However, species of marine mammal and basking sharks have been recorded in and around the Firth of Clyde. The Clyde Marine Mammal Project documents sightings of marine mammals (and basking sharks) in the Clyde, and is undertaking a visual and acoustic marine mammal survey of the Clyde waters. A summary of the Clyde Marine Mammal Project's records for 2017 (the latest available) is provided in Table 6.2.

Table 6.2

Species	Comments
Harbour porpoise (<i>Phocoena phocoena</i>)	Most commonly identified cetacean species in the Clyde and is resident throughout the year. In 2017, recorded between February and May adjacent to Hunterston Coal Terminal.
Short beaked common dolphin (<i>Delphinus delphis</i>)	In 2017, recorded between February and May adjacent to Hunterston Construction Yard and Hunterston Coal Terminal and along the Hunterston and Fairlie Channels to the North.
Basking shark (<i>Cetorhinus maximus</i>)	Often appears in summer months in the Clyde, with numerous records in the waters around Great Cumbrae to the North.
Grey seal (<i>Halichoerus grypus</i>)	There is a small haul-out for grey seal on The Eileans in Millport Bay and they can be observed from shore.
Harbour seal (<i>Phoca vitulina</i>)	There is a small haul-out for harbour seal on The Eileans in Millport Bay and they can be observed from shore.



6.14 To the north of the Hunterston PARC Master Plan area, an area of Southannan Sands, Fairlie, is designated as a Shellfish Water under the Water Environment (Shellfish Water Protected Areas Designation) (Scotland) Order 2013. Fairlie Shellfish Waters is also designated as a Shellfish Harvesting Area by the Food Standards Scotland (FSS), for the production of Pacific oysters (*Crassostrea gigas*). Fisheries landings in the area are dominated by shellfish, with the large majority of landings for Nephrops, but scallops, crabs and razor clams are also present in large numbers.

6.15 Key fisheries within the Firth of Clyde also include herring and sprat. The Clyde is identified as high intensity nursery grounds for cod, hake, ling, mackerel, herring and spurdog (Coull et al., 1998).

6.16 In many cases, development of existing land within the Hunterston PARC Master Plan area is unlikely to have any significant impact upon biodiversity, given that it will effectively involve the re-use or development of existing brownfield sites. However, this would be considered on a project-by-project basis and would be informed by site-specific surveys and assessments as appropriate

6.17 Any construction works below the MHWS tide level would require a Marine Licence under the Marine (Scotland) Act 2010, to be granted by Marine Scotland. For works above the MHWS tide level, planning permission may need to be sought from North Ayrshire Council under Section 57 of the Town and Country Planning (Scotland) Act 1997. This process would involve close liaison with stakeholders, including SNH and Scottish Environment Protection Agency (SEPA).

6.18 For developments that may give rise to significant environmental impact, an Environmental Impact Assessment (EIA), under the Town and Country Planning (EIA)

(Scotland) Regulations 2017 for terrestrial projects, or the Marine Works (EIA) (Scotland) Regulations 2017 for marine projects, may be required. The competent authorities are Marine Scotland (for marine licensing) and North Ayrshire Council (for planning). In some cases, EIA may be required under both of these Regulations.

6.19 Owners and occupiers of land within an SSSI must apply to SNH for consent to carry out certain operations. Developments within SSSIs are subject to policy stipulated within the Scottish Planning Policy (2014) (The Scottish Government, 2014).



Heritage

6.20 When built, Hunterston Ore Terminal was one of the major deep-water ore/coal terminals in the world. It was built between 1974 and 1979, primarily to supply the needs of the British Steel Corporation's Scottish works, and was directly linked by rail to the large integrated Ravenscraig Steelworks in Motherwell, approximately 40 miles inland. The majority of the land on which the terminal is located was reclaimed from the sea.

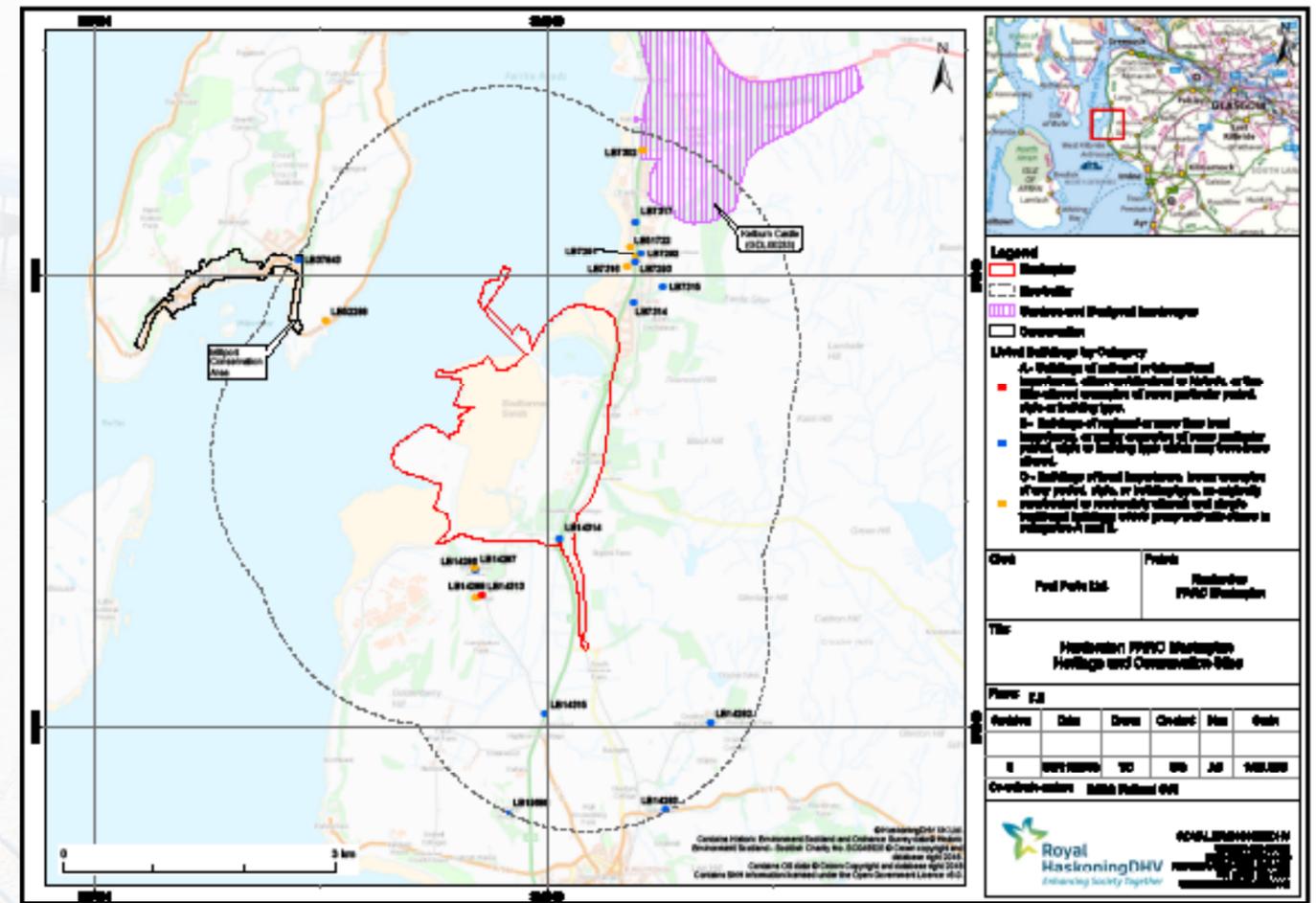
6.21 The nearby heritage and conservation features are illustrated in Figure 6.2. There is one heritage asset within the Hunterston PARC Master Plan area; Hunterston Gate (North Pillars) (LB14314), which is registered as a Listed Building. The designation of a building or structure of special architectural or historic interest is recognised through the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. Built around 1800, Hunterston Gate (North Pillars) is described by Historic Environment Scotland (HES) as "square, rusticated, stone piers with dentilled entablatures; urn finials decorated with shell ornament; low curved screen walls and smaller terminal piers." (HES, 2018).

6.22 Nearby heritage assets directly to the south include Hunterston Castle (LB14313) and its associated buildings, comprising Walled Garden, Hunterston (LB14288), Hunterston House (LB14286) and Well in Front of Mansion (LB14287). All assets are located outwith the boundary of Hunterston PARC.

6.23 HES is also responsible for the designation of gardens and designed landscape. Kelburn Castle (GDL00233) is listed on the inventory of Scotland's most important gardens and designed landscapes, under the Ancient Monuments and Archaeological Areas Act 1979. The site value is listed as 'outstanding' or 'high' across a number of categories (i.e. Work of Art, Historical, Horticultural, Architectural). The site lies outwith the Hunterston PARC



Figure 6.2



Master Plan area and, therefore, is unlikely to be affected by development activities within the Hunterston PARC.

The Millport Conservation Area (CA70) lies almost 2km from Hunterston PARC and, therefore, is unlikely to be affected by projects within the Master Plan area.

6.24 Conservation Areas are areas of special architectural or historic interest that the local planning authority consider to be regionally important and are, therefore, subject to strict planning constraints under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997.

6.25 Where development projects may have a potential impact upon the character and appearance of the Conservation Area and/or heritage assets then such matters would be assessed by North Ayrshire Council, and where necessary HES, as part of the formal consenting process

Air Quality

- 6.26 Local authorities are required to carry out annual review and assessment of air quality in their areas of jurisdiction under Part IV of the Environment Act 1995. The review and assessment process considers concentrations of pollutants in the context of legally-binding limits set out in EU Directive 2008/50/EC, and transposed into Scottish law in the Air Quality Standards (Scotland) Regulations 2010. The Regulations also transpose an additional EU Daughter Directive (2004/107/EC) which introduces target values for heavy metals and polycyclic aromatic hydrocarbons.
- 6.27 Air quality objectives are set out for the protection of human health and ecosystems. If, during the review and assessment process, a local authority finds any places where health-based objectives are not likely to be achieved, it must declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan to improve air pollution levels in the area. North Ayrshire Council has not declared a statutory AQMA within, or in the vicinity of, the Hunterston PARC Master Plan area, which indicates that air quality in the area is good.
- 6.28 Air pollution can also impact upon designated ecological sites. The Southannan Sands SSSI is situated adjacent to the Hunterston PARC area. However, the features of the SSSI are not sensitive to nutrient nitrogen or acid deposition and, therefore, it is unlikely that there would be any significant impacts as a result of air emissions at this location.
- 6.29 The Pollution Prevention and Control (PPC) (Scotland) (Amendment) Regulations 2012 ensure that emissions to air associated with industrial activities (and to land and water for higher risk installations) are prevented or controlled. Installations which are prescribed under the PPC Regulations require an Environmental Permit to operate which is based on the nature of the activity, and are required to comply with emission limits and management techniques.
- 6.30 It is expected that some activities at Hunterston PARC which will generate air emissions would require an Environmental Permit, notably those associated with the energy intensive and power generation industries, the LNG facility, the turbine areas and possibly the light industrial and manufacturing uses. The issue of Environmental Permits and regulation of industrial facilities is undertaken by SEPA, and the regulatory regime would ensure that 'Best Available Techniques' are employed in the management and control of emissions.
- 6.31 Any new major development would be expected to be subject to a form of consent and possibly an accompanying EIA, which would include an assessment of potential air quality impacts. This would take into account existing baseline air pollution levels, and would include all sources of emissions associated with the proposed development, in addition to any associated increases in vessel traffic and road vehicle trips. Impacts on both human health and ecological designations would be considered.

Odour

- 6.32 Odour emissions may occur due to the handling of bespoke odorous cargoes and/or from certain process-related port operations. At Hunterston, this may be particularly associated with the potential future agribulks and chemical import, storage and processing development areas. There are few residential dwellings near to the Hunterston PARC; however, odour nuisance may impact on the residential amenity at these dwellings.
- 6.33 Under Section 79 of the Environmental Protection Act 1990, local authorities have a duty to take reasonably practicable steps to investigate complaints of various statutory nuisances, including “any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance”. Where odour is not controlled under the Pollution Prevention and Control (PPC) (Scotland) (Amendment) Regulations 2012, statutory nuisance is the mechanism by which odour is investigated and mitigated.
- 6.34 The Hunterston PARC Master Plan incorporates the proposed expansion of energy and commercial activities which may give rise to additional odorous emissions. Peel Ports will ensure that all requisite consents are in place and there will be ongoing compliance with operational permits.

Climate Change

- 6.35 The Flood Risk Management (Scotland) Act 2009 introduced more sustainable, modern approaches to flood risk management which take into account the impact of climate change. The Climate Change (Scotland) Act 2009 sets out Scotland’s long-term framework for tackling climate change, and seeks to address both the causes and consequences of climate change.
- 6.36 Scientific evidence suggests that the global climate is changing as a result of human activity (principally because of carbon dioxide and other greenhouse gas emissions). The nature of changes will vary from place to place, and impacts will be different for different activities.
- 6.37 Climate change allowances are applied utilising the UK Climate Projections (UKCP) method when assessing flood risk. The Flood Risk Management (Scotland) Act 2009 sets out the requirement for SEPA to undertake a flood risk management plan for potentially vulnerable areas in each flood risk management district.
- 6.38 The existing Flood Risk Management Strategy for the Ayrshire Local Plan District, which is relevant to the Hunterston PARC Master Plan area, is based on the 2009 climate change projections (UKCP09). However, from November 2018, an updated climate change projection (UKCP18) will become available. The impact of these amended projections would be considered in terms of potential future flood risk.
- 6.39 The Adaptation Reporting Powers, brought forward under the Climate Change (Scotland) Act 2009, enable Government to require a wide range of organisations, including harbour authorities and large port operators, to report on how they will respond to climate change impacts expected across their operations.
- 6.40 The Mandatory Greenhouse Gas Reporting scheme (Companies Act 2006 (Strategic Report and Directors’ Report) Regulations 2013) is a UK Government scheme for all UK quoted companies, including any Scottish companies quoted on the main market of the London Stock Exchange, a European Economic Area market or whose shares are dealing on the New York Stock Exchange or NASDAQ.
- 6.41 The Environmental Reporting Guidelines (June 2013) published by the Department for Environment Food and Rural Affairs (Defra) provides guidance into how companies can comply with the reporting scheme, including mandatory greenhouse gas emissions reporting guidance.
- 6.42 This guidance requires companies, including harbour authorities and large port operators, to report annually on how they will respond to climate change impacts expected across their operations through KPIs.
- 6.43 As a matter of good practice, any future development taking place in the PARC should ensure that its constituent elements are climate resilient and use low carbon technologies wherever practicable.

Flooding

- 6.44 Flooding from rivers and coastal waters contributes to the shaping of the natural environment, whilst flood incidences can threaten life and cause damage to property and infrastructure. The impacts of weather events on land use and port operations are likely to change as a result of climate change. Although flooding cannot wholly be prevented, its impacts can be avoided and reduced through proper planning and incorporation of mitigation measures.
- 6.45 The aims of planning policy as set out within the Scottish Planning Policy (The Scottish Government, 2014) are to ensure that flood risk and climate change mitigation and adaptation is taken into account at all stages of the planning process. This is to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk.
- 6.46 In promoting port projects for new harbour infrastructure, new build premises or other bespoke projects, it may be a requirement for any regulatory applications to be accompanied by a Flood Risk Assessment (FRA). An FRA should be undertaken where any available information indicates there may be a risk of flooding to the site or where development of the site may increase risks elsewhere. Such assessments would be expected to evaluate the sources of flooding from rivers and tidal waters, overland runoff, groundwater, sewers and drains.
- 6.47 SEPA's Technical Flood Risk Guidance for Stakeholders, updated in July 2018, states that the design levels of a site should take into consideration a minimum of 600mm freeboard as well as future climate change levels. It also states that hydraulic modelling may be required to support the project design. The specifics of the project and local circumstances may be such that further mitigation measures may also be required.
- 6.48 The Water Environment (Controlled Activities) (Scotland) Regulations 2011, amended in February 2018, generally requires new developments with surface water drainage systems to utilise Sustainable Drainage Systems (SuDS). An exception to this is where the development discharges directly into the sea.
- 6.49 The SEPA Planning Background Paper: Flood Risk, 2017 states that an assessment of surface water flood risk should include a minimum of a 20% allowance for climate change. However, the exact climate change allowance required is at the discretion of the local authority. Scottish Planning Policy (The Scottish Government, 2014) states infrastructure and buildings should be free from surface water flooding up to a 1 in 200 year storm event.
- 6.50 Scottish Planning Policy (The Scottish Government, 2014) states that where it is not possible to locate development outside of flood risk areas, the cumulative effects on loss of storage capacity should be considered. Any loss of floodplain storage through development or land raising will require compensatory storage to be provided to achieve a neutral flood risk outcome or provide betterment.
- 6.51 Scottish Planning Policy (The Scottish Government, 2014) requires the effects of flood events on access and egress, including by emergency services to be considered. It also provides clear guidance where development must be located in an area of medium to high flood risk for operational reasons, such as a port, that it should be designed and constructed to be operational during floods and not impede water flow.



Waste Management

- 6.52 Waste has the potential to be generated at the Hunterston PARC from several sources (including vessels, tenants and contractors). It is important that any waste generated is handled responsibly in accordance with national policy and legislative requirements, whilst also seeking to maintain the satisfactory appearance of the Hunterston PARC.
- 6.53 Scotland's Zero Waste Plan (published in June 2010) sets out the Scottish Government's vision for a zero-waste society. This vision describes a Scotland where all waste is seen as a resource, waste is minimised, valuable resources are not disposed of in landfills and most waste is sorted, leaving only limited amounts to be treated.
- 6.54 The Waste (Scotland) Regulations 2012 provide the regulatory framework to support the delivery of Scotland's Zero Waste Plan. The waste hierarchy (Figure 6.3) is an underpinning principle of Scotland's Zero Waste Plan to move waste management along the waste hierarchy to more environmentally sustainable methods.
- 6.55 The impact of the Zero Waste Plan sets specific actions upon waste producers and introduces progressive bans on the type of material that may be disposed to landfill to ensure that no resources with a value for reuse or recycling are sent to landfill by 2020. It provides a focus for the consideration of the available waste management options for wastes generated by activities at Hunterston PARC, particularly residual waste, mixed dry recyclables and organic/food waste.

Figure 6.3 The waste hierarchy



- 6.56 Since January 1998, UK legislation has required ports, harbours and some terminals to draw up waste management plans for approval by the Maritime and Coastguard Agency (MCA). The UK requirement for Port Waste Management Plans was updated with the Merchant Shipping and Fishing Vessels (Port Waste Reception Facilities) Regulations 2003 (as amended). These transposed the EU Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues. These have been further updated with regards international food stuffs through the Animal By-Products (Scotland) Regulations 2003.
- 6.57 The requirements of MARPOL 73/78 (the International Convention for the Prevention of Pollution from Ships) are also of relevance. These stipulate that ports and harbours should provide adequate reception facilities for vessels to allow the safe management of waste. Waste reception facilities are important to discourage vessels from dumping waste overboard while at sea.



Contaminated Land

- 6.58 An important consideration in the development of many projects concerns the likelihood of contamination of development sites. Soil/land may inadvertently become contaminated through various activities and operations. Of relevance to port activities, cargo handling and storage may cause run-off, spills or leakage in operational areas. In addition, the historical use of sites acquired for development purposes are equally as important to assess.
- 6.59 Hunterston PARC is committed to improving its operating procedures and that of external suppliers and contractors to ensure prevention of contamination, to provide ongoing training and to raise awareness of compliance with all environmental regulations.
- 6.60 In the majority of cases, planning applications submitted to North Ayrshire Council would be expected to be accompanied (at least) by a desktop study covering a historical assessment of past site usage. In certain circumstances, intrusive site investigation surveys and remediation strategies are undertaken and the outcomes submitted for assessment and approval either as part of a planning application or in compliance with a planning condition attached to a consent.
- 6.61 All assessment work would be undertaken in accordance with The Model Procedures for the Management of Land Contamination (CLR11) and would identify potential pollutant linkages through a risk assessment process.
- 6.62 The remediation of sites through in situ encapsulation and/or treatment of potentially harmful substances is preferred in terms of minimising HGV movements of material off-site whilst also reducing the reliance upon increasingly scarce landfill sites. Such a strategy is dependent on ensuring there is no pathway for contaminants to be mobilised and enter the wider environment and would have to be approved in conjunction with relevant stakeholders, including North Ayrshire Council and SEPA.
- 6.63 In terms of site development and as part of value engineering, when undertaking construction work, it is often advantageous to use a mobile crushing plant to turn excavated material that would previously have gone to landfill into usable engineering fill or use excavated soil and stones for landscaping bunds or other construction purposes. This is an economic and sustainable option in an increasing number of cases, even for relatively small quantities of material. Wherever possible, development proposals within Hunterston PARC will assess excavated material in accordance with the waste hierarchy to identify suitable options for recycling or recovery for beneficial use on site; or on other local projects, rather than disposal off-site.
- 6.64 The recycling or recovery of excavated material will be carried out in accordance with relevant waste legislation, unless the activity does not need to be regulated by SEPA by following the principles laid out in SEPA's 'Land Remediation and waste Management Guidelines'.

Dredging

- 6.65 Dredging at Hunterston has historically been undertaken on an ad hoc basis, driven by the individual requirement for berthing of a particular vessel. The berths do not experience significant siltation and, therefore, there is no routine requirement for maintenance dredging. There is no current maintenance dredging or disposal licence in place.
- 6.66 Should navigation dredging (either capital or maintenance) be required in the future, this activity would be licensed through Marine Scotland by the issuing of Marine Licences under Part 4 of the Marine (Scotland) Act 2010 and Part 4 of the Marine and Coastal Access Act 2009 (MCAA) which deal with licensable marine activities between 0 and 200 nm. Environmental information (e.g. sediment quality data) and assessment is likely to be required in support of an application for a Marine Licence.

- 6.67 Any dredged material will be assessed for local beneficial use schemes or disposed to sea. Dredged material that cannot be used beneficially or disposed to sea will have to be managed on land in accordance with the relevant waste legislation.

Energy Efficiency

- 6.68 From April 2010, Peel Ports has had to comply with the CRC Energy Efficiency Scheme legislation. The CRC Energy Efficiency Scheme is a regulatory incentive to improve energy efficiency in large public and private sector organisations. The CRC scheme will close after the 2018-19 financial year and from April 2019 will be replaced by Streamlined Energy and Carbon Reporting (SECR). As one of around 5000 participating organisations, Peel Ports is required to measure its carbon emissions and purchase carbon credits annually. This information is published annually showing the performance of participating organisations.

Noise

- 6.69 Hunterston PARC combines the Hunterston Bulk Terminal, a facility previously handling imports coal and other resources; Hunterston Marine Yard with one of the largest dry docks in the country; two rail terminals and over 300 acres of development land. 2 nuclear power stations are also located in close proximity to the Hunterston PARC Master Plan area southern boundary.
- 6.70 Although the wider area contains extensive operational industrial land, the Hunterston PARC Master Plan area is located between the residential areas of Fairlie and West Kilbride. It is therefore important to both minimise and mitigate the impacts arising from operations on nearby residential properties. For example, this could be through locating noisiest operations away from sensitive receptors, such as housing, incorporating noise attenuation screening and good management practices.
- 6.71 During the construction phase of any future projects, a Construction Environmental Management Plan would be used to define the standards of practice that are required of the appointed contractor

in so far as they affect the environment, amenity, safety and well-being of construction workers, local residents and the general public.

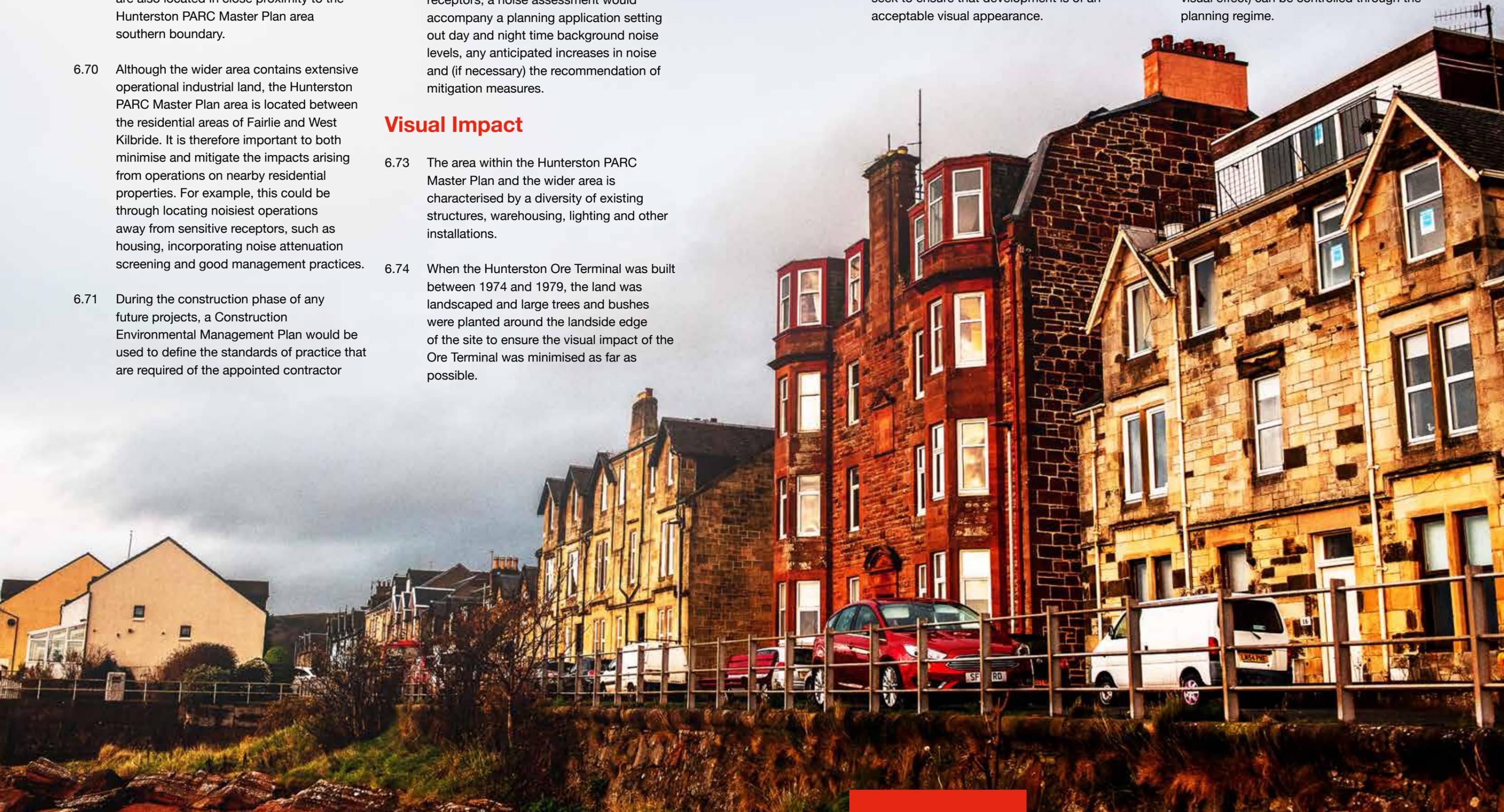
- 6.72 In the case of significant development projects lying in close proximity to sensitive receptors, a noise assessment would accompany a planning application setting out day and night time background noise levels, any anticipated increases in noise and (if necessary) the recommendation of mitigation measures.

Visual Impact

- 6.73 The area within the Hunterston PARC Master Plan and the wider area is characterised by a diversity of existing structures, warehousing, lighting and other installations.
- 6.74 When the Hunterston Ore Terminal was built between 1974 and 1979, the land was landscaped and large trees and bushes were planted around the landside edge of the site to ensure the visual impact of the Ore Terminal was minimised as far as possible.

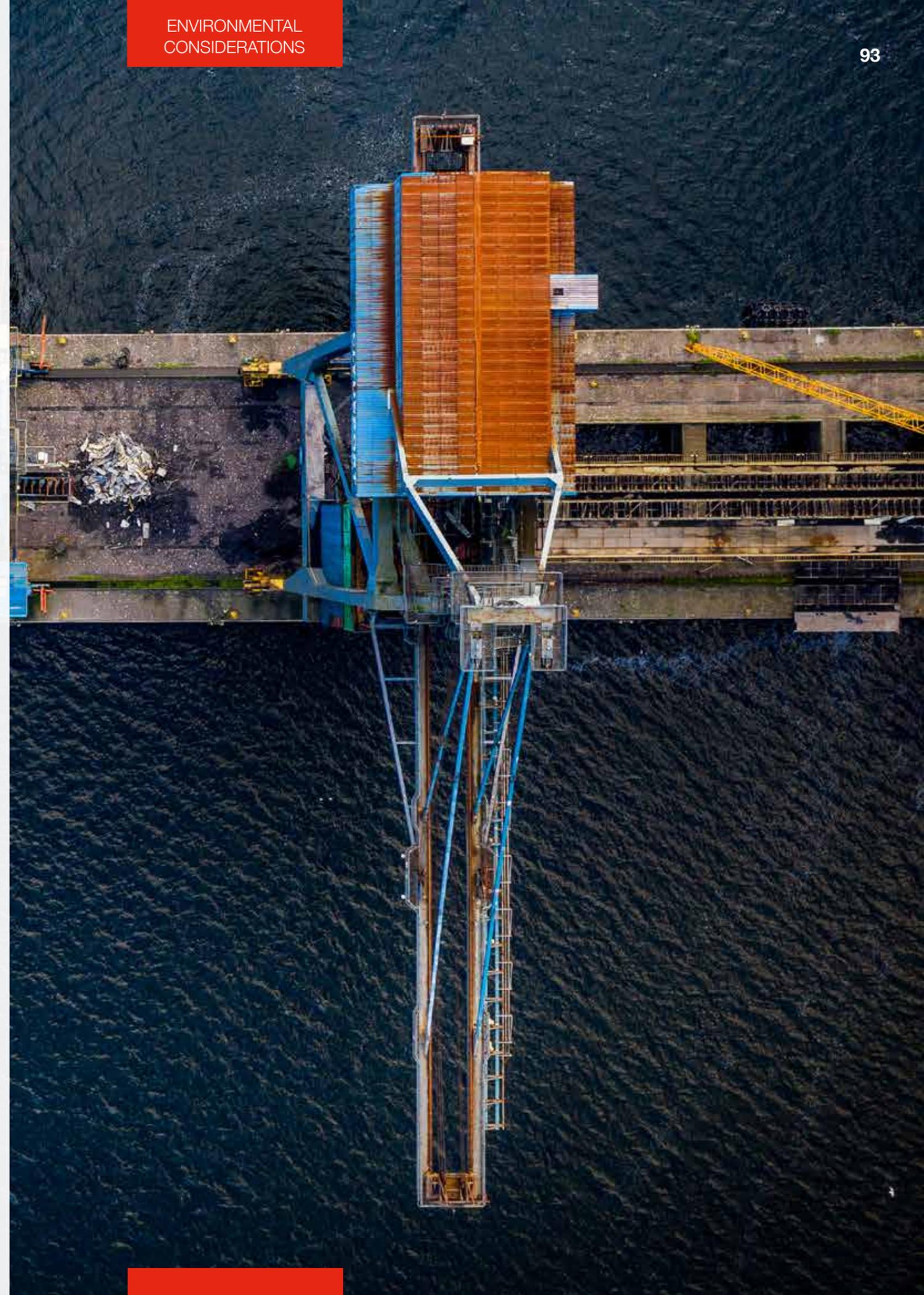
- 6.75 A number of of developments within the Hunterston PARC Master Plan, such as the erection of new warehousing and storage facilities, may be undertaken as permitted development, and as such does not require planning permission to be obtained. In such cases, Peel Ports will, wherever possible, seek to ensure that development is of an acceptable visual appearance.

- 6.76 Where development may significantly affect the appearance of the area (or if any other significant environmental impacts could arise) then planning permission may be required from North Ayrshire Council to ensure the environmental impact of the proposed development (including visual effect) can be controlled through the planning regime.



Water Quality

- 6.77 The Water Framework Directive (WFD) (2000/60/EEC) establishes a framework for the management and protection of Europe's water resources. It is implemented in Scotland through the Water Environment Water Services (Scotland) Act 2003 and the Water Environment (Controlled Activities) (Scotland) Regulations 2011, more commonly known as the Controlled Activity Regulations (CAR).
- 6.78 The overall objective of the WFD is to achieve "good ecological and good chemical status" in all inland and coastal waters. The initial deadline to meet this objective was 2015; however, in cases where it was not possible to do so due to disproportionate expense, natural conditions or technical feasibility, the deadline to achieve "good ecological and good chemical status" has been extended to 2027.
- 6.79 The above Regulations cover rivers, lochs, transitional waters (estuaries), coastal waters, groundwater and groundwater-dependant wetlands. In Scotland, SEPA is the competent authority for assessing the effects of activities in line with the WFD.
- 6.80 Hunterston PARC is located within the Largs Channel (Fairlie Roads) coastal waterbody (asset ID 200026). SEPA produces an annual classification for all waterbodies in Scotland. A review of the most recent data published by SEPA (for 2017) shows that the overall status of the Largs Channel waterbody has been classified as 'Good'.
- 6.81 The Hunterston PARC Master Plan area partially overlaps with the North Ayrshire Coastal groundwater body (ID 150785). The overall status of the waterbody was classified as 'Good' in the most recent data published by SEPA.
- 6.82 Measures to improve the quality of bathing waters have been driven by the requirements of the Bathing Water Directive (2006/7/EC), which is transposed through the Bathing Waters (Scotland) Amendment Regulations (2012). The closest bathing waters are Millport Bay (ID: UKS7616014) and Largs (Pencil Beach) (ID: UKS7616031). Millport Bay bathing water was classified as 'Excellent' condition in the most recent data published by SEPA (2017), whilst Largs (Pencil Beach) bathing water was classified as 'Good'.
- 6.83 Peel Ports, as the statutory harbour authority, must have regard to the River Basin Management Plan and the objectives of the WFD detailed therein. For significant development planned within the Hunterston PARC Master Plan area, it would be necessary to consider whether the proposed development might compromise achievement of WFD objectives for any relevant water bodies.
- 6.84 Ensuring that appropriate environmental safeguards are in place to minimise the risk of oil pollution to controlled waters is an important function of Peel Ports. This is managed through the preparation of emergency response plans to deal with oil spill incidents.
- 6.85 Approvals from SEPA are required for activities liable to pollute or significantly affect the water environment. If required, relevant guidance published by SEPA and other best-practice guidance would be used to inform the design of mitigation measures, in addition to consultation with key stakeholders.
- 6.86 Discharges from vessels in coastal or transitional waters are controlled by the Maritime and Coastguard Agency (as set out in the Merchant Shipping Act 1995) and are not covered by CAR.



7.0 Transportation

- 7.1 This Chapter reviews the existing transportation connections serving Hunterston PARC and outlines the proposed improvements in access and multi modal proposals over the 20-year period of the Master Plan.
- 7.2 The success or otherwise of a port is inextricably linked to the ability for freight to be moved in or out in a congestion free and efficient manner. Therefore, port access routes (be they road, rail or coastal shipping) are of paramount importance. The high level objective for Peel Ports is to maximise water and rail freight solutions.
- 7.3 The choice of transport mode is principally driven by commercial factors. However, there are other determinants for some supply chains that include reliability and speeds and minimising carbon emissions as some transport modes are more sustainable than others.
- 7.4 There are also practical issues with the type of freight to be moved such that some commodities will have a preferred mode (e.g. bulk liquid arriving by vessel) whereas others offer more flexible modal choices (e.g. modular manufacture by road or rail).
- 7.5 The Illustrative Master Plan highlighted in Chapter 4 demonstrates that there could be concentrations of activity projects over the next 20 years that may impact upon transport in the area.
- 7.6 Whilst Peel Ports does not in itself own any freight nor take decisions as to the preferred mode of transport to be employed, the strategy is to promote choice and therefore it is important that the necessary infrastructure is either in place or can be implemented to promote modal shift. There will also be instances whereby decisions and investments at Hunterston PARC will be able to contribute positively to transportation methods.

- 7.7 By locating at the port, prospective occupiers and users will benefit from good levels of tri-modal connections and encourage operators to locate at the port facility.
- 7.8 The Strategic Transport Review 2008 by Transport Scotland identified that the improvements required to promote sustainable economic growth involve an efficient transport system and this is seen as the key enabler to enhancing productivity and delivering faster and more sustainable economic growth to areas which have a suitable transport provision.
- 7.9 National Planning Framework Three 2014 identifies that in Scotland, Hunterston is a key location to deliver economic growth, which will benefit from a co-ordinated action and master planning to deliver development in coming years.
- 7.10 Hunterston has long been identified as a priority for industrial and employment use, with it benefitting from good transport connections, and close proximity to the major city networks in Glasgow.

- 7.11 The Strathclyde partnership for Transport's Regional Transport Strategy 'A catalyst for change 2008-2021' highlights that by connecting the region's Strategic Corridors to national and international networks by air, sea, rail or road is a priority. However, it is essential to find a balance of modes to reduce the potential impacts on the surrounding road, rail and water infrastructure and consequently on the existing users of this infrastructure.
- 7.12 Within the locality, the most likely impact on the road network once Hunterston is redeveloped is that it has the potential to affect traffic flows on the A78 and A737. Any requirements for improvements to the road network would ordinarily emanate from a transport assessment associated with a development project.
- 7.13 At Hunterston, the majority of commodities were previously brought in by vessel and transferred to rail. We would seek to reinvigorate rail in our development of the site, as much as practicable utilising access to the network.

Access to Hunterston PARC

Vehicular Access

- 7.14 For vehicles, Hunterston PARC is accessed from the A78. Traffic infrastructure upon the A78 is acknowledged to be generally poor at present and the road has been identified for improvements in North Ayrshire's local plan.
- 7.15 Traffic entering and leaving the main site and also the Marine Yard do so via a dedicated roundabout, which is in good order.

Pedestrian and Cycle Access

- 7.16 Outside of the port estate there are dual cycleway/footways on both sides of the A78 linking to nearby conurbations, north towards Fairlie and south towards Irvine. The footway on its western side continues at the roundabout along the port road towards Hunterston providing access for pedestrians to the site.

Promoting Rail Freight

- 7.17 Rail freight has the potential to play an important role in the movement of heavy, bulk goods and long-distance haulage at Hunterston PARC. Coal was the main source of the tonnage lifted up until 2016. Most of the rail freight was long haul to England with only 20% of the rail freight staying within Scotland. There was a marked increase of movement of imported coal from the Hunterston terminal to England, with it accounting for almost all the growth in rail freight traffic in the period 2000-2009, however this has now lapsed to nil in recent times. Rail freight capacity therefore has an ability to absorb, grow and develop any haulage that will come forward from the redevelopment of Hunterston PARC.

Future Improvements to Access

- 7.18 Improvements are earmarked in North Ayrshire's Local Development Plan for example the A737 Dalry bypass being a committed project, with funding allocated. Completed by the end of 2019.



8.0 Stakeholder Engagement



Principles

- 8.1 This Chapter sets out our proposals and current practice for stakeholder engagement not only in terms of the emerging Port Master Plan but also relating to specific development projects and in exercise of our 'permitted development' rights.
- 8.2 As an overarching principle we welcome active liaison and discussion with all stakeholders. We are mindful that there can sometimes be differences of opinion or approach but this should not be to the detriment of continual and open dialogue.
- 8.3 Indeed, the publication 'Guidance on the Preparation of Port Master Plans (DfT 2008)' advises an essential aspect of the development of an effective master plan

is achieved through engagement with interested parties including local and regional planning bodies and transport network providers and local communities. This takes place during the master planning process and through to publication. This has been proven to be effective in the Master Plans for Mersey Ports and the Port of Sheerness.

Stakeholder contacts

- 8.4 A database of consultees and stakeholders has been compiled and is subject to ongoing review and update to ensure as many agencies and interested parties are notified in respect of the emerging Hunterston PARC Master Plan.

- 8.5 The database covers a broad spectrum of interests including port customers, suppliers and operators, employees, local authorities, Government agencies, non-governmental organisations, voluntary associations, environmental interest groups, local and national politicians, and key representatives of the local communities.

Master Plan responses

- 8.6 Consultation upon the Hunterston PARC Master Plan will be undertaken during a six week period (16th May - 28th June) with an invitation to submit comments during this time.

- 8.7 The Master Plan is published on-line at www.hunterstonparc.com and is available for download. Copies will be made available for inspection at the offices of North Ayrshire Council, Irvine and the Community Council offices.
- 8.8 A series of consultation events to publicise and raise awareness of the Master Plan are being held within Fairlie and Millport with an Executive Summary and questionnaire also being made available.
- 8.9 Stakeholders are invited to provide feedback in writing or electronically to:

**Hunterston PARC Consultation
Maritime Centre
Port of Liverpool
Liverpool
L21 1LA
United Kingdom
hunterstonparc@peelports.com**



Master Plan Stakeholder Group

8.10 An identified output from this Master Plan consultation could be the formation of a stakeholder group which would encompass representatives from the geographical area of Hunterston PARC together with a number of other governmental and non-statutory agencies. The purpose of the Group would be to raise awareness in respect of the Hunterston PARC and to enable early and constructive dialogue regarding ongoing matters.

Development Projects and Permitted Development within Hunterston PARC

8.11 There will be many instances where development projects on the port estate or within the marine environment will require formal approval either through planning legislation or marine regulatory powers. In such circumstances Peel Ports actively encourage pre-application discussions with relevant stakeholders. This is with a view to building consensus and support, reconciling any issues and/or concerns, and for example, the identification and delivery of mitigation measures.

8.12 A number of projects may also be brought forward by port tenants and lessees operating on the estate. In such circumstances we similarly encourage them to adopt a proactive and open dialogue with stakeholders.

8.13 The provisions of 'permitted development' are summarised in Chapter 5 above such that some operational port developments can proceed without the necessity for formal planning permission.

8.14 However, we have given a voluntary undertaking to North Ayrshire Council as the Local Planning Authority to inform them of projects, Peel Ports intend to undertake, seeking comments, and examining the opportunity to make amendments to meet any local concerns. In such cases where there will be a demonstrable environmental impact a planning application would be submitted for formal determination.

8.15 On occasions it may be necessary to undertake development to meet urgent safety, security, environmental, regulatory, or operational requirements such that the port will notify the Local Planning Authority retrospectively of works already having taken place.

Environmental Liaison

8.16 In recognition of the importance of environmental and emergency response matters there is regular dialogue with a number of key agencies. Such liaison seeks to ensure that Hunterston PARC will comply with all relevant environmental and safety legislation and carry out its duties responsibly. The port continues to be monitored, inspected and vetted by the relevant statutory authorities, this includes all future potential uses.

8.17 For example, such dialogue takes place with the Scottish Environment Protection Agency, Marine Scotland, and North Ayrshire Council.



9.0 Implementation & Review

- 9.1 This Chapter outlines matters associated with the implementation and review of the Master Plan and related procedural issues.

Legal Considerations

- 9.2 Advice within 'Guidance on the Preparation of Port Master Plans' is such that there is no requirement for a port to produce a Master Plan and furthermore it is for the port to determine its legal obligations in doing so. The status of the Master Plan is essentially a non-statutory document produced by the Port.
- 9.3 The guidance confirms that if the intention is for a Master Plan to be fully integrated into the Local Development Plan (LDP), the port should work closely with the Local Planning Authority, as the latter would be expected to be following the appropriate statutory procedures.

Implementation

- 9.4 The Master Plan is not an application for planning permission and will not in itself grant approval for any works, rather it provides a framework for setting out the Port's aspirations, including for the medium and long-term, and will assist in informing the consideration of projects and planning applications made as and when necessary.
- 9.5 All development projects requiring planning and/or marine consents will be subject to full and appropriate appraisal, which may include the provisions of The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. At Hunterston PARC, we would look towards this master plan having some influence, as it is aligned with North Ayrshire's local development plan.
- 9.6 Following the Master Plan consultation process all written comments submitted will be collated and analysed and a report will be prepared summarising the issues raised. A number of identified changes to the Master Plan may be

incorporated as a result of the consultation process, within a final version which we anticipated to be published in 2020.

Review

- 9.7 The ports industry is a dynamic sector and whilst the Master Plan looks at long term plans for the next 20 years, it is a working document and therefore it is imperative to undertake timely reviews of its contents. The Master Plan will be subject to regular monitoring and a formal review every five years, which will entail further public consultation.
- 9.8 The exercise of ongoing monitoring and formal review should take into account the assumptions originally made, particularly in relation to growth sectors, whilst taking into account the delivery or otherwise of development projects and their associated timescales. Such review may of course take into account the investments that have or are being made by third party lessees and operators within the operational extent of Hunterston PARC.
- 9.9 Similarly, monitoring and review should consider the impacts of port growth upon the local environment, and the effectiveness of mitigation of potentially adverse impacts on local communities. In this respect the port will continue to liaise closely with all stakeholders. The positive impacts of Ports activity and growth should also be quantified and reported.
- 9.10 From a policy perspective the Port will continue to work closely with statutory agencies and the local authority to ensure the importance of the maritime sector and its continued success is fully enshrined within planning, transportation and marine policy at national and local levels.
- 9.11 In parallel, Hunterston PARC and its potential for expansion will be promoted through the preparation of the emerging Local Development Plan 2 by North Ayrshire Council.

This is a glossary of terms used throughout this document. It is intended as a basic guide for the non-specialist reader.

Aggregates – material such as sand and gravel used in construction

Agri-bulks – bulk quantities of materials used in agriculture, such as grains

AQMA – air quality management area

Aquaculture – fish farming, typically done in sheltered sea lochs or similar areas, but also with onshore activities

Arc furnace – used in metal production and processing

Ayrshire Growth Deal – a programme of investment by the UK and Scottish governments in Ayrshire projects

Berths – a point at a dock where a ship will be moored for loading or unloading

Biodiversity – the variety of animal and plant wildlife

Biomass – in this context, natural waste material – typically from wood – burned to make energy

Brownfield – previously developed land

Bulk commodities – goods that are transported in large quantities, either as liquid, gas or bulk, rather than in individual units, such as oil, grains or gravel

Circular economy – an approach to using and reusing resources that tries to extract the maximum value possible and avoid waste

Decommissioning – in the context of oil and gas structures, the process of taking them apart

Dry dock – a facility for repairing or maintaining ships out of water

Effluvia – liquid waste

EIA – environmental impact assessment, typically a formal process used to identify and manage environmental risks and opportunities

Environmental management system – usually a formal and audited approach to dealing with environmental risks and opportunities

Forest products – timber in all its states but also a wide variety of other wood products

FSS – Food Standards Scotland.

Fuelstocks – materials used to generate energy, such as gas or biomass

GCR – Glasgow City Region

GVA – gross value added, a term indicating economic productivity

Heavy metals – metallic elements often resulting from industrial activity

Licensing authority – the body who is responsible for granting licences. In Hunterston case this is either Marine Scotland or Clydeport as the statutory harbour authority.

LNG – liquid natural gas

Logistics – the business sector dealing with the handling, storage and movement of goods

Marine Scotland – Scotland's regulatory body for coastal areas

Marine yard – A designated area within the Hunterston PARC estate where planning approved uses for marine construction and decommissioning can occur

MHWS / MLWS – mean high water spring / mean low water spring – average marks of sea height

Modes – in this context, different types of transport

Multi-modal – in this context, more than one mode of transport

North Ayrshire Development Plan – a document produced by North Ayrshire Council to guide local planning and development

NPF / National Planning Framework (1, 2, 3, 4) – a document produced by the Scottish Government to guide planning decisions

NRS – National Records of Scotland

Oil and gas structures – oil rigs, platforms, pipelines and such like

PARC – Port and Resource Centre

Pilotage – the management of vessel navigation through a port, often using a harbour's own pilots

Polycyclic aromatic hydrocarbons – a type of chemical produced by some industrial activities

Remediation – the process of stopping environmental damage (in this context – the land)

Renewables – wind energy, but also wave, tidal and potentially solar

RUS – route utilisation strategies, a management tool for maximising the benefit from the rail network

SEPA – Scottish Environment Protection Agency

Set down land – an area providing working space, often needed in construction and industrial activities

SFN – strategic (rail) freight network

Siltation – the process of silt building up in water, e.g. next to a berth

SIMD – Scottish Indicators of Multiple Deprivation

SNH – Scottish Natural Heritage

SNPP – sub-national population projections

SPA – an environmental special protection area

SSSI – an environmental site of special scientific interest

Statute – law

Statutory harbour authority – the body legally responsible for managing a harbour area

Strategic corridors – nationally important transport routes

Supply chain – any business sector on which other companies rely on for goods or services

Proposed Uses, Estimated Direct Employment and Gross Value Added (GVA)

Indicative Use	Assumed Use Class	Land Area (ac)	Land Area (sqm)	Plot Ratio	GEA (sqm)	Employment Density	Jobs	GVA
LNG Storage	SG	30	105,000	30%	30,000	294	100	£16,700,000
CCGT Power Station	SG	40	165,000	30%	50,000	1189	40	£8,600,000
Train manufacturing Plant	5	40	170,000	30%	50,000	47	1,030	£74,200,000
Modular manufacturing	4	30	125,000	13%	15,000	70	218	£14,300,000
Concrete batching	5	15	60,000	5%	3,000	140	20	£1,400,000
Marine Construction and Decommissioning	5	100	400,000	10%	40,000	158	240	£15,000,000
Aquaculture	4	15	60,000	31%	20,000	293	60	£5,400,000
Plastics recycling and storage	4/5	30	125,000	7%	10,000	293	29	£1,900,000

Total Land Area (ac)	300
Total GEA (sqm)	220,000
Overall Plot Ratio (building footprint)	18%
Total GIA (sqm)	210,000
Total Jobs	1,737
Overall Employment Density (sqm per FTE)	127
Total GVA per annum	£140m
Overall GVA per FTE	£80,000

Notes:
 Floor areas and GVA estimates are rounded
 Plot ratio calculated from the assumed building footprint size, the remainder being a combination of: laydown, open storage, yard, parking, access roads.
 Gross Value Added (GVA) based on data relating to activities that correspond to each of the proposed uses, collected through the Annual Business Survey across the UK to ensure the greatest possible sample size.

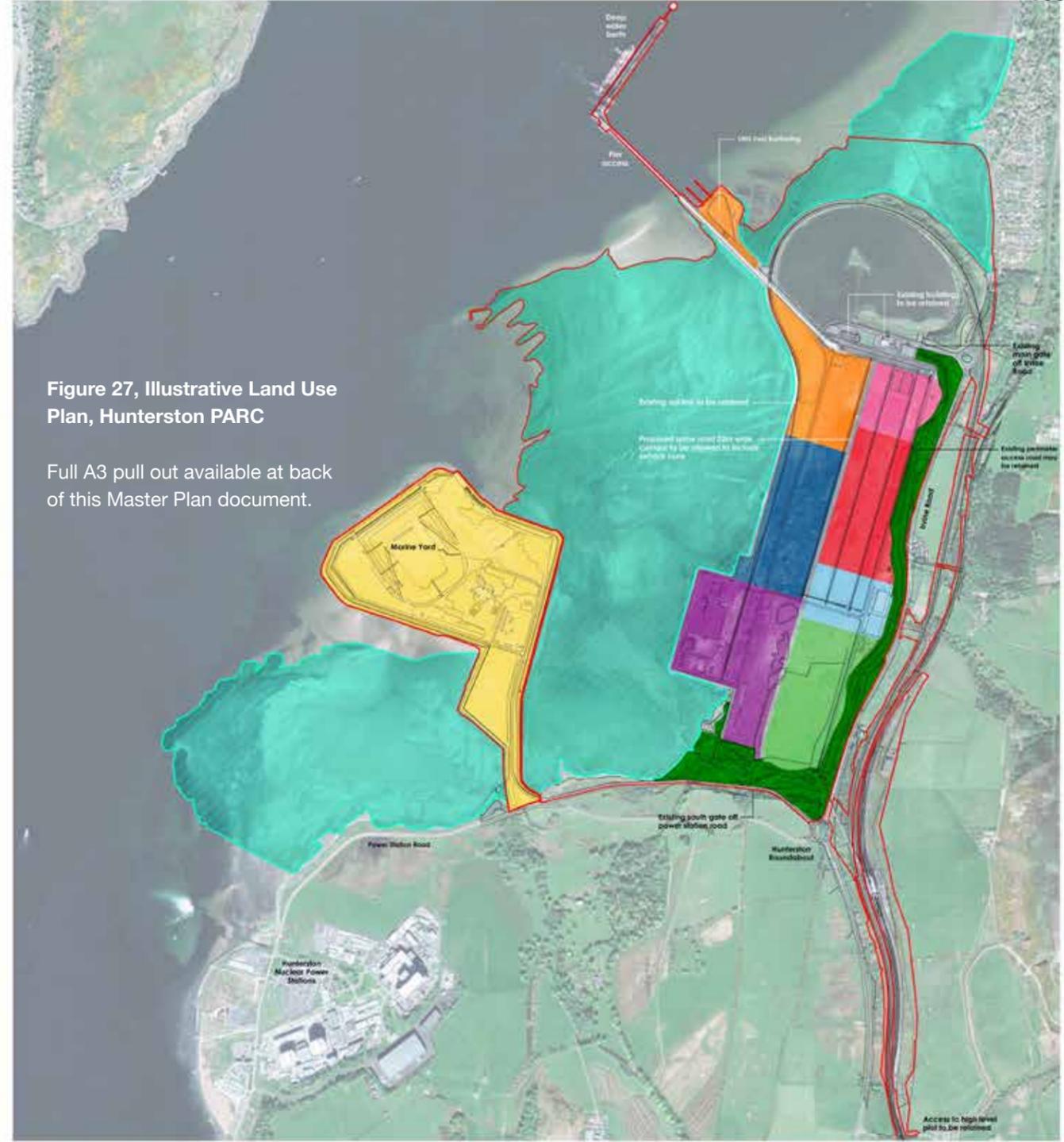


Figure 27, Illustrative Land Use Plan, Hunterston PARC

Full A3 pull out available at back of this Master Plan document.

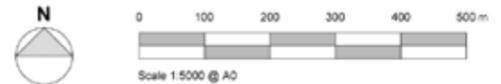
Indicative Use	Land Area (ac)	Jobs
LNG Storage	30	100
CCGT Power Station	40	40
Train manufacturing Plant	40	1,030
Modular manufacturing	30	218
Concrete batching	15	20
Marine Construction and Decommissioning	100	240
Aquaculture	15	60
Plastics recycling and storage	30	29
Total	300	1,737

Estimated potential Gross Value Added = £140 million



- Southannan Sands Site of Special Scientific Interest
- Hunterston PARC site boundary
- Existing landscaped / TPO buffer zone to be retained

Hunterston PARC Illustrative Plan



Peel Ports Group
Maritime Centre
Port of Liverpool
L21 1LA



0151 949 6000
info@peelports.com
www.peelports.com

