



**TRANSPORT
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Transporting Scotland's Trade 2019 Edition

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1. Executive Summary

This 2019 edition¹ of Transporting Scotland's Trade provides a summary of Scotland's key exports and imports; how they are transported to, from and within Scotland; and an overview of some of Scotland's key transport hubs and trading partners.

Transport plays a key role in delivering Scotland's Economic Strategy. It enables firms to have efficient access to suppliers and customers. The recently published *National Transport Strategy Draft for Consultation*², emphasizes the importance of Scotland having a sustainable, inclusive and accessible transport system, helping deliver a healthier, fairer and more prosperous Scotland for communities, businesses and visitors.

A safe, efficient and effective transport system is a key enabler of a successful and dynamic nation. Transport is the movement of people, goods and services. Scotland's transport system – which includes one of the world's most iconic structures the Forth Bridge, a UNESCO's World Heritage site – supports both domestic and foreign business activity, providing businesses with the confidence to invest in Scotland.

The recently published paper *A Trading Nation*³ highlights the importance of exports to the Scottish economy. Internationalization is a fundamental theme of Scotland's Economic Strategy and National Performance Framework, and this report aims to provide a clearer picture of not only the goods that are traded, but also the mechanisms available that facilitate this movement.

Recent government policies and targets mean that providing sustainable transport options in the face of climate change, is crucial to achieving the Scottish Government's goal of net zero carbon emissions by 2045⁴. In 2017, transport accounted for 36.8% of Scotland's total greenhouse gas emissions, this was also the fourth consecutive year that Scotland's transport emissions have increased⁵. Although it is recognised that the pathways identified for emissions reduction in the transport sector are particularly challenging, there is a clear commitment from the Scottish Government and Transport Scotland to follow them.

Below is a summary of the key highlights from each of the chapters contained within this report:

Scotland's Trade⁶

- Scotland traded (imports and exports) over £57.6 billion worth of goods in 2018, 56% of which were exports. Of the £32.2 billion worth of goods exports destined for international markets, £17.3 billion worth (54%) went to the EU.
- The top 5 destinations for Scottish exports in 2018 were the Netherlands, the United States, Germany, the Republic of Ireland, and France.
- Scotland's key export markets include 'Petroleum, petroleum products & related materials', 'Beverages' and 'Power generating machinery & equipment' – these three commodity groups combined accounted for 57% of the value of Scottish goods exports in 2018.

Transporting Scotland's Freight

- In 2018, total freight (road, port and air) carried in Scotland was approximately 214 million tonnes. Road freight⁷ made up the largest proportion (69%) followed by port (31%) and then air (<1%)⁸.
- The majority of freight lifted in Scotland was carried by HGV on the road network and remained within Scotland (111.4 million tonnes).
- Although the amount of road freight carried from Scotland to mainland Europe is small (less than 200,000 tonnes), the road network between Scotland and Europe continues to be an essential way to transport perishable goods to market.
- Scotland's rail freight network, carried freight around 430 million net tonne miles between April 2018 and March 2019.

Scotland's Key Transport Hubs

- Forth Ports⁹ is Scotland's largest port with 26.6 million tonnes being handled in 2018.
- Clyde Ports boasts the deepest sea entrance in Northern Europe and is the busiest cruise terminal in Scotland.
- Cairnryan/Loch Ryan is Scotland's main port for carrying goods and passengers to Northern Ireland. In 2018, all passenger travel by ferry to Northern Ireland went via Cairnryan.
- Edinburgh and Glasgow were in the UK top 10 airports for both terminal passengers (6th and 8th respectively) and freight lifted (9th and 10th respectively) in 2018.
- Scotland's largest intermodal rail freight terminals are across the central belt – Coatbridge, Grangemouth and Mossend.

Transport Links to Key Trade Destinations

- Scotland's number one international export destination is the Netherlands. This is largely due to the Dutch port of Rotterdam being an international shipping hub with goods exported to other global destinations from there.
- In 2018, the USA was Scotland's main non-EU export destination with whisky being a key export commodity. Although most high density freight to the USA is carried by ship, direct flights operate from Scotland, carrying low volume/high value freight.
- In 2018, the Republic of Ireland replaced China as one of Scotland's top 5 exporting destinations. £1.5 billion of exports went to the Irish Republic, accounting for 3.5% of Scotland's total exports. A share of these goods would have been transported via the 13 daily sailings from Cairnryan / Loch Ryan to Belfast and Larne.

- Since 2013, Scotland has imported more goods from Norway than any other nation. Between 2013 and latest available data (2019 Q2), imports from Norway have totalled more than £25.5 billion. As a result of both countries involvement in the North Sea oil and gas fields, the top categories are related to petroleum and gas. These are typically transported by either boat or pipeline.

2. Introduction

This report provides a summary of Scotland's key exports and imports and how they are transported from, into and within Scotland, alongside an overview of some of Scotland's key transport hubs and trading partners.

This edition provides updates to the data contained in the first edition of this report and also looks in more detail at some of Scotland's main transport gateways and corridors. A key component that was not extensively explored in the previous publication, namely rail freight, is also included in this edition.

This edition includes updated maps, graphs, and tables to highlight the monetary value, tonnage, origins and destinations of Scotland's imports, exports and freight. It also illustrates the change in relative importance of some goods to the Scottish economy, over time.

This edition contains the following updated sections:

- **Trade** – This edition uses data from HMRC's Regional Trade Statistics for Scotland for the calendar year 2018¹⁰ and comments on changes from the previous year and the series back to 2013¹¹. It highlights Scotland's top imports and exports, and their origins and destinations.
- **Tourism** - This is a key industry for the Scottish economy and one of Scotland's six Growth Sectors. This edition expands on last year's publication by analysing International Passenger Survey data to show the country of origin of visitors, as well as which visitors spend the most and stay the longest in Scotland. This edition will look at how the top countries of origin for visitors have changed since 2002. It also provides an overview of the modes used by tourists to travel to and from Scotland.
- **Freight** - Rail freight is explored in more detail in this edition. Information on how freight is carried both to and from Scotland by the various modes is provided, along with more detail on the countries this freight moves to, which may differ from the countries highlighted in the trade sections.
- **Transport Links** – This edition provides greater insight into important transport hubs for Scottish businesses, such as airports, sea ports and logistics terminals, as well as more information on the potential logistics of goods travelling between Scotland and these key trade destinations.

This edition draws on data at a Scottish level¹² from a variety of sources, however some of the Department for Transport (DfT) and Office of Road and Rail (ORR) datasets cannot be disaggregated down to a Scottish level, and therefore some gaps in data over time do occur. The report will also identify Scotland's most significant trade markets, alongside their key transport gateways and corridors, helping to inform the necessary policy tools to ensure Scotland's transport network is fit for purpose.

3. Scotland's Trade¹³

Scotland is home to a strong and productive economy, with a transport network that supports the functioning of over 345,000 businesses¹⁴. According to HMRC data, Scotland has the fastest growing goods exports of the four UK nations. Over the year to Q2 2019, Scottish goods exports grew by 14.5%, compared to growth of 2.7% in England, 6.8% in Wales and 6.8% in Northern Ireland. Contrastingly, Scotland's goods imports grew at the slowest rate of the four UK nations.

Over the coming years, Scotland's economic success will be increasingly realised through its ability to compete in an ever changing global market. Strengthening links with global economies brings with it increased trade, attracts investment and creates an environment to support the economy. International markets offer enormous potential for Scottish companies to share skills and expertise to boost exports.

Data from HMRC Regional Trade Statistics (RTS) allows for an up to date assessment of trade, disaggregated at the Scottish level. As the HMRC RTS deal solely with trade in goods¹⁵ and not services, it also allows for more realistic analysis as services are less likely to 'travel'. Although data is currently available up to Q2 2019, for comparative purposes, the trade data used within this report will largely cover up to the end of calendar year 2018.

Scottish goods exports have increased each year since 2013, however, their contribution to wider economic growth measured in gross domestic product (GDP), has remained broadly unchanged over this period. A recent paper¹⁶ published by the Scottish Government highlights ways in which Scotland as a nation can focus on key exports to boost competitiveness and strengthen its international ties, thus growing the economy at a faster rate.

Looking at Scotland in the context of the wider UK, 54% of all Scottish goods exports went to EU countries in 2018. Wales had the largest share of their exports going to EU countries – 61.3%. Three of the four UK nations had more than half of all goods exports going to EU countries. The only exception was England which has remained below half since 2013.

On the imports side, Scotland's EU imports account for just over 40% of total goods imports. Northern Ireland's imports from EU countries as a share of total imports was nearly 65% in 2018, whereas Wales imported less than 40% from EU countries. England's imports from the EU as a share of total imports has continued to increase. In 2013 the proportion was 53% and by 2018 this figure was up at 57% of all goods imports. Northern Ireland has seen an opposite trend over the same period, their share of EU imports falling from 71% in 2013 to less than 65% in 2018, nevertheless they continue to have the largest share of imports from EU countries across the four UK nations.

3.1 Exports

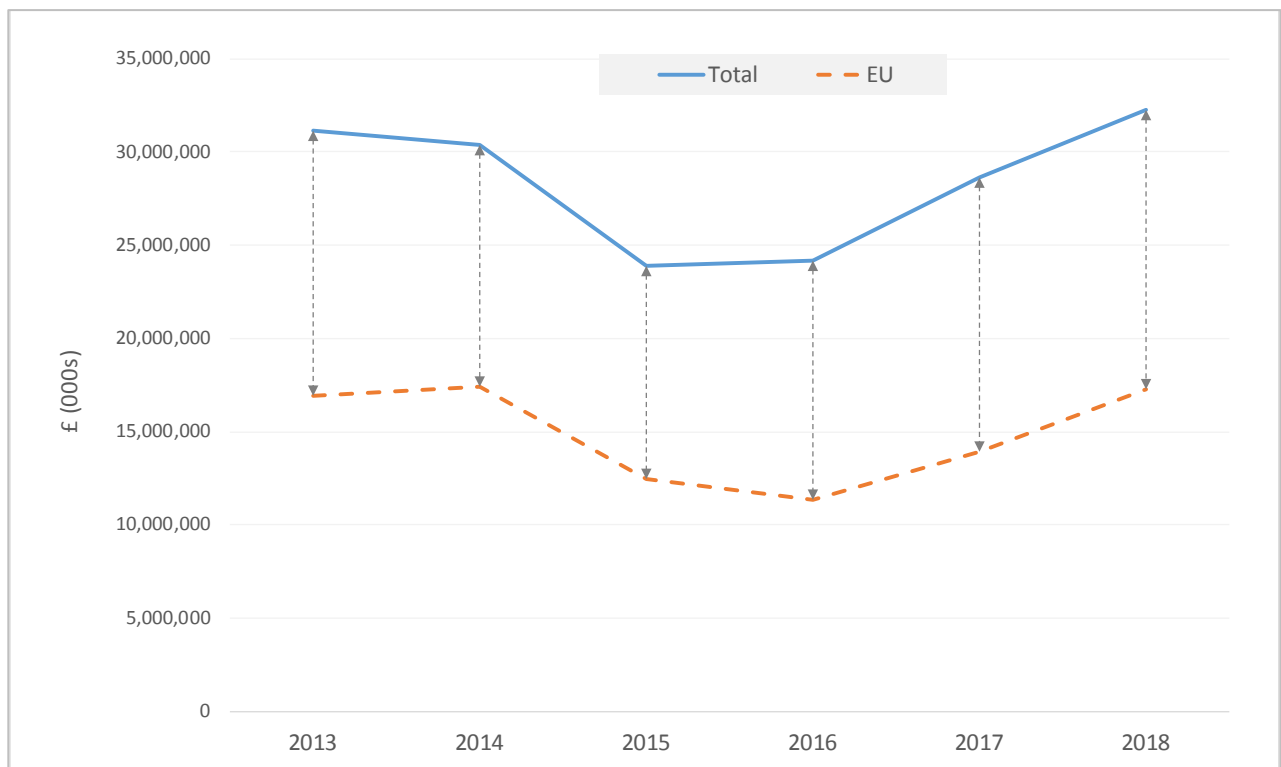
Figure 1: Destinations and Values of Scotland's Exports and Top 5 Export countries (£ billions), 2018



In 2018, international goods exports from Scotland totalled £32.2 billion. This was an increase of 12.7% compared to 2017. Of this total, non-EU partner countries accounted for 46%, a decrease from 51% the previous year, while exports to EU member states increased, now accounting for over £17 billion worth of goods exports.

Since 2013, the proportion of Scottish goods exports to EU countries has been broadly unchanged, although the total amount has increased. At its peak in 2014, 57% of all Scottish goods exports went to EU member countries. The gaps between the lines below show the amount of goods exports travelling to non-EU member countries.

Figure 2: Scottish Exports: EU vs. Non-EU



Key Markets

Scotland's top 5 export partners in 2018 were:

- (1) Netherlands (£6.9 billion);
- (2) USA (£4.3 billion);
- (3) Germany (£2.7 billion);
- (4) France (£1.6 billion);
- (5) Republic of Ireland (£1.5 billion);

Over the past 5 years, Scotland's top 5 have evolved as shown in Figure 3.

Figure 3: Top 5 Scottish Goods Export Destinations over time, 2013-2018



The Netherlands has been Scotland's largest export partner for 5 of the past 6 years – USA was the largest in 2016. Its dominance as Scotland's main export partner can be explained in part by the Dutch port of Rotterdam being an important international shipping hub (the largest port in Europe and 10th largest worldwide).

Many of the goods transported to Rotterdam will have another country, other than the Netherlands, as its final destination. These destinations are not routinely collected, which artificially boosts the value of exports to the Netherlands ('the Rotterdam effect').

China was one of Scotland's top 5 exporting partners in 2016 and through to 2017. However in 2018, the Republic of Ireland returned to the top 5, as exports of petroleum fuels to China more than halved compared to 2017, pushing China to 6th.

Scotland's top 5 goods export categories¹⁷ in 2018 were:

- (1) Petroleum products & related materials (£11.5 billion);
- (2) Beverages (£4.3 billion);
- (3) Power generating machinery & equipment (£2.6 billion);
- (4) General industrial machinery (£1.2 billion);
- (5) Fish, crustaceans, molluscs, etc. (£0.9 billion);

The above goods travel by some combination of modes (road, rail, port and air) before reaching their final destinations, with bulkier goods more likely to travel by road, rail and port.

Petroleum products & related materials includes a selection of refined fuels (oils and chemical fuels) which travel in different ways. Scottish oil exports are typically shipped out of dedicated oil terminals at Forth Ports, to a variety of locations. As mentioned above, China was a key recipient of oil exports in 2017, but in 2018 the value of exports to China in this category more than halved.

Despite global oil prices falling significantly in 2016, resulting in Scottish petroleum exports nearly halving, the sector has rebounded with export values close to those seen prior to the oil price crash. The value of petroleum products & related materials exports subsequently grew by over a third compared to 2017.

Scottish beverage exports increased by 7% compared to 2017. Although the United States are Scotland's largest beverage export market, between 2017 and 2018, beverage exports to the United States grew by just over 1%. Nevertheless, the USA still accounted for a quarter of all Scottish beverage exports in 2018. Scotch whisky¹⁸, is the world's number one internationally traded spirit, with 41 bottles of Scotch whisky shipped every second to 175 global markets, totalling more than 1.2 billion bottles each year. Countries such as Ecuador, India, Malta and Sri Lanka all experienced strong growth in Scottish beverage exports in 2018.

Machinery exports (power generating and general industrial) from Scotland have a few key markets. In 2018, Scotland's top markets for power generating machinery were USA, United Arab Emirates (UAE) and India. Combined power generating machinery exports were valued at £1.1 billion, approximately 40% of all exports within the wider category. General industrial machinery exports primarily went to the USA, Germany and Norway. Singapore, China and Angola used to be key markets for these goods, but over time EU markets have received most of the exports in this category. This is the only one of the top five categories that has fallen in value each year, for the last 5 years.

Scottish seafood exports have increased by 58% since 2013, the fastest growing export market of the top 5 mentioned above, and were valued at £918 million in 2018. However, this value is around 3% lower than in 2017.

The fishing industry in Scotland is the largest in the UK. Landings at the three Scottish ports of Peterhead, Lerwick, and Fraserburgh account for just over 50% of all landings by UK vessels and 37% of the total value of the UK catch. In 2017, Scottish vessels landed 466,000 tonnes of sea fish and shellfish, with a gross value of £560 million¹⁹. Fishing is a major activity in Scottish ports, which is unsurprising given Scotland's location amongst some of the most productive fishing grounds in the world.

Over the past decade the number of Scottish fishing vessels has declined, with a shift towards larger boats, which have increased in number. Both the number of vessels and people employed have remained stable in more recent years, whilst the value and tonnage of landings has grown. In 2017, there were 2,065 active Scottish fishing vessels, employing 4,800 crew members, with over a quarter (27%) of vessels being over ten metres long.

In 2017, Scottish vessels landed abroad 180,000 tonnes of sea fish and shellfish, worth £121 million. The tonnage landed abroad increased by 12% and the real terms value of landings abroad decreased by 11% compared to 2016.²⁰ Norway is by far the largest destination for Scottish vessels landing abroad, accounting for 62% by tonnage and 74% by value of all Scottish vessels' landings abroad. Landings into Norway in terms of tonnage were largely unchanged from 2016, however the value of these landings have fallen by 8%. Landings abroad accounted for 39% of all landings by Scottish vessels in terms of tonnage and 22% in terms of value.

Figure 4: Top 5 Scottish Goods Exports by value, 2018



The volatile nature of oil and petroleum based products as a commodity and the impact that global phenomenon has on its price and supply means that as an export good, it can be relatively unpredictable. Scottish oil production in the North Sea is relatively small in comparison to more oil rich nations - such as members of the Organisation of Petroleum Exporting Countries (OPEC) - therefore any reduction in global demand is likely to heavily influence Scottish export levels. The other key exports, as shown above, have been relatively stable since 2013.

3.2 Imports

Figure 5: Countries of Origin and Values of Scotland's Imports, and Top 5 Import Countries (£ billions), 2018



Scotland's total international goods imports were valued at £25.4 billion in 2018. This was an increase of 4.8% compared to 2017, although this growth was smaller than the growth in exports, so Scotland's trade surplus in goods increased.

Compared to 2017, Scotland's imports from EU countries increased by 11.8%, compared with a fall in imports from non-EU countries over the same period. As a result, trade from non-EU countries accounted for 60% of Scotland's goods imports by value, down by 2.5 percentage points from the previous year.

Key Markets

In 2018, 40% of goods imported into Scotland were from the EU (£10.2 billion). The top 5 countries from which Scotland imports from has remained unchanged over the past 5 years, albeit the ranking of countries has changed from year to year. Norway has led Scottish imports every year since 2013. As is highlighted by Figure 5 above, Scotland's leading sources of imports are:

- (1) Norway (£4.0 billion);
- (2) China (£2.9 billion);
- (3) USA (£2.8 billion);
- (4) Germany (£2.0 billion);
- (5) Netherlands (£1.9 billion);

While the Netherlands also feature here, Scottish goods imports often have a greater level of tracking with regards to origin than Scottish goods exports. For this reason, it is likely that the degree of inflation due to the Rotterdam effect acting upon the value of goods Scotland imports from the Netherlands is significantly smaller than that acting upon its exports to the Netherlands. While the Netherlands may still be a hub for goods leaving continental Europe bound for Scotland, it is much more likely that Scottish businesses will be aware of the source of their imports.

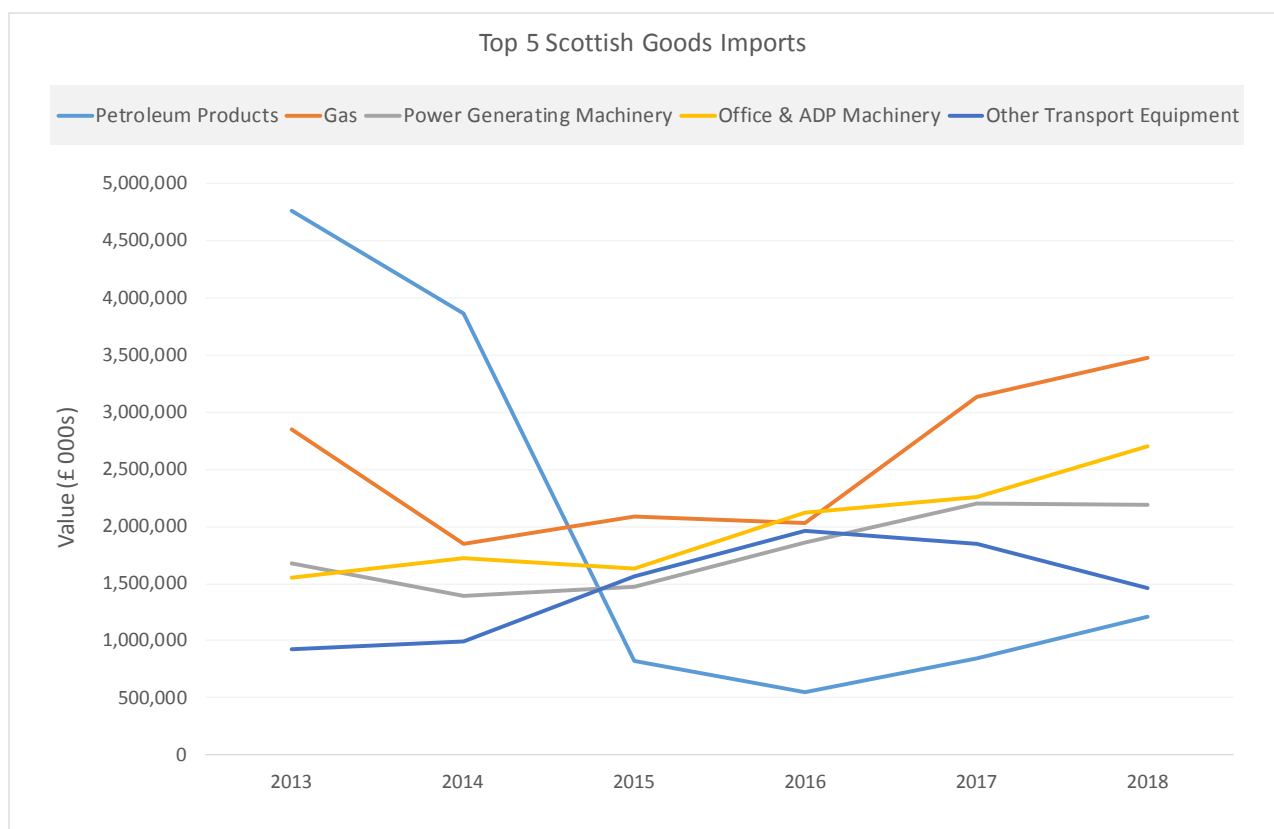
While the composition of Scottish exports has changed over time, Scotland's main import goods have remained in similar categories since 2013. In 2018, Scotland's top 5 import categories were:

- (1) Gas, natural & manufactured (£3.5 billion);
- (2) Office and automatic data processing (ADP) machinery (£2.7 billion);
- (3) Power generating machinery (£2.2 billion);
- (4) Other Transport equipment (£1.5 billion);
- (5) Petroleum products & related materials (£1.2 billion);

As has been the case since 2013, the largest proportion of goods imported from Norway, Scotland's largest import market, are 'Mineral fuels, lubricants & related materials', and were valued at £3.5 billion in 2018 - 14% of total Scottish imports. Gas, natural and manufactured imports from Norway were valued at £3.3 billion in 2018. For more detail on how these minerals are transported, see the first edition of Transporting Scotland's Trade.

Linking the top five import goods with the top five import destinations shows that Scotland imported most of its office and automatic data processing (ADP) machinery from China, and power generating machinery from USA. Other transport equipment imports came predominantly from countries out with Scotland's top 5 import partners, namely Malaysia and Spain.

Figure 6: Top 5 Scottish Goods Imports, 2018



Goods imports in 2018 have increased for all of Scotland's top 5 goods types compared to the previous year, except for other transport equipment. Petroleum products have seen a sharp fall from nearly £4.8 billion in 2013 to just over £1 billion by 2018. This is largely due to a shift away from oil based imports from Norway, to natural and manufactured gas imports.

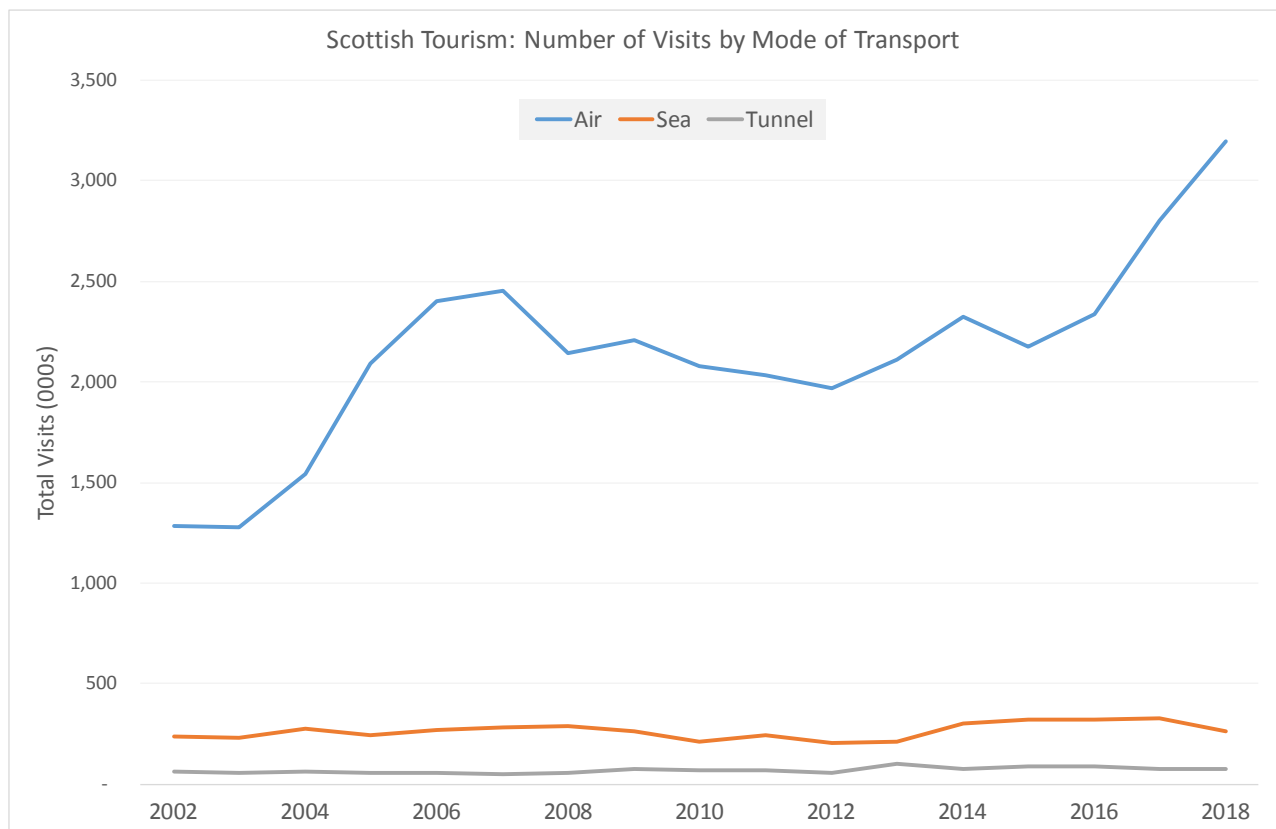
Looking at transport, road vehicle imports into Scotland come primarily from the Netherlands, France and Germany. In 2018, the combined value of road vehicle imports from these countries was £224 million. Overall, the value of road vehicle imports increased by 20% in 2018. This was greater than the growth in road vehicle imports over the previous four years.

3.3 Tourism

The International Passenger Survey (IPS)²¹ produces estimates of overseas visitors to the UK, with disaggregated data available for Scotland. Data shows that overseas visitors typically come from countries with which Scotland has strong trade links. In 2018, 47.4% of visits to Scotland came from one of the 7 countries in either Scotland's top 5 importers or exporters (China, France, Germany, Netherlands, Republic of Ireland, Norway and USA), and spent a combined total of £1.1 billion – 49.5% of all visitor spend in 2018.

Travel by plane is by far the most prevalent mode of transport for visitors to Scotland. Since 2002, the number of visitors travelling to Scotland by plane has more than doubled (increasing by nearly 150%) as both other modes have held broadly constant over the period. This is shown in the chart below.

Figure 7: Scottish Tourism: Number of Visits to Scotland by Mode of Transport



Over time, the pattern of tourist countries of origin has changed. The only constant throughout the 16 years to 2018 has been the USA remaining the top country of origin for visitors to Scotland. In 2002, a large proportion of tourists to Scotland came from outwith the EU, with USA, Canada and Australia all in Scotland's top 5 sources of tourists. By 2006, Australia and Canada had both fallen out of this top 5.

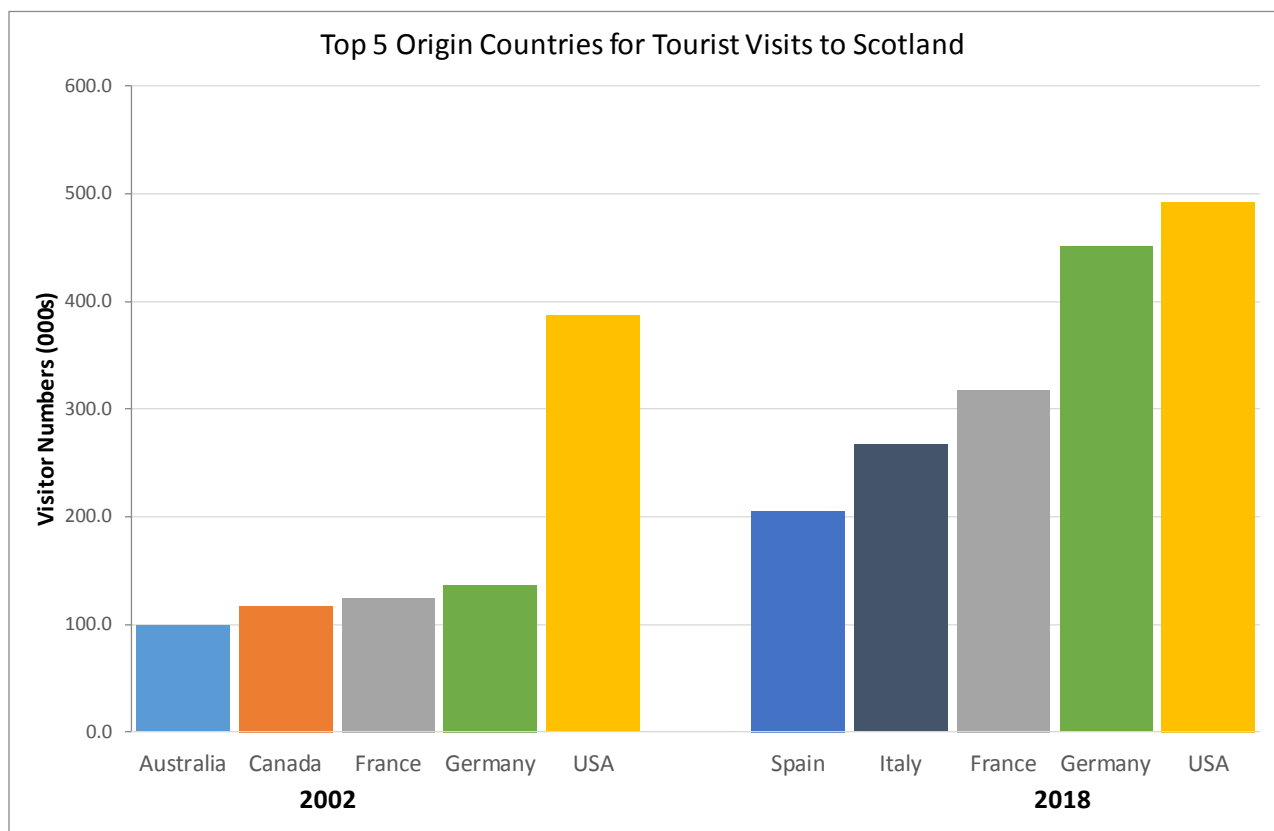
Other top sources of visitors travelling to Scotland include the Republic of Ireland, Italy, the Netherlands, Poland (5th most popular origin country for Scottish tourism in 2016) and Spain.

Global economic phenomena tend to impact tourist travel plans and destinations. During the financial crisis of 2007-08 and subsequent recovery, North American and Australian tourist numbers to Scotland dropped significantly, with Canada and Australia replaced in the top 5 by countries much closer to home, Italy and Spain.

Similarly, visitor numbers to Scotland from the countries hardest hit by the sovereign debt crisis – which resulted in slow growth across many Eurozone countries between 2011 and 2013 namely Italy, Republic of Ireland and Spain – reduced. In the case of Ireland and Spain, between 2011 and 2013, visitor numbers fell by 85% and 42% respectively.

By 2018, Scotland's top 5 included 4 EU countries, Spain, Italy, France and Germany.

Figure 8: Top 5 Countries of origin for tourist visits to Scotland over time



Tourists in Scotland stayed for an average of 8.2 nights in 2017. This fell to an average of 7.5 nights per visit in 2018. The average tourist in Scotland spent £88.20 each night in 2017, whereas this figure rose to £94.10 in 2018. Visitors from Bulgaria, Mexico and Pakistan had the longest average stays in 2018.

The biggest spenders in Scotland came from Saudi Arabia, Qatar and Japan. Visitors from these three countries combined spent an average of £214.80 per night in Scotland in 2018.

4. Transporting Scotland's Freight

Scotland's transport network supported over £57.6 billion worth of international trade in goods in 2018²². This was a 9% increase in the value of trade in Scotland, from £52.8 billion in 2017.

However, tracing Scotland's exports and imports continues to be challenging for a number of reasons. Official data on the volume of Scotland's trade in goods carried by different modes of transport is often collected and published by different organisations which can make aggregation and comparison difficult. Additionally, some data concerning trade flows and transportation is only published at a UK level, and is therefore difficult or impossible to disaggregate to a Scottish level.

Moreover, the methodology for counting Scottish exports may differ from that for aggregate totals due to the treatment of goods which move from Scottish ports to offshore oil facilities. A significant proportion of Scottish trade is shipped via a number of countries before arriving at its final destination. For example, as discussed earlier, the Netherlands is the largest export market for Scottish goods, largely due to the Rotterdam effect. Some exporters may not know the final destination of their goods, and this is reflected in the trade statistics.

Finally, accounting techniques are sometimes employed to move goods between company headquarters around the world, and so while goods and services may be exported and imported based on company balance sheets, occasionally the physical goods may not 'travel' anywhere, with services being even more difficult to follow.

Scotland continues to have strong trade links to a number of countries overseas – actively trading with over 105 countries across nearly 100 different industries and sectors²³. One example is the food and drink sector which totalled £9.8 billion worth of exports in 2014, with fish and seafood making up the largest share of food exports that year.

Scottish seafood companies which export perishable goods often rely on frequent transport links to enable a fluid production process. Salmon is Scotland's number one food export, with trade extending to more than 65 countries around the world. While the Scottish Salmon Company (SSC), one of the largest producers of salmon in Scotland, relies heavily on the road network and air links for the transportation of their goods, many fishermen also utilise Scottish ports to move their cargo. This edition therefore looks in more detail at the movement of fish directly from Scottish ports.

The remainder of this chapter will examine Scotland's key transport gateways and networks – namely Scotland's airports, ports, roads and railways.

4.1 Key Transport Gateways and Networks

All of the four main modes - road, rail, sea and air - are key to Scotland's transport network, with some being more significant than others. The vast majority of Scotland's freight is carried on land either through its extensive road network which consists of over 56,000 km of road, or its railways with a total route length of 2,819 km, over a quarter of which is electrified. Of the Scottish road network, 20% are major roads (including trunk and non-trunk 'A' roads), with only 1% of the trunk road network being comprised of motorways²⁴.

Scotland's primary trunk road link to the rest of Great Britain is across the M74 and M6 across the Scotland England border. Other routes that cross the border include the, A1 north of Berwick, the A6105 a few miles to the west, the A697 at Coldstream, the A68 at Carter Bar and the A7 north of Longtown. Once in England, there are a number of transport corridors to the Channel Tunnel and Channel Ports which facilitate onward travel into continental Europe.

Approximately 214 million tonnes (road, port and air) of freight was lifted in Scotland in 2018. The large share of this was carried on Scottish roads²⁵ with a final destination in Scotland. In 2018, an estimated 148.5 million tonnes of goods were transported on Scottish roads by UK HGVs. In 2018, 87% (111.4 million tonnes) of goods lifted for road freight journeys originating in Scotland also ended their journey in Scotland, while 13% were destined for other UK destinations (not including Scotland), 97% of which had a final destination in England, the North West being the most popular destination.

It is thought less than 1% of road freight originating in Scotland had an international destination. However, there is currently no definitive source of data for the total market for Scottish road freight to abroad as there are issues with defining the destination of HGVs leaving Scotland via England and pinpointing what proportion of freight sailings from English ports originated in Scotland²⁶, particularly if cargo moves or is loaded onto another vessel.

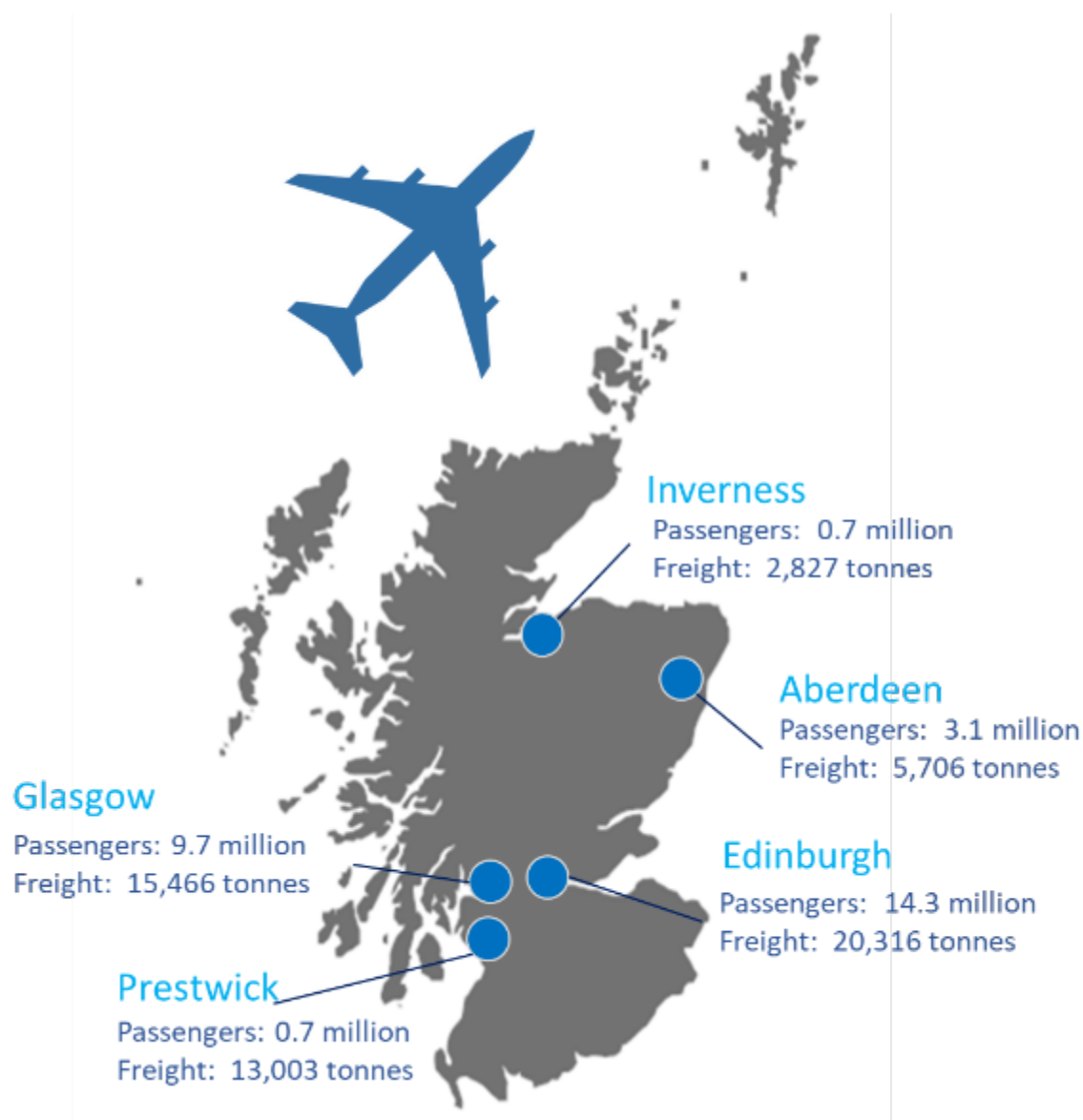
Scotland's main passenger airports are Edinburgh, Glasgow, Aberdeen and Inverness, while the main freight airports are Edinburgh, Glasgow and Glasgow Prestwick. Major Scottish ports²⁷ include Aberdeen, Cairnryan, Clyde, Cromarty Firth, Dundee, Forth, Glensanda, Orkney, Peterhead, Loch Ryan and Sullom Voe.

The Scottish railway network consists of 358 passenger stations and 81 freight terminals and yards²⁸. The main rail freight terminals in Scotland are across the central belt and going from east to west include Grangemouth, Mossend, Coatbridge, Deanside (Hillington) and Elderslie. While Scottish rail freight volumes are unable to be included in the above total due to limitations in data collection, in Great Britain in 2017, 5% of all freight lifted was on rail²⁹, which was largely unchanged from the previous year.

The following sections provides further information on freight carried by the key modes and the location of the key hubs in Scotland.

4.2 Air Connectivity

Figure 9: Scotland's Main Airports with Passenger Numbers and Freight Carried (2018)

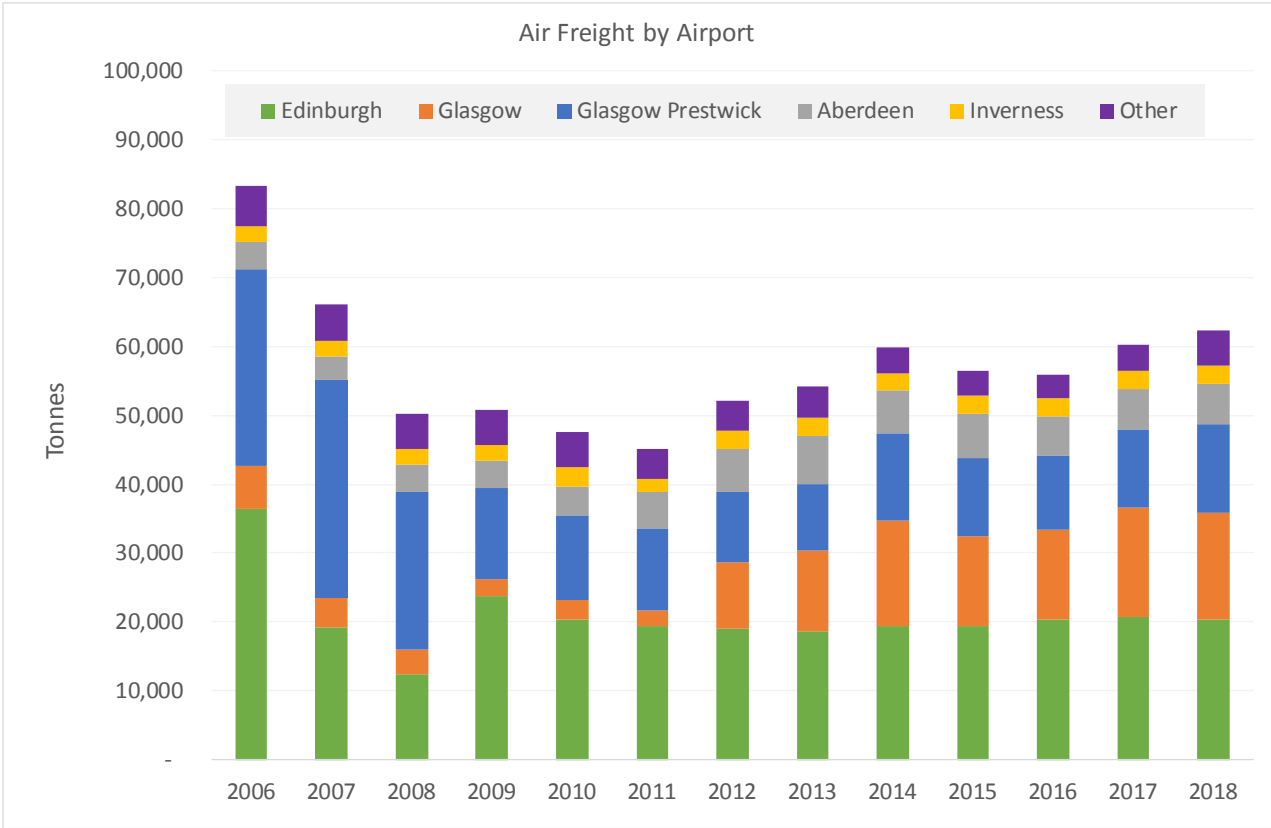


The figure above shows Scotland's five main airports by freight (total lifted, inwards and outwards) and passenger numbers in 2018³⁰. That year, freight carried by air in Scotland totalled over 62,000 tonnes. Air freight makes up a tiny share of total freight lifted in Scotland, however, goods being transported by air tend to be of a higher value, less bulky and more time sensitive than those transported by sea.

Although Scotland's airports are primarily used for passenger journeys, air freight remains important to Scotland's trade market. Scottish air freight volumes fell in 2018 by around 3% from the previous year, reversing slightly the general upward trend since reaching a low of 45,000 tonnes in 2011. As Scottish companies require the timely movement of certain types of goods, it is likely that the air freight industry will continue to be important to Scotland's export industry and therefore a crucial part of Scotland's wider transport network.

The chart below (Figure 10) shows how air freight volumes have changed over time by airport. From a recent peak in 2006, they had fallen by over 45% by 2011, with the largest fall coming between 2007 and 2008. This can be partly explained by the global financial crisis and its impact on demand for Scottish goods in overseas markets, thereby weighing on Scottish economic performance. Freight volumes have steadily increased since 2011. Scotland’s top airport for both freight and passenger numbers is Edinburgh Airport, which continues to be the UK’s 6th busiest airport.

Figure 10: Tonnage of Air Freight Handled by Scottish Airport - 2018



*Other Airports includes Barra, Benbecula, Campbeltown, Dundee, Islay, Kirkwall, Lerwick (Tingwall), Scatsta, Stornoway, Sumburgh, Tiree, Unst, and Wick John O’Groats.

Air Freight Vessel Type

Scottish producers wishing to move goods via air freight can do so in one of four ways. Firstly, there is the choice between a cargo plane and a passenger plane. Cargo planes are strictly for goods and therefore have larger capacities than passenger aircraft.

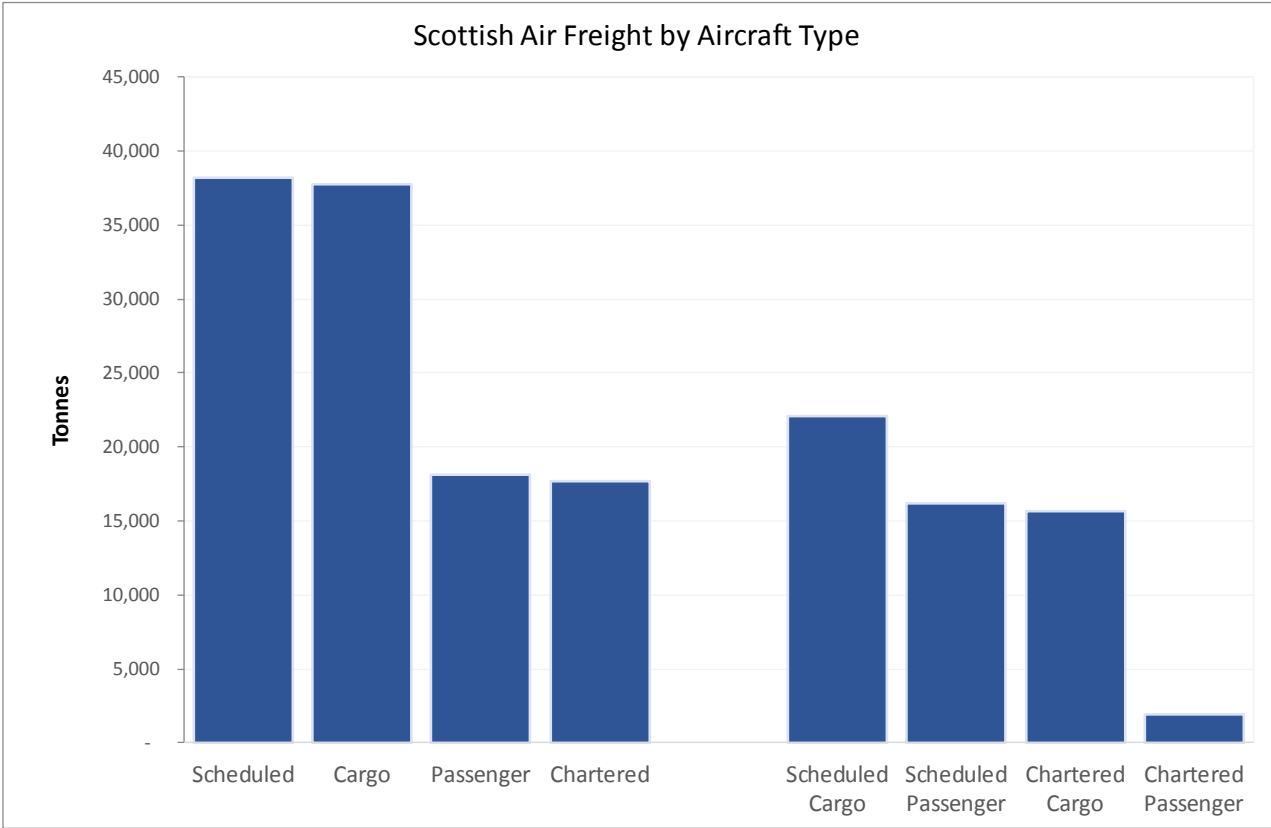
Secondly, producers can choose between whether they charter a service for their goods, or they utilise a service which is already running, a scheduled service, to move their freight.

There are often more passenger planes leaving from Scottish airports than cargo flights, however, by proportions, approximately two thirds (67.6%) of all air freight lifted at Scottish airports is lifted in cargo planes with about third (32.4%) of freight travelling in passenger planes.

The split between scheduled flights and chartered flights is similar. In 2018, approximately 68% of all air freight lifted in Scottish airports, used a scheduled service which was already planned and running. Over 40% of these scheduled flights left from Glasgow Airport. Chartered flights for freight made up the minority, accounting for 32%.

Combining the two and looking at the options available, the data shows that air freight in Scotland is most likely to travel on a scheduled cargo plane than any other aircraft. These account for 39% of all freight carried by air. The next most common option was scheduled passenger, which accounted for 28% of air freight lifted from Scottish airports. This is shown in Figure 11 below.

Figure 11: Air Freight through Scottish Airports by Aircraft Type - 2018

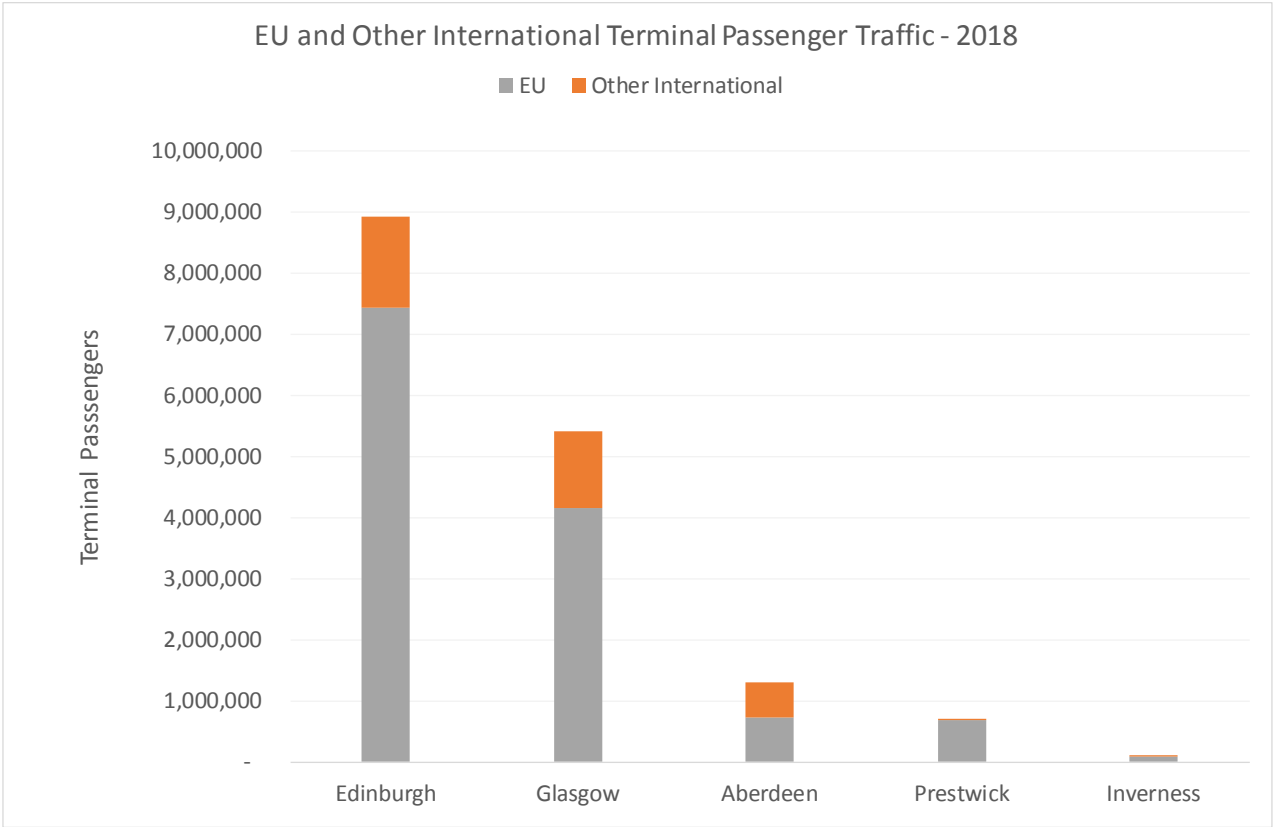


In 2018, there were 29.4 million air terminal passengers travelling from all Scottish airports, 0.6 million (2.1%) more than the previous year. Passenger numbers have increased year-on-year since 2010, and have grown by 5.1 million (21%) in the last decade.

From Scotland’s airports it is possible to access 56 countries (excluding other UK destinations) and over 220 destinations directly. Scotland’s most popular destination for the last decade has been Spain, with passenger numbers (including the Canary Islands) in 2018 over 4 million, accounting for nearly a quarter of all air passengers of direct journeys abroad that year. Edinburgh Airport had 14.3 million terminal passengers in 2018 and Glasgow Airport had 9.7 million. Together, the top four airports (Edinburgh, Glasgow, Aberdeen and Inverness) accounted for nearly 95% of total terminal passengers.

The CAA publish data on the movement of international terminal passengers. The chart below shows the breakdown of international travel between EU and other international terminal passengers for Scotland’s five busiest airports.

Figure 12: EU and Other International Passengers by Scottish Airport – 2018



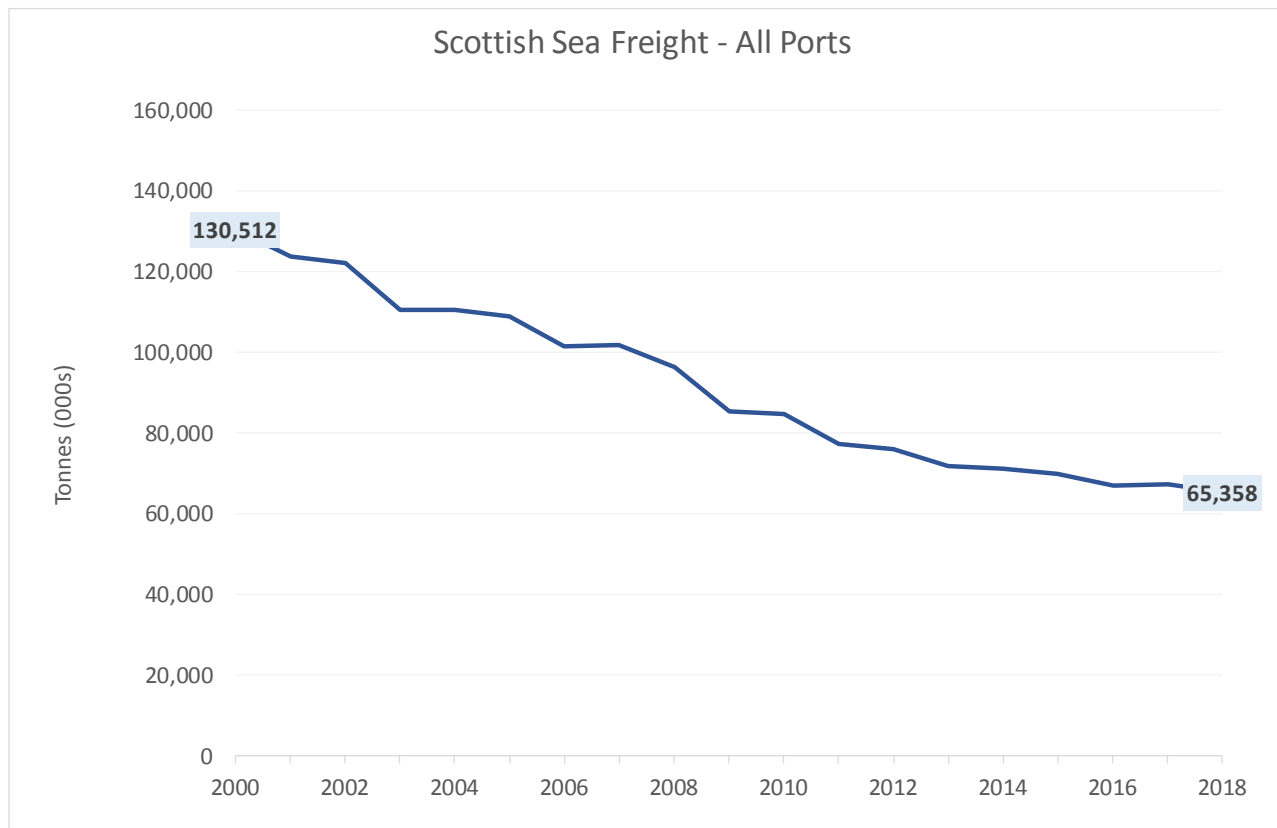
Of the international flights made in 2018, the majority of terminal passengers were bound for the EU. The number of EU bound passengers fell slightly from 2017 levels for Aberdeen, Glasgow and Prestwick airports, while Edinburgh and Inverness saw their number of EU bound terminal passengers increase over the year.

4.3 Port Connectivity

Scottish ports are fundamental to the Scottish economy. They play a unique role in providing a base for trade and employment. They also provide the landside gateways for vital industries such as offshore energy, fishing and cruise sectors. They handle a wide range of cargo, with an array of dry bulk, liquid bulk and other cargo goods entering and leaving the country through ports every day.

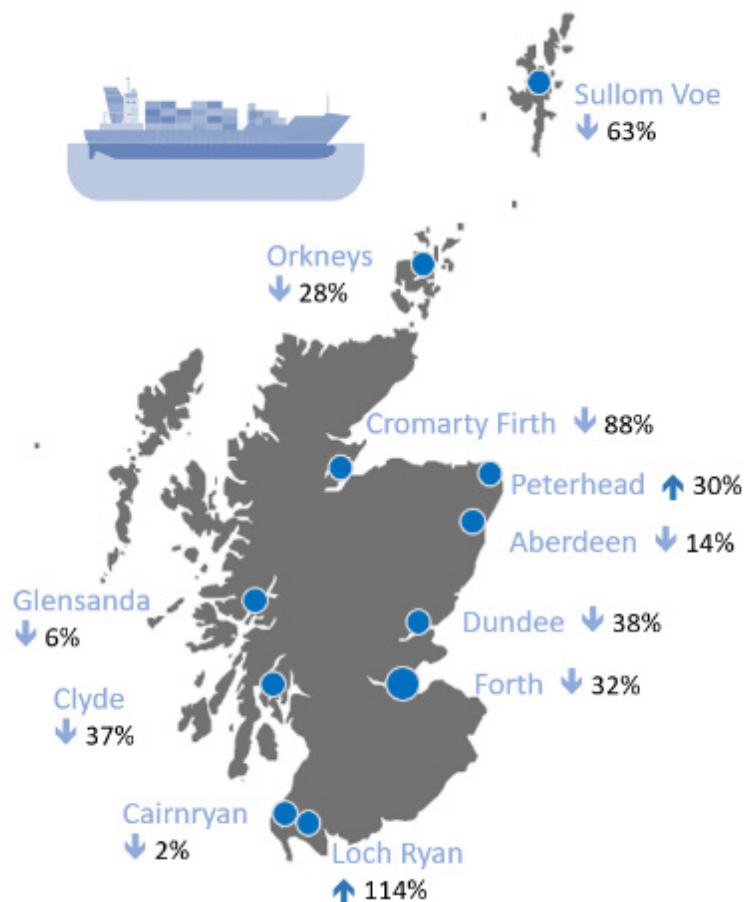
Approximately 30% of Scotland's total freight (excluding rail and pipeline) was handled by Scotland's sea ports in 2018. Latest data³¹ shows that foreign and domestic sea port freight traffic across all ports in Scotland totalled 65.4 million tonnes in 2018, as shown in Figure 13. Forth and Clyde Ports combined handled over half (55%) of this freight. The volume of sea freight fell slightly compared to 2017, continuing the downward trend of the past decade. Since 2008, Scottish port volumes have fallen by 32%³².

Figure 13: Total Freight Tonnage time series – All Scottish Ports



Total Scottish major port freight accounted for 95% of all port freight lifted in 2018. The chart below highlights the changes in freight volumes by major port over the past decade, and shows that only two ports, Loch Ryan and Peterhead, have seen growth in freight volumes.

Figure 14: Change in freight volumes handled by Scotland's 11 major ports (2008 – 2018)



Over the past 20 years, there has been a large shift away from domestic (to and from other ports in the UK) and export sea port freight, while import freight has held up over the period. Despite this, outbound international freight traffic accounted for 33.3 million tonnes in 2018, approximately 54% of major port traffic in 2018.

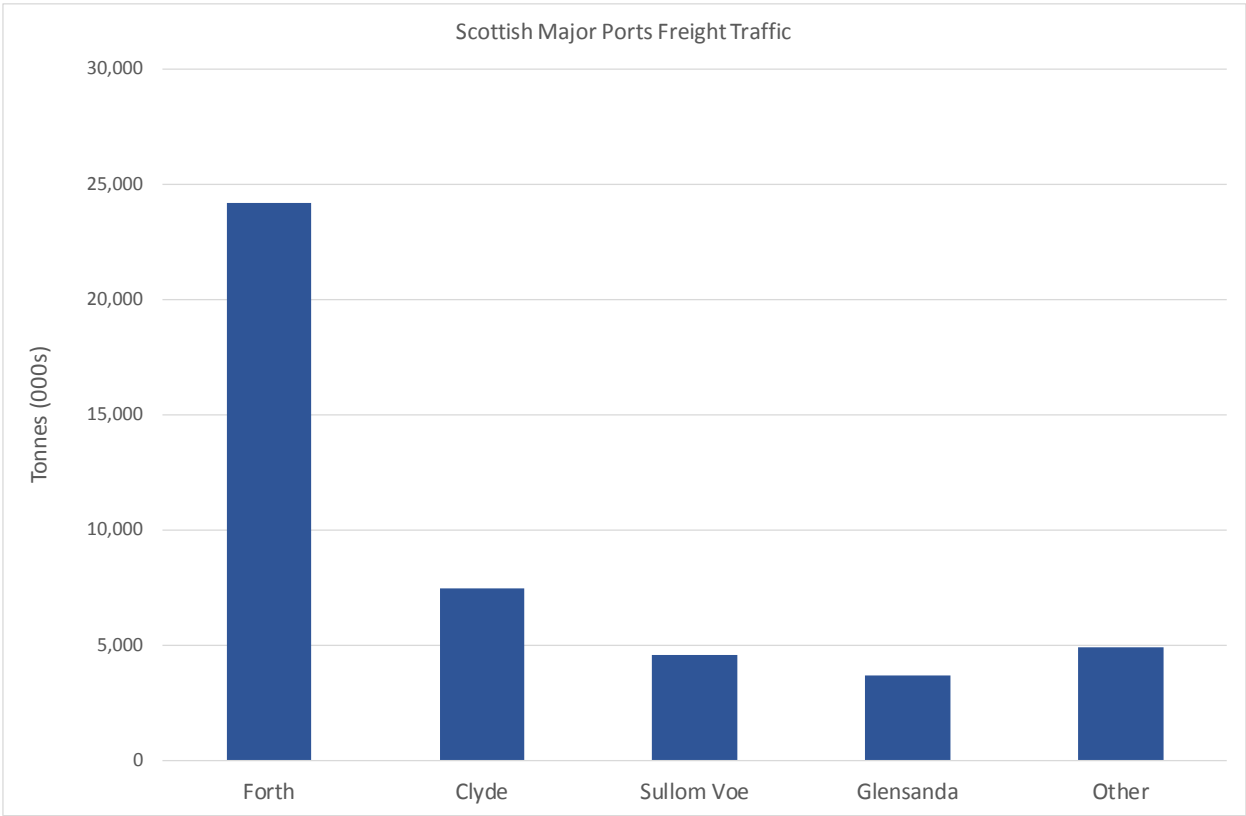
In terms of share of total sea freight from the major ports, compared to 1998 – when domestic freight accounted for over 40% at 48 million tonnes - domestic freight carried by Scotland's major ports has fallen to 27.7%, totalling 17.2 million tonnes. International imports increased to 11.5 million tonnes in 2018, but has fallen from its peak of 18 million tonnes in 2006.

The 11 major ports connect to over 100 destinations worldwide, including ports in the UK, mainland Europe, and further afield in Asia, South America and elsewhere. The majority of goods handled by Scottish sea ports are outbound (export goods). This is exemplified by Glensanda which only ships outwards (bulk granite aggregates) to destinations in the UK and mainland Europe. The main types³³ of foreign traffic through the major ports in 2018 were crude oil (27.5 million tonnes), oil products (9.8 million tonnes) and other dry bulk (7.7 million tonnes).

In 2018, international traffic through the major ports (imports and exports) totalled 44.8 million tonnes. The split between imports and exports was roughly a quarter and three quarters respectively. Of the international traffic, the Forth³⁴ and Clyde ports combined

accounted for 71% (31.6 million tonnes) of all international traffic through major ports in 2018. This is shown in Figure 15.

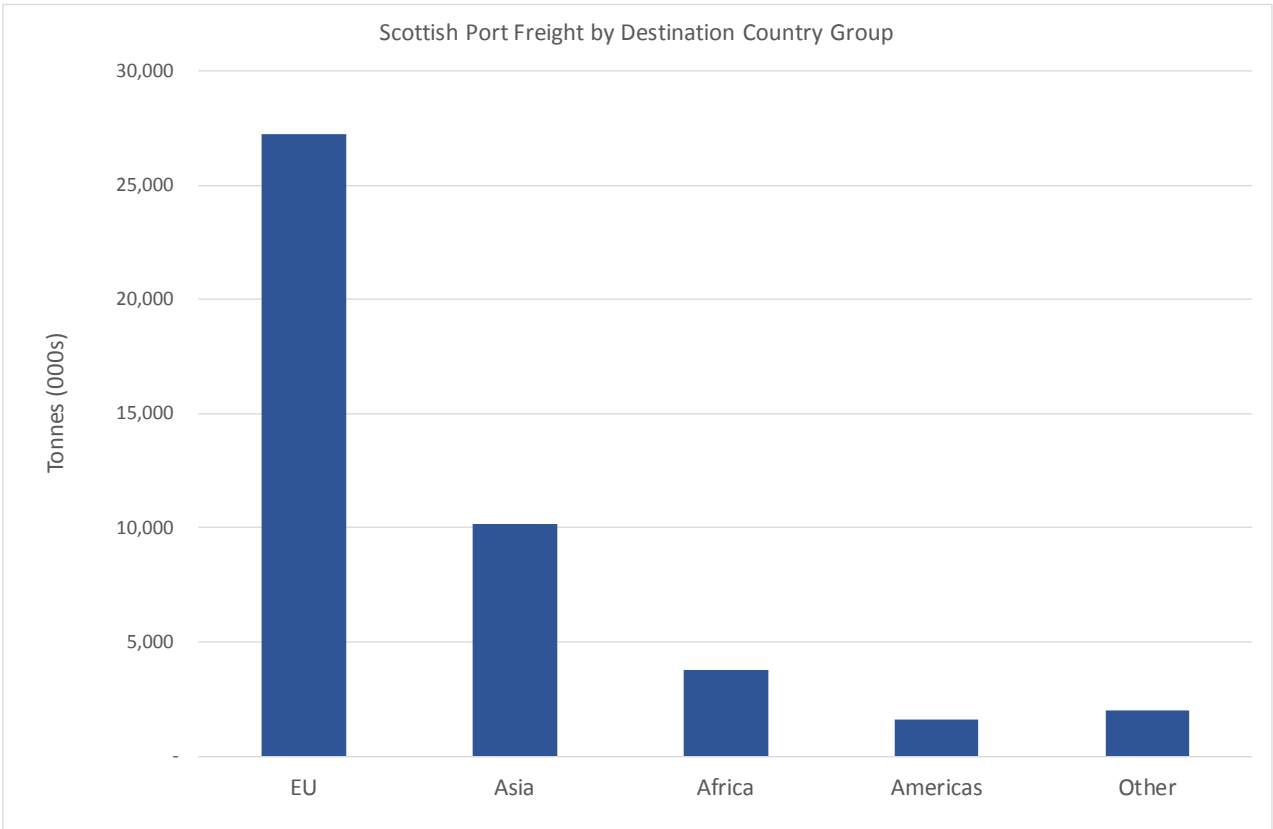
Figure 15: Foreign freight traffic through Scotland’s Major Ports (Inwards and Outwards - 2018)³⁵



In 2018, the majority of exports handled by Scotland’s ports were destined for EU countries. Outward traffic from Scottish major ports to EU countries totalled 22 million tonnes in 2018, two thirds of all outward international sea freight. The EU also accounted for 61% of foreign traffic of all types of cargo in both directions (to and from Scotland).

Although the USA are a major exporting partner for Scotland, being in Scotland’s top 3 export destinations by value for each of the past 6 years, in terms of tonnage, the goods moved to the US via port freight shipping represent just 3.5% of 2018’s international export total.

Figure 16: Foreign freight traffic carried by Scotland’s Major Ports by Country Group, 2018



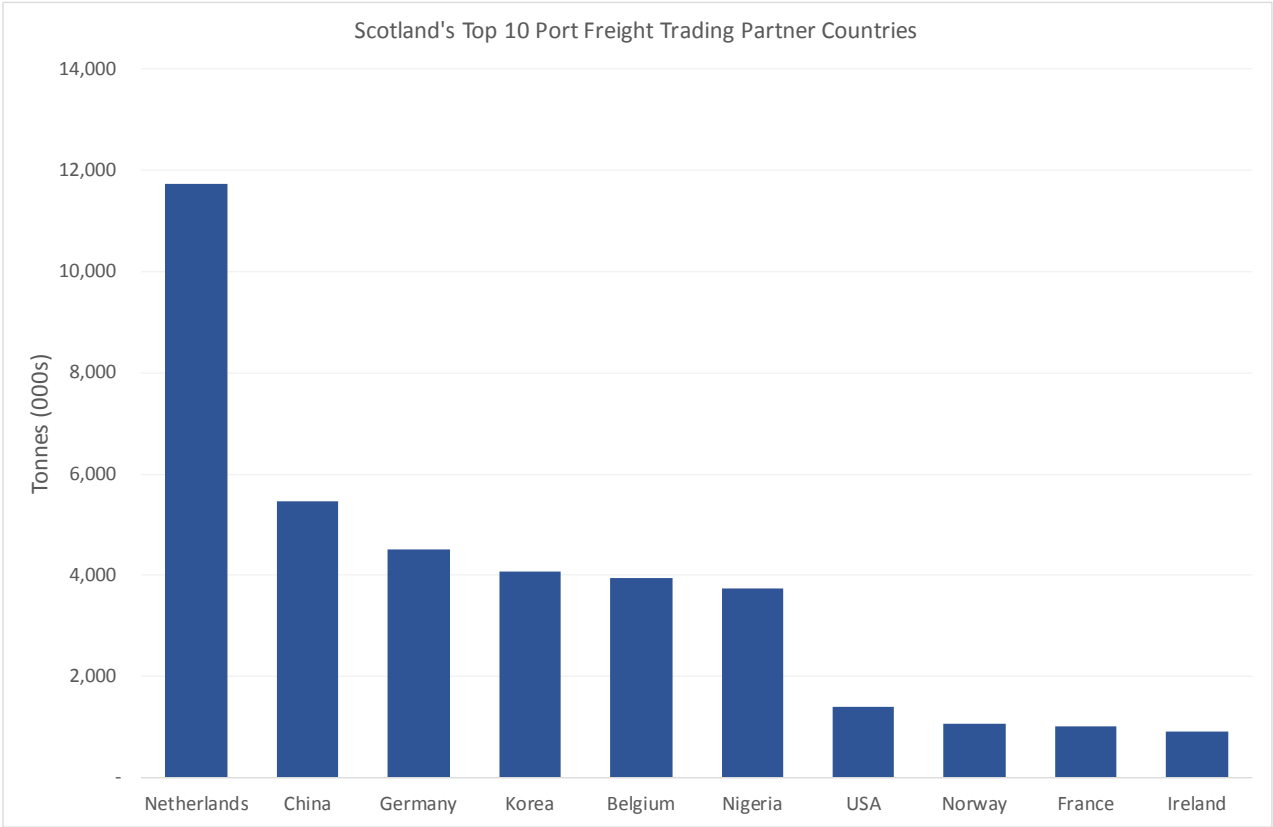
Outside of the EU, Scotland’s main sea freight partners were China, South Korea and Nigeria, - predominantly due to liquid bulk shipments in each case. This involved inward bound freight traffic (imports) to Scotland from Nigeria and outward bound freight traffic (exports) from Scotland to China and South Korea. Combined, these three countries alone accounted for over a third of all foreign traffic at major Scottish ports in 2018 at 13.3 million tonnes.

Figure 17 shows Scotland’s top 10 sea freight trading countries for both inward and outward traffic. Representation is equally split between EU and non-EU countries, but in terms of tonnage, approximately 60% of traded goods of the top 10 countries, are with EU countries.

The most popular destination for foreign port traffic in 2018 was the Netherlands, with over half (11.7 million tonnes) of all EU traffic destined for the country. Furthermore, Germany and Belgium were also significant freight partners, lifting 4.5 million and 3.9 million tonnes respectively in 2018.

The largest non-EU market for Scottish port freight was China. This was dominated by liquid bulk cargo and totalled over 5.5 million tonnes.

Figure 17: Scotland’s Top 10 Port Freight Trade Partners (Inwards and Outwards), 2018



The countries included in the figure above are based on direct journeys to or from Scottish ports. This therefore excludes cargo or freight travelling to or from Scotland via the Channel ports.

In terms of goods, liquid bulk made up the vast majority of freight moved by Scottish ports, accounting for 67% (41.3 million tonnes) of all sea freight moved by major ports in 2018. A further 9.3 million tonnes (15%) was made up of dry bulk. The remaining 18% (around 11 million tonnes) included container cargo and all other types of cargo.

4.4 Road Connectivity

The first edition of Transporting Scotland's Trade outlined Scotland's road network and provided a breakdown of how the network supports the movement of goods in and around Scotland and also abroad.

As has previously been highlighted, approximately 69% of freight in Scotland is carried by road (148.5 million tonnes). The vast majority of this (75% or 111.4 million tonnes) remains in Scotland. In total, only 13% of freight journeys originating on Scottish roads left Scotland for another UK destination, 97% of which had a final destination in England (See Table 1 below).

Table 1 Quantity of road freight lifted or arriving in Scotland (million tonnes)³⁶, 2018

	Scotland-Scotland	Scotland – rUK	Scotland - non UK	Total
Tonnage Lifted	111.4	17	0.2	148.5
		rUK-Scotland	Non UK - Scotland	
Tonnage Lifted		20	0.1	
Share of total tonnage	75.1%	24.8%	<0.1%	100%

The volume of Scottish road freight either bound for or coming from international (non-UK) destinations is a small proportion of this total figure at approximately 0.1% or less than 1 million tonnes. The vast majority of this international freight was exports, with less than 100,000 tonnes of goods entering Scotland (imports) from non-UK countries in 2018, 98% of which came from destinations in the EU.

Scottish Road Traffic

In 2018, the estimated volume of traffic on Scotland's roads was around 48 billion vehicle kilometres, 0.3% more than 2017³⁷. Of this total distance, 22% was covered by goods vehicles (light or heavy), accounting for over 10.6 billion vehicle kilometres over the year.

Given the small number of UK HGVs carrying Scottish goods outwith the UK³⁸, the proportion of freight carriage by these HGVs was naturally also very low. In 2018, of the 14.6 billion tonne kilometres travelled by UK HGVs originating in Scotland, only 241 million tonne kilometres were destined for locations outwith the UK, roughly 1.6%.

This is also the case for inward freight traffic from destinations outwith the UK. Of the 15.7 billion tonne kilometres travelled by HGVs with destinations in Scotland, only 125 million tonne kilometres were travelled by UK HGVs originating outwith the UK, roughly 0.8%.

Although Scottish level data for goods moved by road freight from outwith the UK is difficult to estimate, there are two key goods types which have sample sizes large enough to provide reliable estimates: Food & Drink and Machinery & Equipment. These two good types feature in Scotland's top 5 exporting goods with a combined value in excess of £4.7 billion, so it is not unreasonable to suggest that a proportion of Scotland's exports of food & drink and machinery & equipment travel to overseas markets via the road network.

The chart below shows some of the destinations that Scottish outbound freight travelled to in 2018. Due to the small volume of freight and sample sizes, data is not available for a lot of countries to provide an accurate estimate, therefore the chart below shows those with a significantly large enough sample size for comparison and individual reporting with the rest aggregated together.

The data shows that the countries where data is available (i.e. the sample size is big enough) include countries which feature in Scotland’s top trading partners in terms of imports and exports, within a reasonable distance for a HGV driver to travel, so mainly European Countries (EU and non-EU).

While the total tonnage increased in 2018, the proportion shifted with a reduction in ‘Other EU’ country exports and an increase in exports to ‘Other Countries’.

Figure 18: Road Freight – Goods Leaving Scotland by UK HGVs for non-UK destinations, 2017-18



The majority of these HGVs are likely to drive down to the Eurotunnel and Channel Ports to enter continental Europe. Latest data shows that in 2018, there were an estimated 2.5 million road haulage vehicle crossings between Dover and Calais³⁹. This is down on the previous year and the first time this annual figure has fallen since 2011. Using this estimate as a proxy, Channel Port crossings by Scottish lorries accounted for less than 0.5% of total crossings in 2018. Although this suggests that total Scottish freight travelling to / from Dover is small, this is a key gateway for Scottish traders to mainland Europe.

4.5 Rail Connectivity

Scotland's railway network⁴⁰ consists of 358 stations supporting over 2,400 services each weekday. The network also contains a number of freight terminals with links further afield to the rest of the Great Britain via the east and west coast. Scottish rail routes are used primarily for passenger travel, with 102 million⁴¹ journeys being made between April 2017 and March 2018. The majority of these journeys (92.3 million) both originated and had a final destination within Scotland, further highlighting the importance of Scotland's rail network for internal connectivity. Scotland's busiest stations for passenger travel are Glasgow Central, Edinburgh Waverley and Glasgow Queen Street.

Rail freight plays a significant role in everyday life. A report jointly commissioned by the Scottish Government and the Rail Delivery Group highlighted rail contributing up to £670m in Gross Value Added (GVA) annually to Scotland's economy, supporting up to 13,000 jobs and facilitating up to a further £650m in wider economic benefits.⁴²

A wide range of products including supermarket supplies and high street brands move by rail. Key Scottish exports such as whisky, shortbread and bottled water are also major users of rail. Across Great Britain, total freight lifted between April 2018 and March 2019 was 75.4 million tonnes.

Rail freight is crucial to the economy with one in four sea containers arriving at UK ports, being carried inland by rail⁴³. The Rail Delivery Group's submission to the Williams Review noted that rail freight delivers around £1.7 billion worth of benefits to Britain's economy and supplies £30 billion worth of goods to customers across Britain each year, including housebuilding materials, clothing and metals. Moving goods by rail rather than road reduces carbon emissions by 76%, benefitting the environment. A single freight train can remove up to 76 heavy goods vehicles (HGVs) from the roads which also cuts down congestion and improves safety⁴⁴.

Rail freight is organised differently to passenger rail. Trains are run as 'open-access' operations (i.e. not through a franchise contract) also with stringent controls. Network Rail own and operate Britain's rail infrastructure, including connections to major customers' own private sidings with many of its sites and depots leased to freight train operators.

Network Rail also has responsibility for finding suitable 'paths' (timetable slots) for both freight and passenger services to operate. Freight services across the network are provided by private sector Freight Operating Companies who provide the locomotives and the freight-carrying wagons, and in some cases the facilities to load, unload and transfer to other modes of transport. Logistics service providers often act as intermediaries offering a variety of services including multi-modal distribution, and can manage the whole process for customers.⁴⁵

As highlighted in the first edition, up to 2013, rail freight volumes in Scotland had been declining year on year. In recognition of the importance of rail freight to the Scottish economy, Transport Scotland published *Delivering the Goods, Scotland's Rail Freight Strategy* in March 2016. The strategy set out a number of actions for all rail freight industry partners to take forward and it informed Transport Scotland's High Level Output Specification (HLOS) which sets Network Rail's regulatory outputs for the current rail control period (2019 to 2024).

The HLOS was published in July 2017 and includes targets to grow rail freight on the Scottish network alongside freight performance and journey time improvements. This has resulted in an industry growth plan (published in March 2019) focussed on achieving or exceeding the growth target.

Figure 19: Scottish intermodal rail terminals⁴⁶

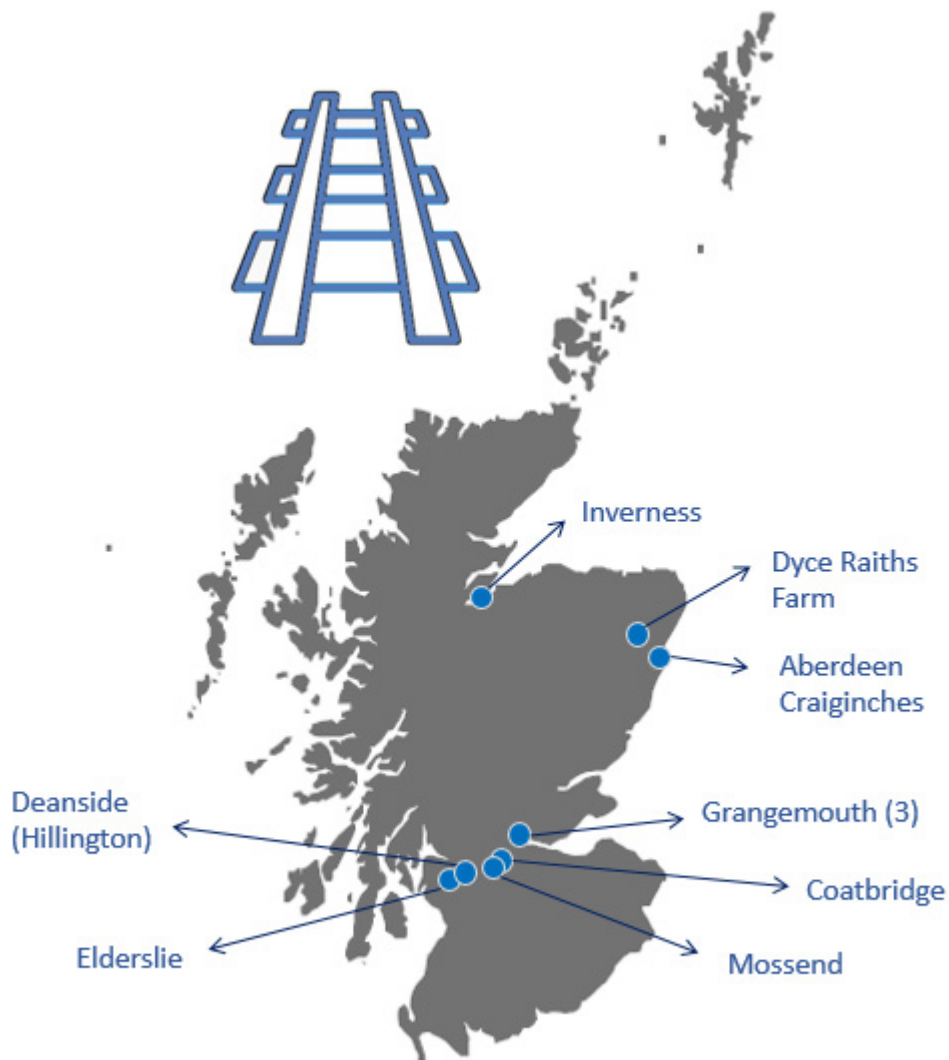


Figure 19 shows the key intermodal rail terminals in Scotland. Scotland's rail freight network carried freight around 430 million net tonne miles between April 2018 and March 2019. This included all commodities (excluding coal) and was only the mileage within Scotland. Looking at the full journey – which would include mileage out with Scotland depending on final destination of outbound freight and origin of inbound freight – over the same period, import and export Scottish rail freight totalled over 1.1 billion net tonne miles.

Scotland's main rail freight terminals are across the central belt. Going from east to west these are in Grangemouth, Mossend (Eurocentral), Coatbridge, Deanside (Hillington) and Elderslie. Figure 20 shows the Current intermodal trade flows running between Scotland and the rest of Great Britain.

Figure 20: Scotland's Current Intermodal Rail Freight Flows



As mentioned before, freight services along these routes are provided by different Freight Operating Companies (FOCs). The figure above only outlines the available routes currently taken. The list of active routes is as follows:

- Grangemouth to Aberdeen, Daventry, Tees Port and Tilbury (via Daventry)
- Coatbridge to Crewe, Felixstowe, London Gateway and Southampton
- Mossend to Inverness, Seaforth (Liverpool), Tees Port and Daventry

The figure above shows that the three central belt intermodal terminals mentioned above, are key to Scottish rail freight down to England and beyond.

Diagram 1 in the Annex shows the current rail freight network within Scotland. The red dashed lines highlight Scotland's strategic rail freight network. This route is a key corridor for Scottish rail freight travelling between the east and west of Scotland. The blue solid lines highlight the core routes of the network. Each of the intermodal rail terminals pinpointed in Figure 19 are along this blue solid route. This route is responsible for the majority of freight travelling through central Scotland.

5. Scotland's Key Transport Hubs

This chapter provides an overview of some of Scotland's ports, airports, and road and rail terminals which play a vital role in handling Scotland's freight.

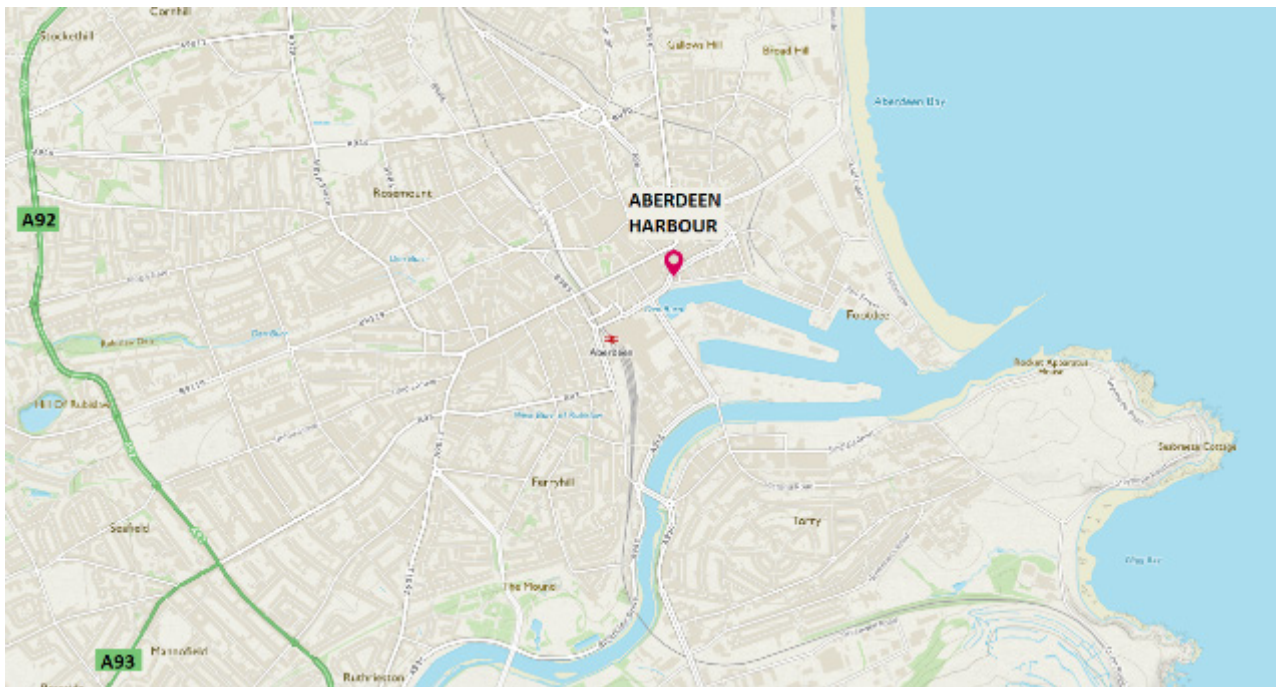
Scotland has a variety of hubs and terminals situated across the country in prime locations for import and export freight. The central belt between Glasgow and Edinburgh is Scotland's most populated region with many international businesses and logistics firms headquartered within the region.

The first edition of Transporting Scotland's Trade looked into some of these logistical hubs such as Eurocentral – Scotland's largest commercial site with many international logistics companies operating out of its premises – and Hillington Park. This edition will look more closely at the terminals and hubs included in the previous edition of Transporting Scotland's Trade, while also considering the following additional hubs:

- Clyde Ports
- Glasgow Airport
- Aberdeen Airport
- Inverness Airport Business Park
- Grangemouth

The information in this section provides a background to how goods move around Scotland and outlines some of the locations where consolidation takes place.

Aberdeen Harbour



Aberdeen Harbour is the principal commercial port serving the north east of Scotland and is one of Europe's leading marine support centres for offshore energy. Operated by Aberdeen Harbour Trust and located in Aberdeen city centre, it handled over 9,200 vessel arrivals and more than four million tonnes of cargo in 2018, valued at approximately £1.5 billion. In the same year, Aberdeen Harbour had 37 shipping connections to countries in almost every continent, including Brazil, Ghana, Australia, Canada and Japan.

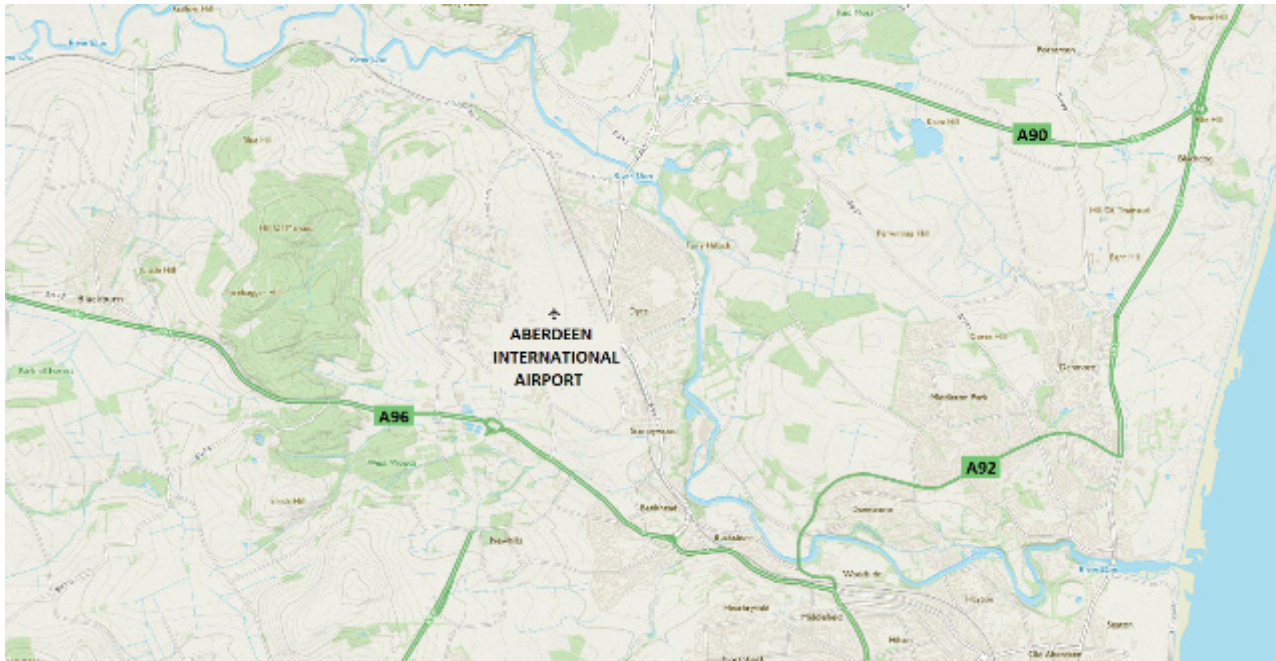
The harbour is estimated to support 12,000 jobs in the Scottish economy, with 9,565 of these jobs within the Aberdeen City and Aberdeenshire economies. It is the key hub for the servicing and the decommissioning of oil and gas platforms in the North Sea, and is also one of Europe's leading marine support centres for offshore energy. It is a major port of departure for the Baltics and also Scandinavia. Major exports include fertiliser, granite, and chemicals.

The harbour is close to the A90 and A96. The A90 is the main arterial route into the city from the north and south, linking Aberdeen to Edinburgh, Dundee, Brechin and Perth in the south and Ellon, Peterhead and Fraserburgh in the north. The A96 which starts in the city centre runs north to the Moray coast and Inverness. Aberdeen railway station and depot is located adjacent to the harbour.

The harbour is currently being extended into nearby Nigg Bay. This project is due to be completed in 2020 at the cost of £350 million and will provide a facility for oil industry decommissioning work and cruise ships.

The Serco Northlink Ferry (SNF) Service to Orkney and Shetland operates up to 7 passenger and vehicle sailings a week from Aberdeen. SNF freight vessels to the islands also operate from Aberdeen and currently there are daily sailings during peak months to service Kirkwall and Lerwick's livestock transportation needs.

Aberdeen International Airport

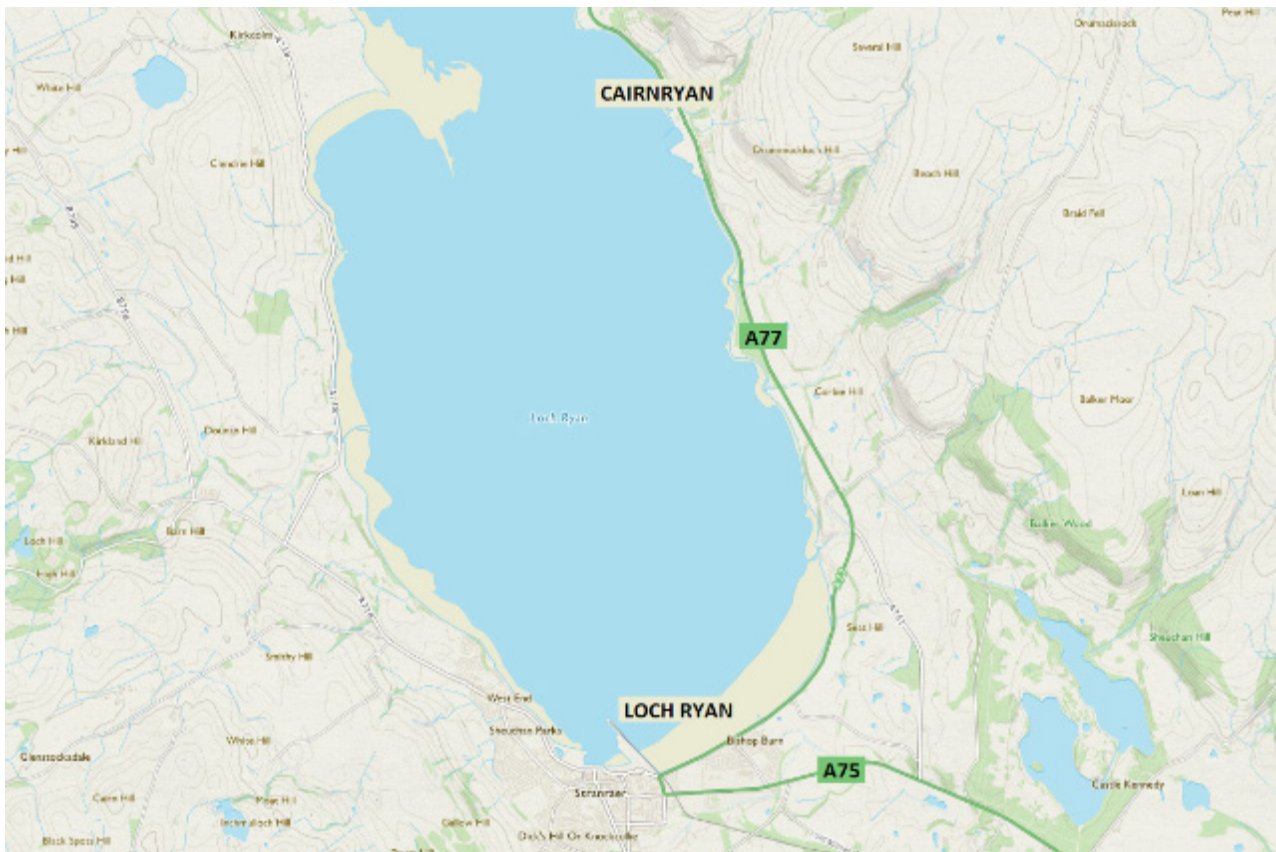


Aberdeen International Airport is located just 8 miles from the north east coast of mainland Scotland and is accessible via the A90 and A96. The airport provided services for over 3.1 million passengers in 2018, lifting over 5,700 tonnes of air cargo. The airport contains 3 helicopter terminals, linking oil rigs offshore to the mainland.

In 2018, of the 5,707 tonnes of freight lifted (both directions) at Aberdeen Airport, 4,058 tonnes (71%) was domestic freight that stayed within Scotland. The majority of the remaining freight (1,478 tonnes) was coming from or going to non-EU destinations with only 171 tonnes of freight coming from or going to the EU.⁴⁷

The airport has supported freight movements for many years and also supports the movement of people to and from offshore oil rigs. The majority of freight lifted at Aberdeen airport is on dedicated cargo aircraft as opposed to in the hold of passenger aircraft, accounting for roughly 64% of all air freight movements from Aberdeen airport in 2018. However, compared with the previous year, 17% more freight went in passenger aircraft while the tonnage on cargo aircraft fell by 11%.

Port of Cairnryan and Loch Ryan Ports



Port of Cairnryan and Loch Ryan Port are the main ports carrying passengers and goods between Scotland and Northern Ireland. Located approximately 80 miles south west of Glasgow on the A77, and 6 miles north of Stranraer on the eastern shore of Loch Ryan, there are two ferry terminals at the north and south of the village of Cairnryan. The Port of Cairnryan, which was opened in 1973, is operated by P&O Ferries, with services to the port of Larne. The Loch Ryan Port, is operated by Stena Line linking to the Port of Belfast.

The two terminals combined represent the third busiest port in the UK for carrying goods to and from the island of Ireland with around 400,000 freight units carried on this corridor each year (with Liverpool the busiest, followed by Holyhead). There are 13 daily crossings in each direction on this corridor providing almost a turn up and go service.

The UK is the Republic of Ireland's largest trading partner (13% of exports from the Republic go to the UK, with the largest sectors being meat, pharmaceuticals and chemicals). The UK acts as a logistical lifeline that connects the Republic of Ireland to the rest of the EU, with 80% of Republic of Ireland road freight that reaches mainland Europe passing through the UK.

As was observed by the South West Scotland Transport Corridor Study (2018) commissioned by Transport Scotland, the exact end destination of freight carried through the port is difficult to track. A significant amount of freight carried by the vessels operating to and from the two ports is unaccompanied. Drivers on the Scottish side drop off and pick up trailers from the quayside and often do not know about the end destination of the goods they are transporting.

Clyde Ports



Clydeport is part of the Peel Ports Group, one of the largest port operators in the United Kingdom. Its locations on the west coast are well linked to transport networks allowing it to serve a variety of Scottish businesses, improving the journey times of goods from Scotland to the rest of the world. The ports boast the deepest sea entrance in northern Europe at Greenock Ocean Terminal, as well as the busiest cruise terminal in Scotland at King George V Dock.

Clydeport's terminals are King George V Dock, Greenock Ocean Terminal, Hunterston Port and Recreation Centre (PARC) and Ardrossan. The ports have experience in handling containers, forest products, bulk agricultural products, and project & bulk cargo.

Greenock Ocean Terminal

The terminal is located on the west coast, and is easily accessible via the A78 trunk road. The quay spans 372 metres, with water depth at 12.6 metres. Three ship-to-shore cranes - an integral part of the Greenock skyline - can lift 35-40 tonnes and 13 containers across. Greenock Ocean Terminal's 50 acre site has laden storage of up to 7,000 Twenty-foot Equivalent Units⁴⁸ (TEU's) and empty storage of up to 3,500 TEU's. An additional benefit is the 25,000m² multi-user warehouse with up to 80 refrigerated points and devanning facilities⁴⁹ on site. Although terminal capacity is less than larger European ports such as Rotterdam, which moved 12.8 million TEU's in 2017, this is significant for Scotland.

King George V Dock

The multi-user port terminal is located just west of Glasgow City Centre, close to Scotland's extensive rail and motorway network, allowing for efficient distribution of cargo within and outwith Scotland. The versatile dock, which opened in July of 1931, features 32.6 hectares of outside storage and 6 hectares of sheltered storage space. King George V dock also boasts a 1586m long quay including a 529m long riverside quay with a water depth of 8.5m.

Edinburgh Airport

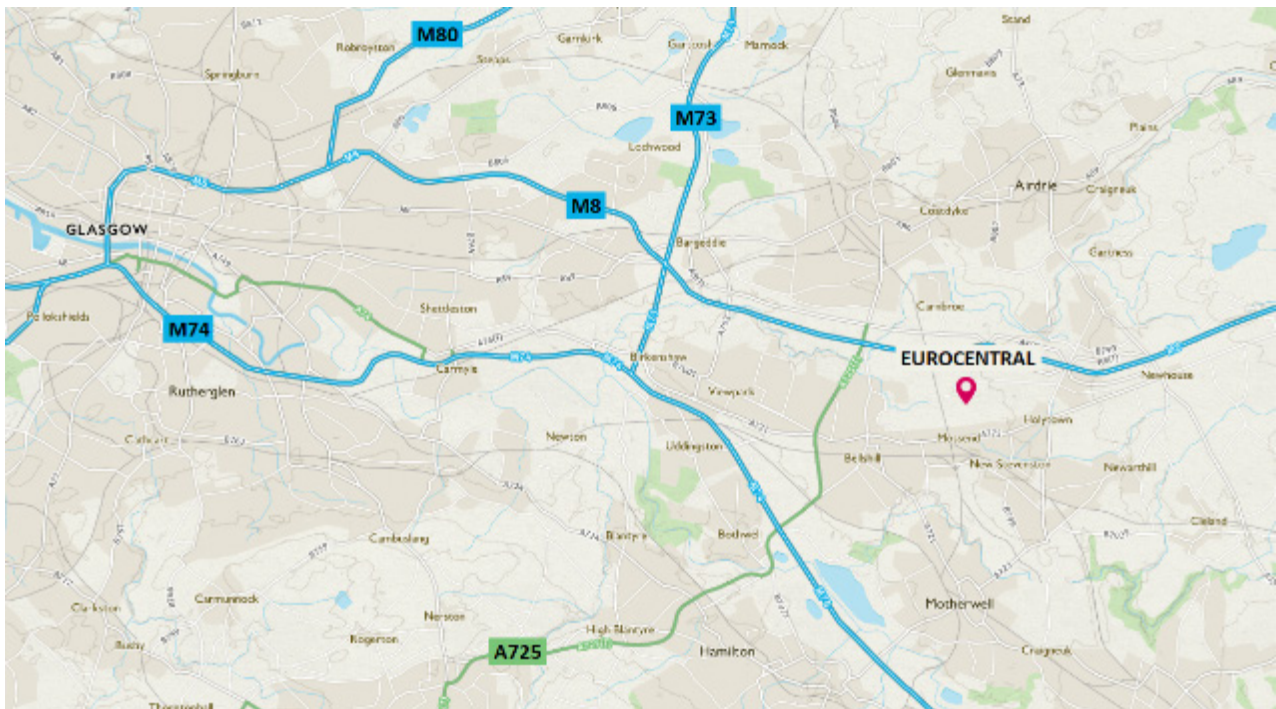


The airport is located 5 miles west of Edinburgh city centre and close to the M8 and M9 motorways. It is owned and operated by Global Infrastructure Partners, who are also a shareholder of Gatwick Airport. The airport has one runway and one passenger terminal, and employs about 2,500 people.

In recent years Edinburgh Airport has become Scotland's busiest passenger airport, and is now the UK's 6th busiest airport. Since 1985 the number of passengers carried by the airport has increased tenfold. It is also the airport which handles the most freight in Scotland, although the amount of freight handled (20,316 tonnes in 2018) has remained broadly unchanged over the last 10 years⁵⁰.

Over the 5 years to 2018, Edinburgh's terminal passenger numbers have grown by 46.2%, making it the 2nd fastest growing passenger airport in Scotland⁵¹. With nearly 125,000 commercial air transport movements in 2018, Edinburgh Airport remains Scotland's largest passenger and freight airport.

Eurocentral

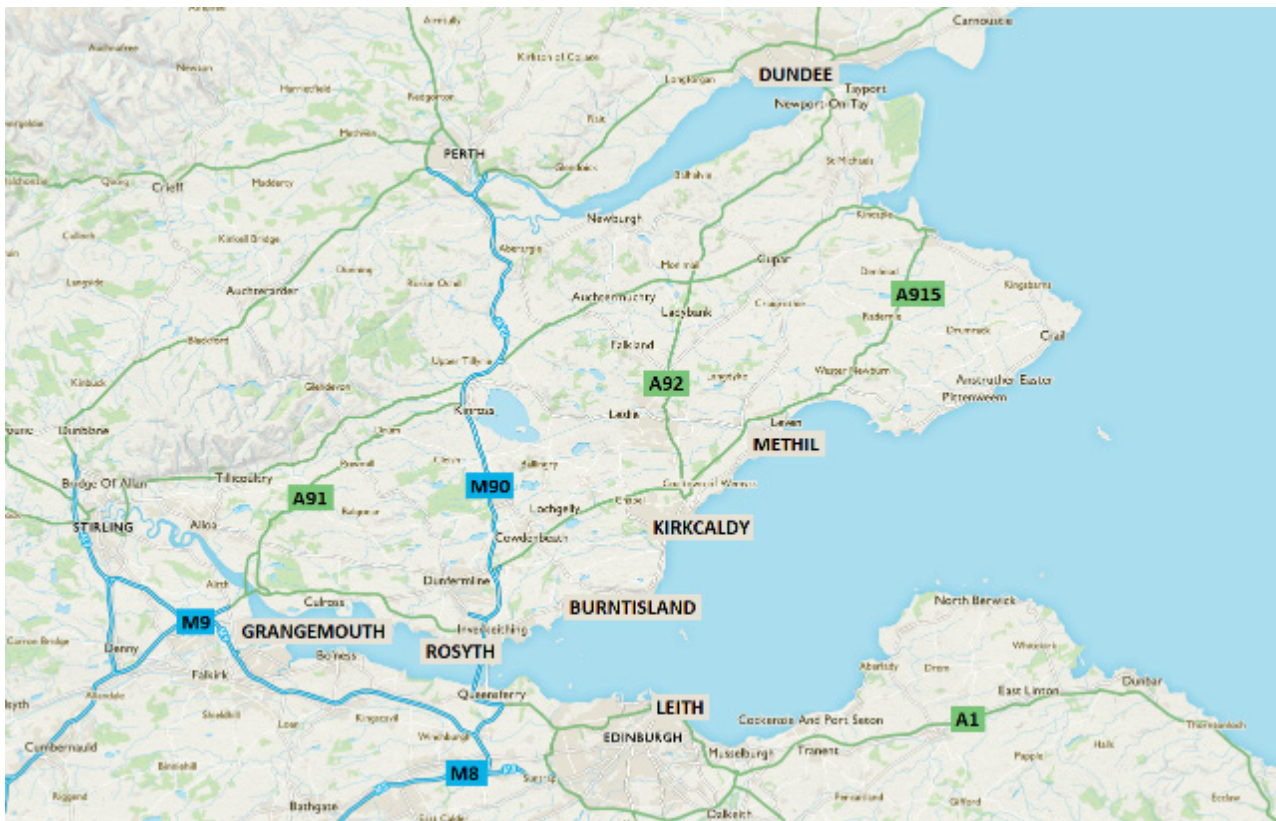


Eurocentral is Scotland's largest commercial site extending over some 650 acres and situated just off the M8 motorway, 12 miles east of Glasgow city centre and 34 miles west of Edinburgh. It is within 40 minutes by road to Edinburgh and Glasgow airports by road and within 30 miles of Greenock and Grangemouth container terminals.

Current tenants at the site include a number of logistics companies such as XPO Logistics, DX and Wincanton, as well as major retailers such as Argos, Morrisons, Next and Amazon, and is the Scottish printing press for News International.

Eurocentral is also the site of the Mossend rail terminal, and there are plans to expand this facility. The rail terminal connects with other intermodal rail freight terminals in Greenock and Grangemouth, providing links onward to England via rail freight or further afield to Europe and other international destinations by sea. Nearby Maxim Park is the UK's largest speculative office park development.

Forth Ports

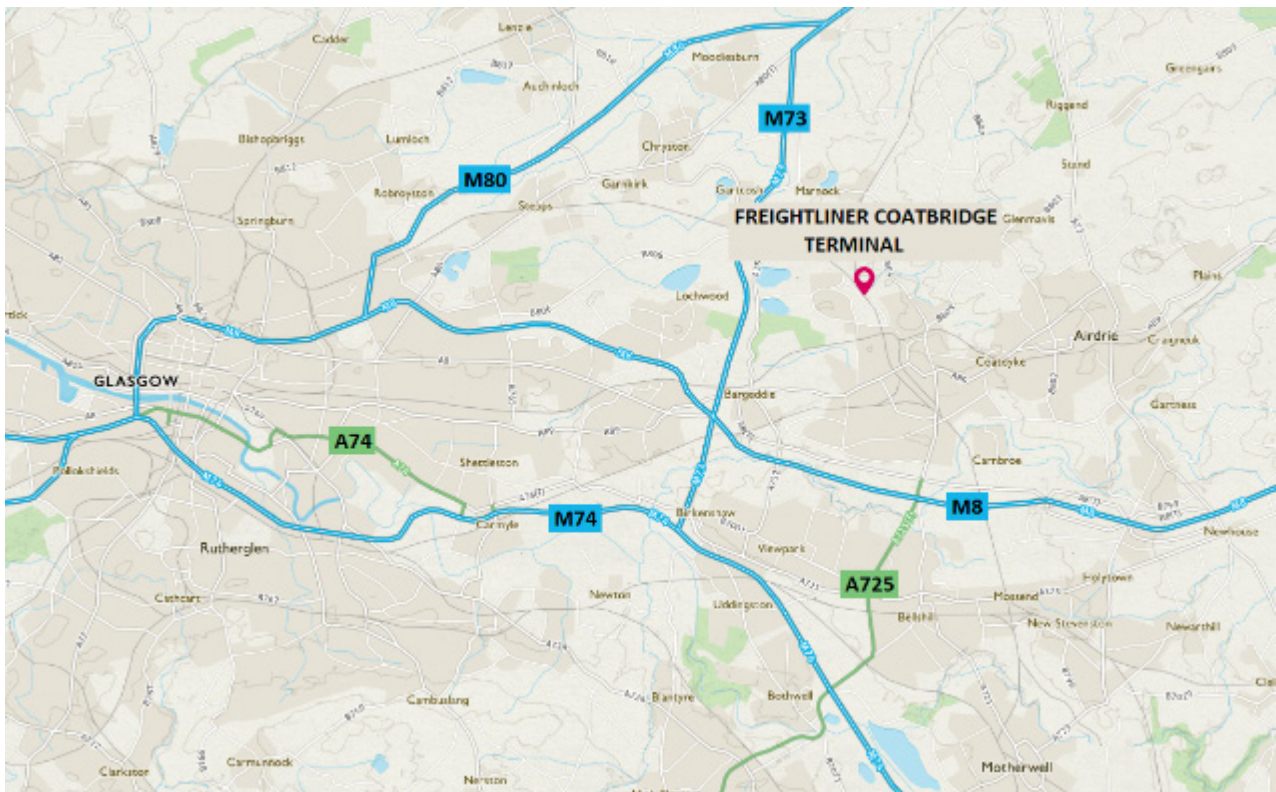


Forth Ports owns and operates seven commercial ports on the Firth of Forth, and the Firth of Tay (Grangemouth, Dundee, Leith (Edinburgh), Rosyth, Methil, Burntisland and Kirkcaldy) covering 280 square miles of navigable waters. It also owns and operates Tilbury on the Thames in South East England. The ports are located close to the trunk road network (M9, M8, M90, A1, and A720) and to Edinburgh Airport.

Forth Ports is Scotland's largest port group, with 26.6 million tonnes being handled by the port in 2018, a small decrease on 2017 (27.5 million tonnes)⁵². In 2018, Forth Ports retained its 8th position in the Top 10 UK major ports by tonnage.

A large proportion of Scottish produced goods goes through the River Forth and the River Tay, including oil and gas, food and drink, agriculture, manufacturing and renewable energy goods. Forth Ports have two specialised marine terminals for oil and gas export, and operate Scotland's largest container terminal at Grangemouth.

Freightliner's Coatbridge Terminal



Opened in 1968, the terminal is the busiest rail container facility in Scotland and handles a considerable volume of rail freight. The 20 acre site located on the Motherwell to Inverness line on the main strategic rail freight network, between Edinburgh and Glasgow, is close to the Central Scotland trunk and motorway network and road distribution centres. Given its central location close to major Scottish exporters and principal road haulage hubs, it handles most intra-Scotland rail freight moves.

Coatbridge has become a vital hub for the movement of containers to and from Scotland. In 2018, more than 44,000 containers were handled by the terminal, lifting more than 980,000 tonnes between 2017 and 2018.

The terminal plays a vital role in supporting Scotland's exports by connecting Scottish businesses with markets all over the world. In recent years, up to 25% of Scotland's exports have passed through Coatbridge. Whisky and other major branded spirits exports destined for all parts of the globe, including North and South America, Africa, Australia and Asia, are transported on Coatbridge export trains. With rising demand around the world, whisky continues to be the largest single product moving through Coatbridge en route to Deep Sea ports.

Other major products transiting through Coatbridge include seafood, luxury textiles, iconic Scottish branded bakery items and many other everyday foods such as oats and seed potatoes to be grown and harvested overseas. With customers and hauliers able to book individual slots on trains or as many as they require – and as often as they need – Coatbridge provides a flexible rail freight solution and currently serves approximately 250 customers.

Glasgow Airport

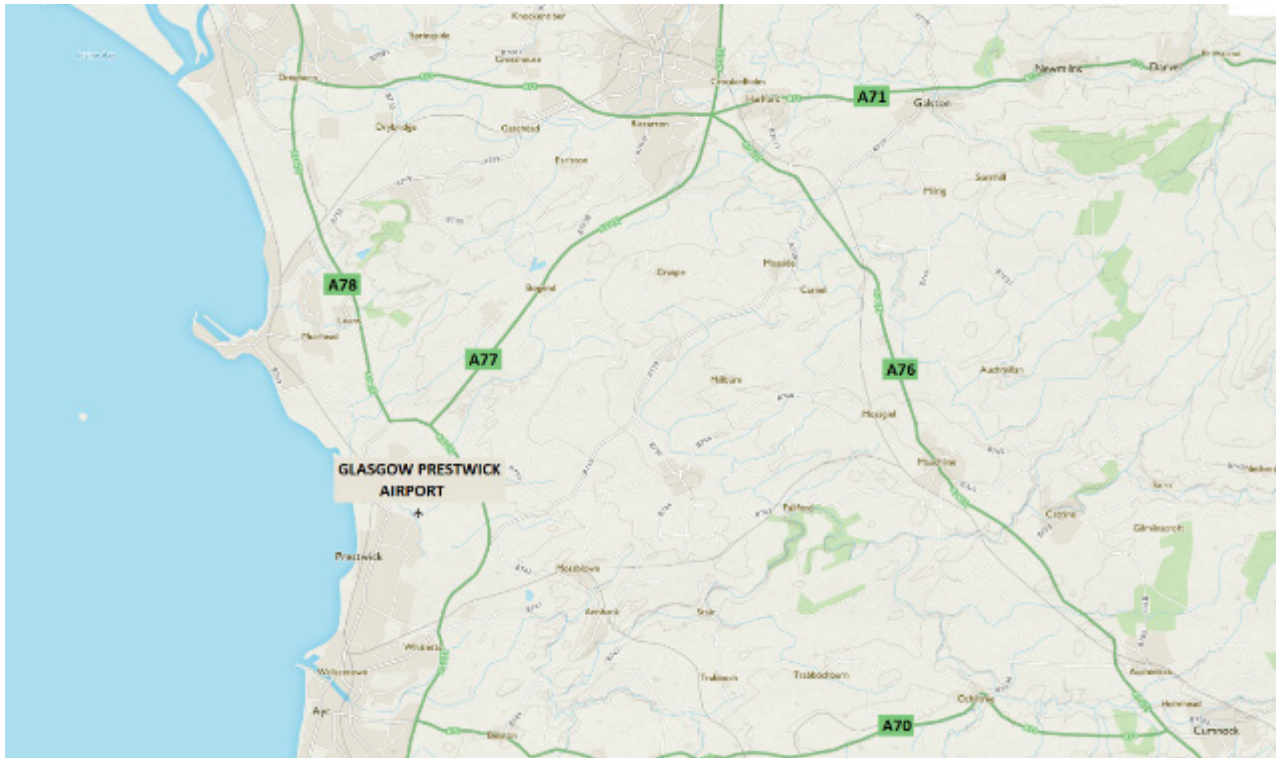


Opened in May 1966 and serving Scotland for over 50 years, Glasgow Airport is based to the west of the city centre, providing flights to over 100 destinations, serving 9.7 million passengers and lifting 15,466 tonnes of air freight in 2018.

Glasgow Airport is also a major intra-Scotland hub serving more Scottish destinations than any other airport. The airport has one runway and two terminals, supporting the business of 30 different airlines.

In 2018, Glasgow accounted for 3.3% of all terminal passengers at all airports across the UK. Over the last 5 years, Glasgow Airport's passenger numbers have grown by 31% (compared to 2013), making it Scotland's 3rd fastest growing airport (of those serving more than 100,000 passengers annually).

Glasgow Prestwick Airport



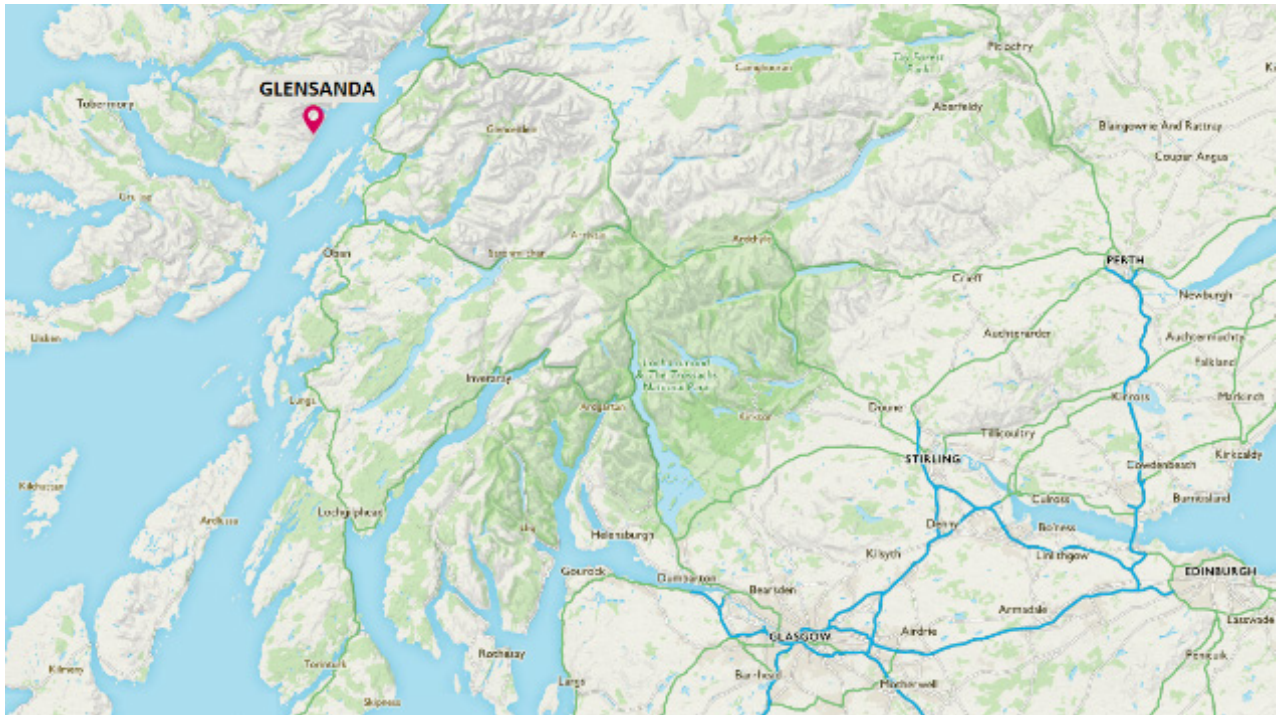
Situated 34 miles south west of Glasgow city centre, Glasgow Prestwick Airport is an important gateway for freight. The airport is currently owned by the Scottish Government. The airport employs over 320 people and a further 1,700 jobs through its supplier network. The Scottish Government see the facility as an important infrastructure asset that helps to sustain jobs in the west of Scotland (in excess of 4,000 jobs). Over 50% of the country's aerospace workforce are employed in Prestwick, although not at Prestwick Airport.

The airport is connected to the trunk road network through the nearby A77 which connects Glasgow with the port of Stranraer. It is the only Scottish airport with its own dedicated railway station, lying on the Ayrshire Coastal Line between Ayr and Glasgow.

Passenger numbers at Prestwick have declined markedly over the last 10 years (from 2.4 million annual passengers in 2008 to 681,000 in 2018) partly as a result of low cost airlines consolidating operations in principal airports.

There has also been a decline in the amount of freight carried through the airport (from 22,966 tonnes in 2008 to 13,003 tonnes in 2018). Total Scottish air freight increased over the same period.

Glensanda



The Port of Glensanda, situated on the western shore of Loch Linnhe on the Morvern Peninsula, is operated by Aggregate Industries UK Ltd. Since road vehicles are unable to access the quarry due to its remote location, the port was established exclusively to ship out granite aggregates from the adjacent super quarry. The quarry is the largest of its kind in Europe and has an annual production capacity in excess of 9 million tonnes with a massive 760 million tonnes reserve of granite. The port is one of the UK's top ten tonnage ports, and has a fleet of its own purpose built ships which includes the Yeoman Bontrup and Yeoman Bridge. These are the largest gravity fed self-discharging bulk carriers in the world, each able to carry 100,000 tonnes of granite.⁵³

Since the port opened in 1986, there have been in excess of 5,500 shipments from the port to construction projects throughout Europe, including the Channel Tunnel, Amsterdam Schipol airport, Latvia Riga airport and the London 2012 Olympic Park. It handled 6 million tonnes of granite aggregates in 2017.

Grangemouth

(See Map of Forth Ports)

One of the Forth Ports mentioned above, Grangemouth is Scotland's largest individual port, handling 9 million tonnes of cargo each year through liquid, specialist container and general cargo terminals, which handle over 225,000 TEUs each year. In 2018, it was the second largest port in the UK for handling liquid bulk goods (crude oil, oil products, liquefied gas, and other liquids).

Situated between Scotland's two largest cities – Glasgow and Edinburgh – the port is in a pivotal location for logistics and distribution, with connectivity available via road, rail and sea. It plays an integral role in Scotland's supply chain, providing a gateway for Scottish trade and facilitating the flow of more than £6 billion worth of goods each year, including food and drink, machinery, fuel, steel products, timber, paper and equipment for the oil and gas industry.

This year, a new rail freight service linking the South East of England with Central Scotland was opened between Tilbury and Grangemouth. The service will leave Tilbury on a Friday and will travel via Daventry overnight, arriving at Grangemouth on a Saturday. The roundtrip distance for the journey is more than 800 miles.

The service has a capacity to travel with up to thirty-six 45 foot containers. Northbound loads will include retail goods, food and drink. The southbound journey from Grangemouth will support Scotland's export market with the movement of spirits, chemicals and fresh food including potatoes.

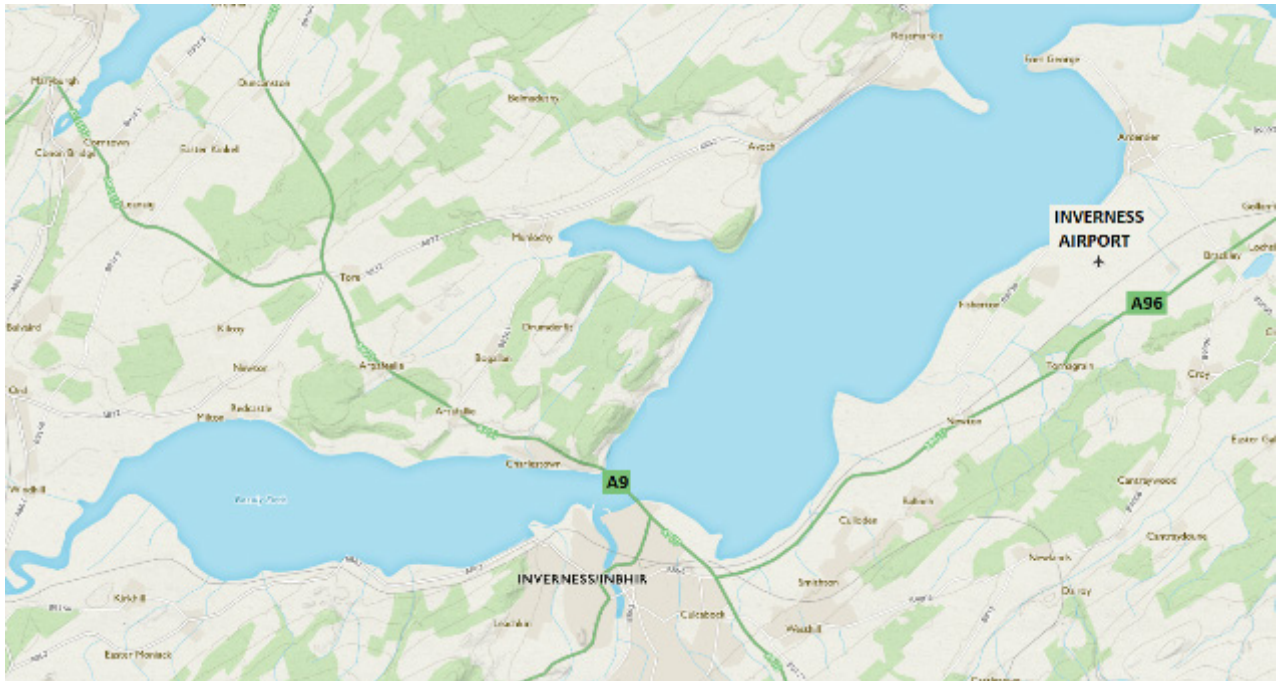
Hillington Park

(See Map of Glasgow Airport)

Established in 1938, Hillington Park is Scotland's largest business park and home to over 500 organisations with associated employment of over 8,000 people.⁵⁴ Frasers Property acquired Hillington Park in November 2017. Located on the M8 between Glasgow City Centre and Glasgow International Airport, it is also well serviced by two rail freight terminals.

Current tenants at the site include a number of logistics companies. JG Russell, one of Scotland's largest logistics firms, operate a large freight park with over 250 vehicles and 1000 trailers at Hillington Park⁵⁵, alongside bases for smaller logistics firms such as MIQ and SEKO, and a range of large retailers.

Inverness Airport Business Park (IABP)



Inverness is often badged as one of Europe's fastest growing cities and Scotland's gateway to the Northern Isles and Highlands. The IABP is a business hub located to the east of Inverness Airport, providing individuals and businesses with transport links including air, road and rail connectivity.

Inverness Airport handled over 40 scheduled commercial flights each day, carrying 893,000 passengers in 2018. Inverness is also a leading airport for business aviation with a large number of private flights each year.

The business park provides accessibility by road and is hugely important for the movement of goods and services across the North of Scotland. This key strategic location offers direct access to the A96 Corridor, with the full Inverness to Aberdeen route scheduled to be dualled by 2030. IABP is only 8 miles from the A9, Scotland's longest trunk road, where the construction of the new A9/A96 Link Road & Longman Interchange should greatly improve connecting travel times. The £3bn A9 upgrade and dualling between Inverness and Perth started in 2015 with project completion scheduled for 2025.

The Inverness Airport (Dalcross) railway station was approved by Highland Council in February 2017. The new development plan includes two platforms and double tracking from the outset. The station will be located within the IABP alongside airside and railside development sites.

These recent developments and ongoing projects further emphasise the importance that this hub will play in the movement of goods between the North and South of Scotland.

Orkney Islands Harbour Authority



The Orkney Islands Harbour Authority operates 29 piers and harbours across the Orkney Islands. This includes Scapa Flow, at 125 square miles. Some of the smaller harbours operated by Authority provide local inter-island ferry services, while the larger ferry terminals at Kirkwall, Stromness, and St Margaret's Head connect the main island to the Scottish mainland. The amount of port freight leaving Orkney fell by 28% compared to 2017 to 3.5 million tonnes in 2018.⁵⁶

The Orkney Islands is a popular cruise ship destination in the UK, with over 140 cruise ships calling into Kirkwall and Stromness annually en route to destinations including Iceland, Norway, Denmark and Germany as well as around Scotland's Highlands and Islands.

Ship-to-Ship operations of crude oil cargo have been conducted in Scapa Flow since 1980. The deep, sheltered water of Scapa Flow and its sheer expanse holds around 1 billion cubic metres of water, which offers sheltered, swell and tidal stream free anchorage unrivalled in northern Europe. In 2007, a historic milestone was reached when the world's first Ship to Ship transfer of liquefied natural gas took place in Scapa Flow.⁵⁷

Hatston Pier, just outside Kirkwall, is Scotland's longest deep-water commercial berth. It attracts oil and gas support vessels, some of the world's largest cruise shipping, freight and passenger ferry services and a sheltered berthing facility with extensive quay space for short term operational and maintenance activity for the marine renewable industry.

Furthermore, Orkney is home to the largest crab processing plant in Europe. It is not just the oil and gas industry that benefits from the deep sheltered waters of Scapa Flow. Commercial fishing for prawn, crab, lobster and scallop and the recent development of large scale salmon farms contribute significant commercial value to the local economy. These premium products are shipped to restaurants across Europe.

There is a robust freight service from the islands to the mainland, although as with other maritime freight routes, it is difficult to ascertain the end destination of the freight itself after it reaches the mainland. The Serco Northlink Ferry (SNF) Service operates frequent freight and passenger services from Kirkwall to Aberdeen and daily services from Stromness to Scrabster. Pentland Ferries also operate a daily service between St. Margaret's Hope on Orkney and Gills Bay on the Scottish Mainland, presumed to carry around 80% of all livestock and dangerous goods cargo between the Orkney Islands and the Scottish mainland.

6. Transport Links to Key Trade Destinations



This chapter provides an update on the key trade destinations highlighted in chapter 3. In 2018, the countries included in Scotland's top five trading partners (imports and exports) were largely unchanged in terms of order from the previous year. One significant change however was that after two consecutive years in Scotland's top five export destinations, China was replaced by the Republic of Ireland which had last featured the top 5 in 2015. This chapter will explore key freight and passenger links to and from Scotland's leading trading partners.

Although Spain is not considered to be one of Scotland's largest trade partners in terms of value, data in chapter 4 highlighted the importance of this nation as a destination for Scottish tourists. Therefore, this chapter will explore key links between Spain and Scotland.

As highlighted earlier in this report, key export commodities from Scotland include beverages, fish, petroleum related products and power generation machinery. Many of these goods are produced by businesses operating in one of Scotland's Growth Sectors. Similar categories of goods are also imported by Scotland along with gas and telecommunications & office equipment. An overview of the key commodity categories that Scotland trades in is included in Table 2 in the Annex. Details of the transportation of these goods to and from the aforementioned countries is discussed below.

6.1 Norway

Since 2013, Scotland has imported more goods from Norway than any other nation. Over that time, imports from Norway have totalled more than £25.5 billion (including Q2 2019). The majority of goods imports from Norway are related to the energy and fuel markets, reflecting both countries' close involvement in North Sea oil and gas production and exploration. Natural gas, petroleum products and related materials are transported to Scotland using ports and pipelines connecting Norway and the UK.

As mentioned above, a large proportion of natural gas (Scotland's largest import good from Norway) travels from Norway via pipeline. Scotland imported around £3.3 billion of natural gas from Norway in 2018.

Large machinery items and transport equipment form a significant portion of Scottish exports to Norway. Some of these larger high value items travel in cargo planes bound for Norway, while other smaller items are able to travel in the hold of passenger flights. This is similar to seafood which is traded with Norway, with an increasing amount being transported via commercial and passenger aviation.

Freight ferries travel twice weekly from Immingham on England's east coast to Norway with road links from Scotland to Immingham via the A1(M) and A180(M).

In terms of passenger flights, Scottish travellers can fly to Norway from Aberdeen, Edinburgh or Inverness, with flights into the Norwegian capital, Oslo, leaving from Scotland almost daily.

6.2 EU Countries

Four of Scotland's top five export trading partners are EU nations; the Netherlands, France, Germany and the Republic of Ireland. There are two EU nations in Scotland's top 5 sources of imports, the Netherlands and Germany. The largest commodity group for goods exported to and imported from these countries in terms of value is machinery and transport equipment. The EU was also the top global region for Scotch whisky exports, valued at £1.39 billion in 2018, 30% of all global Scotch whisky exports⁵⁸.

As highlighted in Chapter 3, freight to and from mainland Europe can be carried in a number of different ways. Some perishable goods are transported via the trunk road network in Scotland and England to the Channel Tunnel, Channel ferry terminals or airports. Less time sensitive perishables may be transported on freight vessels from Scotland's ports or transported to North Sea ferry service terminals in Newcastle and Hull which offer overnight ferry services to continental Europe.

At the moment there are no direct rail freight services from Scotland to mainland Europe, although non-perishable freight can be carried by rail to hubs in England for transfer by rail or other modes to European destinations. However, there is a route linking Scotland and continental Europe in the opposite direction. GB Railfreight currently carries clay slurry from Antwerp, Netherlands through the Channel Tunnel

direct to Irvine, Scotland once a week. It is conveyed in bulk wagons owned by Imerys.

6.2.1 France

Scotland imports a large amount of power generating equipment from France. This includes engines for vehicles, turbines, regulators and generators. These goods are often shipped via coastline shipping, with bulked smaller items being transported by air.

France is also the largest EU market for Scotch whisky and seafood exports. In terms of volume, France was Scotland's largest export destination for Scotch whisky in 2018, shipping 187.8 million 70cl bottles, an increase of 5.3% compared to 2017. France were second to the United States in terms of value for Scotch whisky exports. The main wholesale market for Scotland's seafood on the European mainline is Boulogne sur Mer located close to Calais in northern France. This is accessible via the Dover Channel crossing. Scottish freight vehicles can travel to the Channel in a day, so this corridor is of vital importance to trade with France and the rest of Europe.

Scotland's primary links for trade with France are via road and port. HGVs carry goods down to Dover where they board ships to transfer over to France. Scotland has a number of air links with France, with flights to 20 different French airports available from one of Scotland's 5 major airports.

6.2.2 Germany

Similarly to with France, Scotland has a number of air links with Germany, with direct flights from Scotland to 17 German airports.

An important Scottish commodity exported to Germany is beverages, with £147 million of exports from Scotland in 2018. This represents 3.4% of total Scottish beverage exports in 2018, and 5.4% of all Scottish exports to Germany. While Germany is the UK's largest trade market, this is not the same for Scotland with Germany accounting for 8.2% of all Scottish trade in goods (imports and exports) in 2018. Having said that, transport links between Scotland and Germany are vital for Scottish trade, with Germany being the largest economy in Europe in terms of GDP and one of the strongest economies in the world.

In terms of road transport, Germany was one of the only countries with 2018 road freight data that could be accurately disaggregated. This showed it is a key market for Scottish road freight. Road freight travelling from Scotland to any of the countries in continental Europe, as mentioned before, is likely to go via the Dover to Calais ferry crossing or through the Channel Tunnel.

Sea links between Scotland and Germany usually involve either chartered ships carrying special goods into one of Germany's many Northwest ports (the three largest ports are Bremen, Hamburg and Wilhelmshaven) or shipping to ports in France or the Netherlands before a modal shift to road or rail for the remainder of the journey.

6.2.3 The Netherlands

As highlighted earlier, the Netherlands is Scotland's number one export destination (£6.9 billion in 2018), largely as a result of the dominance of the Dutch port of Rotterdam. The port acts as an international shipping hub with goods shipped on to other destinations from there. Due to the method in which export and import data is collected it is difficult to ascertain the final destination of goods which pass through Rotterdam.

Freight is typically carried by chartered vessels originating from Scottish ports or by road to ports on the east coast of England. Some of the freight bound for the Netherlands is carried by road via the Channel ports. While there are no regular scheduled sailings between the Netherlands and Scotland, the overnight ship between Newcastle and Amsterdam is an option for passengers and for HGVs.

The main import goods from the Netherlands are office machines and telecommunication materials. Key exports to the Netherlands from Scotland include petroleum products, medicinal & pharmaceutical products, and beverages, with these three good categories accounting for 91% of total Scottish exports to the Netherlands in 2018.

Scotland's top 4 airports for passengers (Aberdeen, Edinburgh, Glasgow and Inverness) offer regular passenger flights to Amsterdam.

6.2.4 Republic of Ireland and Northern Ireland

The Republic of Ireland regained its position in Scotland's top 5 export destinations in 2018, demonstrating its importance as a core market for Scottish goods. Scotland traded £2.0 billion worth of goods with the Republic (imports and exports) accounting for 3.5% of Scotland's total trade in goods in 2018. The main category of goods traded with the country are gas (natural and manufactured), petroleum and petroleum related products, and beverages.

Northern Ireland is also an important destination for Scotland's goods, however given the nature of export data and the fact that Northern Ireland is part of the UK, values and goods exported to or imported from the country are included in overall UK figures and are not easily disaggregated at a Scottish level.

The main freight corridor between Scotland and the island of Ireland is via the ferry services which operate from Cairnryan and Loch Ryan. There are a total of 13 daily sailings to Larne or the Port of Belfast, with an estimated 400,000 freight units carried on this corridor (around 1,200 per day). Two main trunk roads link the port with the central belt (A77) and England (A75). The two roads are estimated to carry a combined total of £67 million worth of goods per day⁵⁹.

All of Scotland's main airports have regular flights to a variety of destinations in both Northern Ireland and the Republic (with flights available to Belfast, Derry, Dublin, Cork, Knock and Shannon).

6.2.5 Spain

Spain is an important market for Scotland both for trade in goods, but also and arguably more importantly, for tourism. In 2018, Scotland traded £1.7 billion worth of goods with Spain (imports and exports). Scotland imports more from Spain than it exports, with the key import markets being other transport equipment, vegetables & fruit and beverages. Over 20% of Scottish exports to Spain in 2018, were beverages.

As noted earlier in the report, Spain has been Scotland's number one tourist destination for the last decade. Scottish airports fly to 27 destinations in Spain and the Canary Islands.

The Spanish market is crucial to Scottish people. In 2018, over 4 million passengers boarded a flight bound for a Spanish airport, a slight decrease on the previous year of 3%.

6.3 Further afield

While the ports in mainland Europe are vital for Scottish trade, Scottish businesses regularly transport goods even further overseas, with chartered aircraft and ships travelling to Africa, South America and Asia, carrying a variety of goods.

6.3.1 USA

Like the EU countries featuring in Scotland's top trade partners, the USA is a key market for Scottish beverage exports, indeed more so than France, Germany and the Netherlands combined. In 2018, the USA alone accounted for nearly a quarter of all Scottish beverage exports.

The Scotch Whisky Association noted in their whisky analysis for 2018, published in February 2019, that The United States is Scotland's single largest overseas market for Scotch whisky, accounting for £1.04 billion in Scotch whisky exports in 2018. This represents a 13% increase from 2017 and accounts for over 22% of all Scotch whisky exports.

Over the last decade a number of scheduled passenger flights have been introduced from Glasgow and Edinburgh airports to the United States. Scheduled airlines now fly from Edinburgh to New York JFK, New York Newark, Chicago, Washington DC, Philadelphia and Boston. Glasgow has a direct route to New York Newark.

These flights are often used to carry low volume freight, for instance time sensitive blood and human tissue. Dedicated air freighters regularly use Prestwick Airport to carry aircraft engines between Scotland and the USA. These are usually entire engines which are transported to Scotland for overhaul or repair before being shipped back.

In addition to these air links, a number of chartered ships leave regularly from Scotland to the USA. Scotland ships goods including agriculture bulk goods and forestry goods from the Clyde ports to the USA regularly. Aberdeen Harbour handles machinery and equipment goods imports from the US, and ships oil related goods back.

Both the USA and China are important import and export destinations for Scotland's ports, particularly in relation to office, automatic data processing (ADP), power generating and other transport machinery. These items can only be handled by main ports such as Clyde Port and Aberdeen Harbour due to their bulkiness.

6.3.2 China

While China continues to be a key market for Scotland, it fell out of Scotland's top 5 exporting markets in 2018 due to a sharp fall in oil related product exports to the country.

HMRC RTS shows that Scotland exported in excess of £1.7 billion of petroleum related products to China in 2017. This figure fell by more than half to £810 million in 2018. These goods travel via tanker to China and are likely to be loaded onto ships from various ports around the UK, especially Forth Ports.

In addition, Scotland exports other goods including steel and power generating equipment to China from a number of its ports, particularly the Forth and Clyde ports.

In March 2018, Scotland secured its first direct air route to China, with direct links between Edinburgh and Beijing. This created a direct link for Scottish goods exporters, particularly in the food and drink sector. China is a major importer of such goods from Scotland.

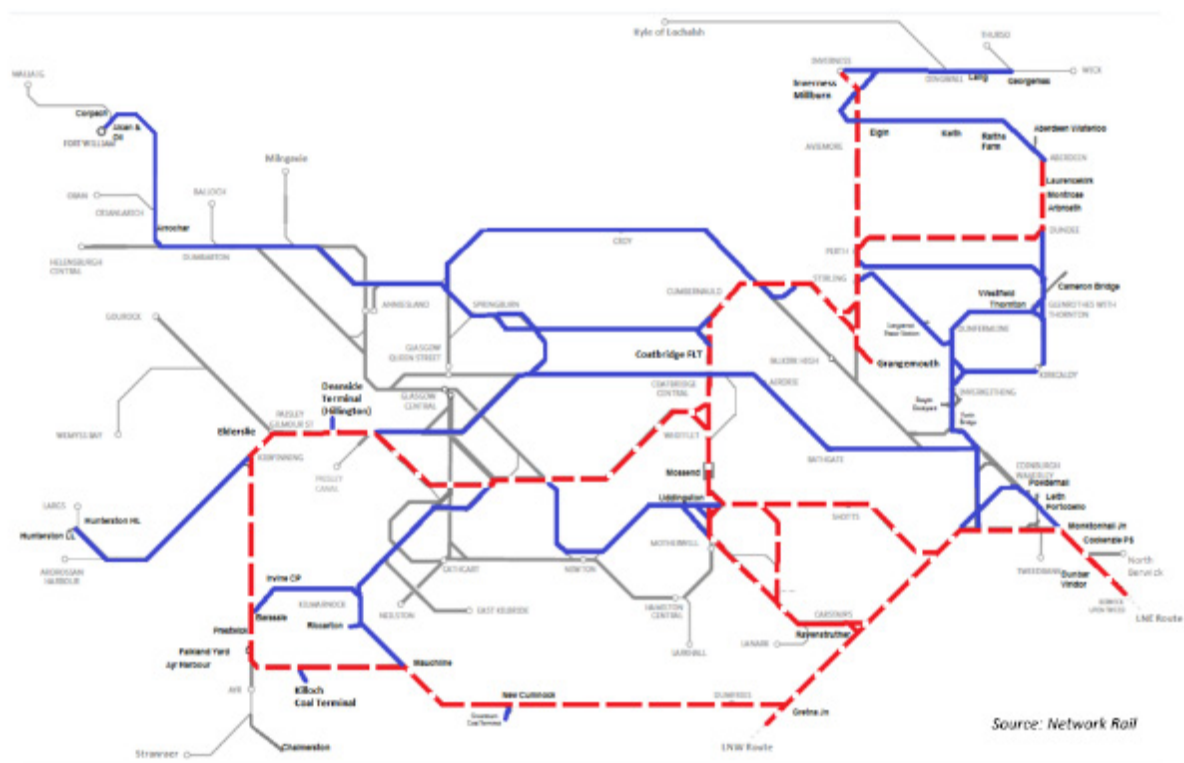
Scotland's transport links with China not only promote trade with Chinese businesses, but provide Scottish exporters access to additional markets in and around South East Asia. Therefore, this is a vital gateway into other emerging and developing market economies for Scottish goods.

7. Annex

Table 2: Top Scottish Trading Commodities by Value – 2017 & 2018

2017		2018	
Commodity	£ 000s	Commodity	£ 000s
33 - Petroleum, petroleum products & related materials	9,380,742	33 - Petroleum, petroleum products & related materials	12,710,378
11 – Beverages	4,541,124	11 - Beverages	4,851,449
71 - Power generating machinery & equipment	4,380,145	71 - Power generating machinery & equipment	4,751,250
34 - Gas, natural & manufactured	3,559,295	34 - Gas, natural & manufactured	4,073,103
79 - Other transport equipment	2,999,358	75 - Office machines & adp machines	3,114,538
75 - Office machines & adp machines	2,647,187	79 - Other transport equipment	2,320,973
74 - General industrial machinery & equipment	2,191,140	74 - General industrial machinery & equipment	2,210,681
77 - Electrical machinery, apparatus & appliances	1,759,966	77 - Electrical machinery, apparatus & appliances	1,789,839
89 - Miscellaneous manufactured articles n.e.s.	1,439,853	89 - Miscellaneous manufactured articles n.e.s.	1,466,360
87 - Professional, scientific & controlling ins & app n.e.s.	1,375,223	84 - Articles of apparel & clothing accessories	1,371,721

Diagram 1: Scotland's Rail Freight Network - see page 32



8. References

- ¹ The first edition was published in December 2018 and can be accessed [here](#).
- ² National Transport Strategy: Draft for Consultation, July 2019
<https://www.transport.gov.scot/media/45149/national-transport-strategy-draft-for-consultation-july-2019.pdf>
- ³ A Trading Nation, <https://www.gov.scot/publications/scotland-a-trading-nation/>
- ⁴ <https://www.gov.scot/news/reaching-net-zero/>
- ⁵ Carbon Account for Transport No. 11, 2019 Edition can be accessed [here](#).
- ⁶ HMRC Regional Trade Statistics includes all merchandise trade within the scope of the UK's Overseas Trade Statistics. It therefore excludes trade in services (e.g. banking, tourism) and intangibles (e.g. financial investments or transfers) and also the movement of goods between regions of the UK. The estimates also include oil and gas trade.
- ⁷ Including journeys that originated in Scotland, as well as journeys with Scottish destinations.
- ⁸ In 2018, road freight totalled 148,500,000 tonnes, port freight totalled 65,357,707 tonnes and air freight totalled 62,308 tonnes.
- ⁹ This includes Rosyth, Braefoot Bay, Burntisland, Grangemouth, Hound Point, Kirkcaldy, Leith and Methil.
- ¹⁰ Latest data is available [here](#). This data is subject to revisions each quarter of published data and as such, comparisons between this and the previous year in this edition may not correspond with Transporting Scotland's Trade published last year.
- ¹¹ HMRC RTS methodology is such that comparable data is only available post-2013 for Scotland.
- ¹² Data is available at a much more disaggregated level as well as in weight (tonnes), but only at a broader UK level. For such data see [Trade Map](#) (an interactive database of international trade flows covering 220 countries and territories and 5300 products of the Harmonized System, provided by the international trade centre).
- ¹³ Data: HMRC Regional Trade Statistics, 2018.
- ¹⁴ How Scotland's Transport Network Supports the Growth Sectors, Transport Scotland, 2016
- ¹⁵ HMRC Regional Trade Statistics, Methodology, see <https://www.uktradeinfo.com/Statistics/RTS/>
- ¹⁶ A Trading Nation, <https://www.gov.scot/publications/scotland-a-trading-nation/>
- ¹⁷ Based on the fourth revised version of the United Nations Standard International Trade Classification (SITC) at the two-digit level.
- ¹⁸ <https://www.scotch-whisky.org.uk/insights/international-trade/>
- ¹⁹ <https://www.gov.scot/publications/scottish-sea-fisheries-statistics-2017/pages/2/>
- ²⁰ <https://www.gov.scot/publications/scottish-sea-fisheries-statistics-2017/pages/3/>
- ²¹ Visitors do not include rUK visitor holidays, but do include rUK citizens that are resident overseas. Further information on methodology can be found [here](#)
- ²² HMRC Regional Trade Statistics, Q2 2019 show that there was over £57 billion worth of international trade in goods in Scotland in 2018. While it is unlikely that all of this would have "travelled", we assume that trade was supported by the transport system in the country of origin and final destination.
- ²³ Using the 2-digit standard international trade classifications (SITC), there are 98 commodity groups.

²⁴ Official Trunk Road List, <https://www.transport.gov.scot/publication/official-list-of-trunk-roads/>

²⁵ By weight (tonnes), 69.4% of freight was carried by road, 30.6% by sea and less than 0.1% by air (Civil Aviation Authority, Highlands & Islands Airports Limited and DfT statistics)

²⁶ See HMRC RTS methodology for details on how country of export/import is determined. Majority of the data comes from tax records which do not include logistics of movement but rather the domicile of the company or business.

²⁷ Major Scottish ports refer to the following: Aberdeen, Cairnryan, Clyde, Cromarty Firth, Dundee, Forth, Glensanda, Orkney, Peterhead, Loch Ryan and Sullom Voe. The 11 major ports are defined by Department for Transport (DfT) as regularly handling over 1 million tonnes per year.

²⁸ Excluding yards currently designated as engineering. 35 are currently operational and 8 are identified as strategic.

²⁹ ORR Rail Freight Usage, Q4 2018-19, <https://dataportal.orr.gov.uk/media/1257/freight-rail-usage-2018-19-quarter-4.pdf>

³⁰ https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2018_annual/Table_08_Air_Pax_by_Type_and_Nat_of_Op.pdf

³¹ <https://www.gov.uk/government/statistics/port-freight-annual-statistics-2018-final-figures>

³² ibid

³³ Table PORT0302, DfT Port Statistics, 2018

³⁴ Includes Rosyth, Braefoot Bay, Burntisland, Grangemouth, Hound Point, Kirkcaldy, Leith and Methil

³⁵ Table PORT0302, DfT Port Statistics, 2018

³⁶ Table RFS0122, Road Freight Statistics: 2018, DfT
<https://www.gov.uk/government/statistics/road-freight-statistics-2018>

³⁷ STS, No. 37, 2018 edition, Chapter 5: Road traffic

³⁸ The 'Out with UK' figures include an element of double counting as figures include both the domestic and international legs of the journey.

³⁹ [Dover Ports Statistics](#), 2018

⁴⁰ Table 7.15, STS, No. 37, 2018 edition

⁴¹ ORR Regional Rail Usage, <https://dataportal.orr.gov.uk/media/1122/regional-rail-usage-2017-18.pdf>

⁴² Transport Scotland and RDG (Oxera) report, <https://www.transport.gov.scot/news/rail-s-670m-contribution-to-scotland-s-economy/>

⁴³ Rail Freight Group, <http://www.rfg.org.uk/rail-freight/facts-figures/>

⁴⁴ Rail Delivery Group, <https://www.railbusinessdaily.com/rail-freight-industry-calls-for-joined-up-railway-to-build-on-the-1-7-billion-economic-benefits-it-already-delivers/>

⁴⁵ FOCs and Logistics Providers (page 15),
<https://www.transport.gov.scot/media/33630/transport-scotland-rail-freight-guide-web.pdf>

⁴⁶ There are three terminals at Grangemouth; these are run by WH Malcolm, Forth Ports & DB Cargo UK.

⁴⁷ https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2017_annual/Table_14_International_and_Domestic_Freight.pdf (see Table 14)

⁴⁸ A measure used for capacity in container transportation.

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- ⁴⁹ The process in which a container is unsealed and all contents removed, usually for customs or checking purposes.
- ⁵⁰ During the equivalent period, there had been a 16% reduction in the amount of freight carried through all Scottish airports.
- ⁵¹ Inverness Airport was the fastest growing passenger airport, with growth of 47% compared to 2013.
- ⁵² Table PORT0301, DfT Port Freight Statistics, 2018
- ⁵³ <https://www.aggregate.com/news-and-resources/press-releases/glensanda-marks-30-years-shipping>
- ⁵⁴ <https://www.hillingtonpark.com/about-us/>
- ⁵⁵ <http://www.johngrussell.co.uk/services/distribution/>
- ⁵⁶ Table PORT0101, DfT Maritime and Port Statistics, 2018
- ⁵⁷ <https://www.orkneyharbours.com/sectors/oil-gas>
- ⁵⁸ [Scotch Whisky Exports Analysis, 2018](#)
- ⁵⁹ A75-A77 Freight Corridor, Scotland Travel Study report, March 2018



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