

The logo for Skills Development Scotland, featuring the text "Skills Development Scotland" in a blue, sans-serif font. The text is positioned on a white rectangular background with a perforated left edge, suggesting it is a page from a binder. The background of the entire image is a dark, abstract network of glowing blue and orange lines connecting various points, with a white map of Scotland overlaid on the right side.

Skills  
Development  
Scotland

The title of the report, "Regional Skills Assessment Aberdeen and Aberdeenshire Summary Report 2018", is displayed in a white, sans-serif font on a white, irregularly shaped background that resembles a torn piece of paper. The text is arranged in four lines: "Regional Skills Assessment" in blue, "Aberdeen and Aberdeenshire" in orange, "Summary Report" in grey, and "2018" in grey.

**Regional Skills Assessment**  
**Aberdeen and Aberdeenshire**  
Summary Report  
2018

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1

# Introduction

### Scotland's Ambition

Scotland's Economic Strategy (2015) sets out the ambition to “*create a more cohesive and resilient economy that improves the opportunities, life chances, and wellbeing of every citizen in our country*”. The framework has two mutually supportive goals of increasing competitiveness and tackling inequality; both of which contribute to high performance and inclusive growth.

Aligned to the Economic Strategy is Scotland's Labour Market Strategy (2016). The vision is a “*strong labour market that drives inclusive, sustainable economic growth, characterised by growing, competitive businesses, high employment, a skilled population capable of meeting the needs of employers, and where fair work is central to improving the lives of individuals and their families*”.

Both the Economic Strategy and the Labour Market Strategy outline a whole system approach and encompass social as well as economic considerations. Ensuring the skills system delivers the right skills at the right time will be crucial to meeting the aspirations of both strategies.

Despite Scotland performing well in a range of areas, as highlighted in Skills Development Scotland's (SDS) [Jobs and Skills in Scotland report](#), there are issues and challenges to be addressed if we are to achieve this aspiration.

### Issues and Challenges

**Boosting productivity is vital for our long term prosperity.** However, Scotland's productivity, like the rest of the UK, remains lower than other advanced economies. In 2016 (latest available data), Scotland ranked 19th out of the 36 countries in the Organisation for Economic Co-operation and Development (OECD) for its productivity. This placed Scotland in the third quartile. As of February 2018 (2017/18 Q3), Scotland had eight consecutive quarters of falling productivity, which is concerning.

#### **Our growth needs to be more inclusive.**

Although we are seeing rising levels of employment since the recession, this has been accompanied by a rise in ‘non standard’ jobs (such part time and temporary employment), low wage growth, continued ‘in work’ poverty and regional variations on growth and employment/unemployment.

#### **Scotland's demographics present significant challenges - and Brexit may exacerbate these.**

Scotland's demographic structure is aging and this is projected to continue. Between 2016 and 2041, Scotland's population is forecast to grow by five per cent. However, much of this will be driven by an increase in the population aged over 65. The working age population is projected to decline by four per cent over the same period. This suggests the supply of labour might contract over the longer term if projections are realised. This points to a tighter labour market and

greater competition for skilled labour in the future. Uncertainty regarding the implications of Brexit also remain, and the decisions taken on the free movement of people could exacerbate this further.

#### **The world of work is constantly changing**

and the rate of change is rapid. In February 2018, SDS published [Skills 4.0](#). Within it we argued that a focus on skills and human capital would give Scotland a strong foundation to build a sustainable and inclusive economy. Technological and societal disruptions are occurring at an increasing pace. Whilst we cannot predict the future, we can prepare for a future that is increasingly unpredictable. Skills 4.0 can help.

**The development of skills that are fit for Scotland now and in the future, is essential to increasing competitiveness and tackling inequality over the long term. To meet these challenges a step change in how we plan and deliver skills is in development.**

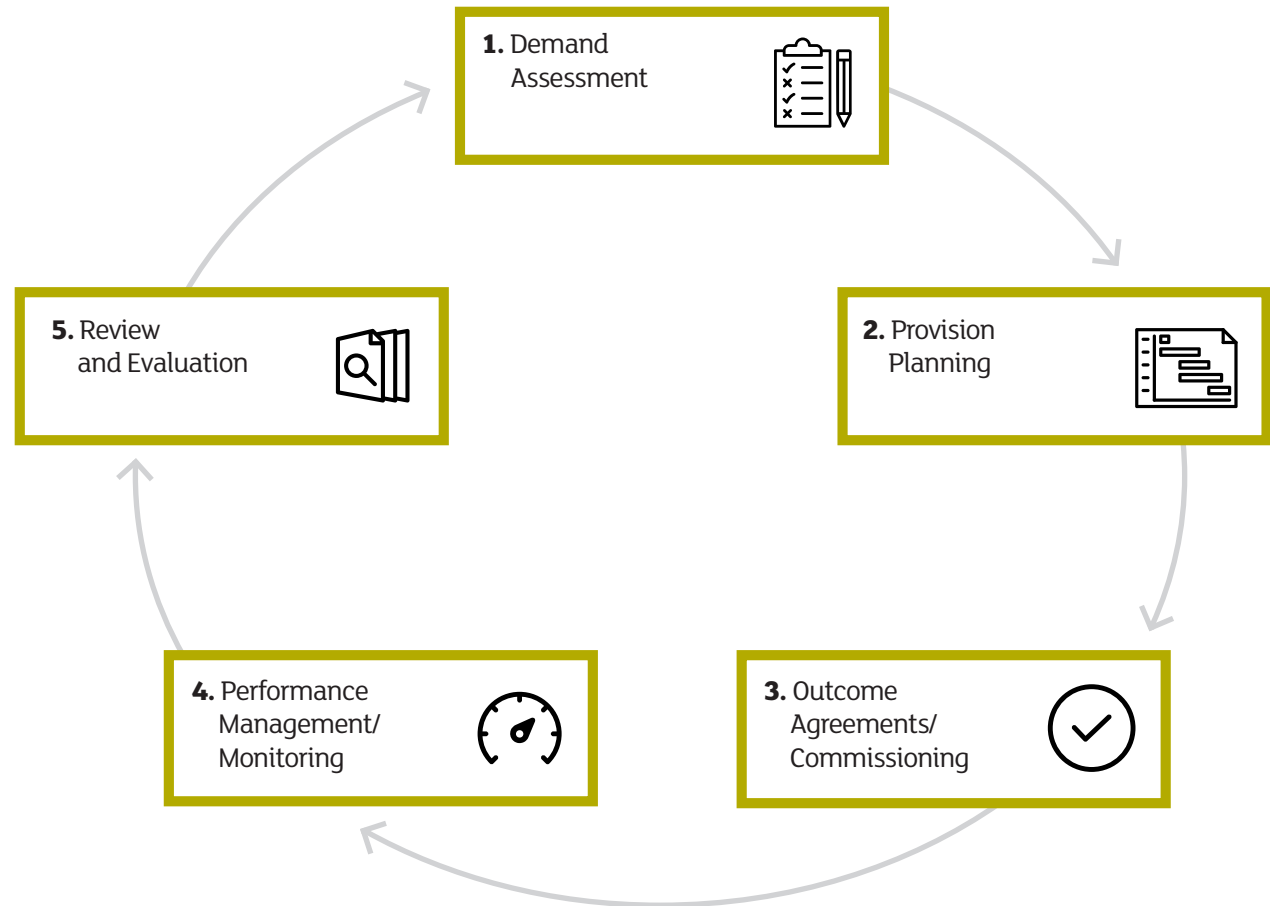
### The Future of Skills Planning

Skills Alignment (one of the workstreams arising from the Scottish Government’s Enterprise and Skills Review) is focused on improving the skills system in Scotland.

Its purpose is “to ensure that Scotland’s people and businesses are equipped with the right skills to succeed in the economy, not just now but in the future.” To achieve this end, a new joint planning process is in development to align the relevant functions of the Scottish Funding Council (SFC) and SDS (Figure 1.1).

Having a robust evidence base is crucial if we are to ensure a fit for purpose skills system. SDS and partners are working to develop evidence on the key strategic issues and challenges for Scotland, for example boosting productivity and the implications of Brexit. This and the evidence contained in Regional Skills Assessments (RSAs) will help inform Step 1 of this model – the Demand Assessment.

**Figure 1.1**  
**Skills Alignment**



### This Regional Skills Assessment

First launched in 2014, the RSAs' purpose is to provide a robust evidence base to support partners in strategic skills investment planning. They have evolved over time based on an independent review carried out in 2015 and feedback from partners.

To ensure an inclusive approach to their development, dissemination and utilisation, RSAs are produced by SDS in partnership with Highlands and Islands Enterprise (HIE), Scottish Enterprise (SE), SFC and the Scottish Local Authorities Economic Development Group (SLAED). RSAs include the use of recently published datasets. Inevitably, when using published data there is a time lag but the data contained is the most up to date available at the time of writing.

Feedback from partners has indicated that an area of evidence they wished to see more of was forecasting. As a result, this RSA includes forecast data that has been commissioned through Oxford Economics. A number caveats need to be applied when using forecast data. The [Technical Note](#) provides full detail on this but broadly it should be noted that forecasts are based on what we know now and include past and present trends projected into the future.

Their value is in identifying likely directions of travel rather than predicting exact figures. The more disaggregated they become, especially at smaller geographical units, the less reliable they are likely to be. Finally, standard occupational classifications (SOC) and standard industrial classifications (SIC) should be looked at to understand how an occupation or industry is defined. Links have been given to facilitate this in the relevant sections. Education, for example, is an industrial sector that takes in a wide variety of teaching and educative functions, for example driving instructors.

This year's RSA is in three parts:

1. An infographic detailing key data for the area;
2. A detailed data matrix that includes key indicators for skills planning; and
3. This report outlining demand for skills including evidence on current and forecast data on the economy and employment and forecast job openings.

Finally, in the sections which follow, the numbers and figures in the body of the text are rounded for ease of reference and readability and therefore may differ slightly from:

- The Oxford Economics data in the RSA Data Matrix
- The accompanying charts in the report which are also based on the Oxford Economics data

Once again, since these forecasts are only to be treated broadly and indicatively, this also means avoiding spurious accuracy and giving the impression of exact figures.

2

# The Aberdeen and Aberdeenshire Economy

### 2.1 Output: Gross Value Added

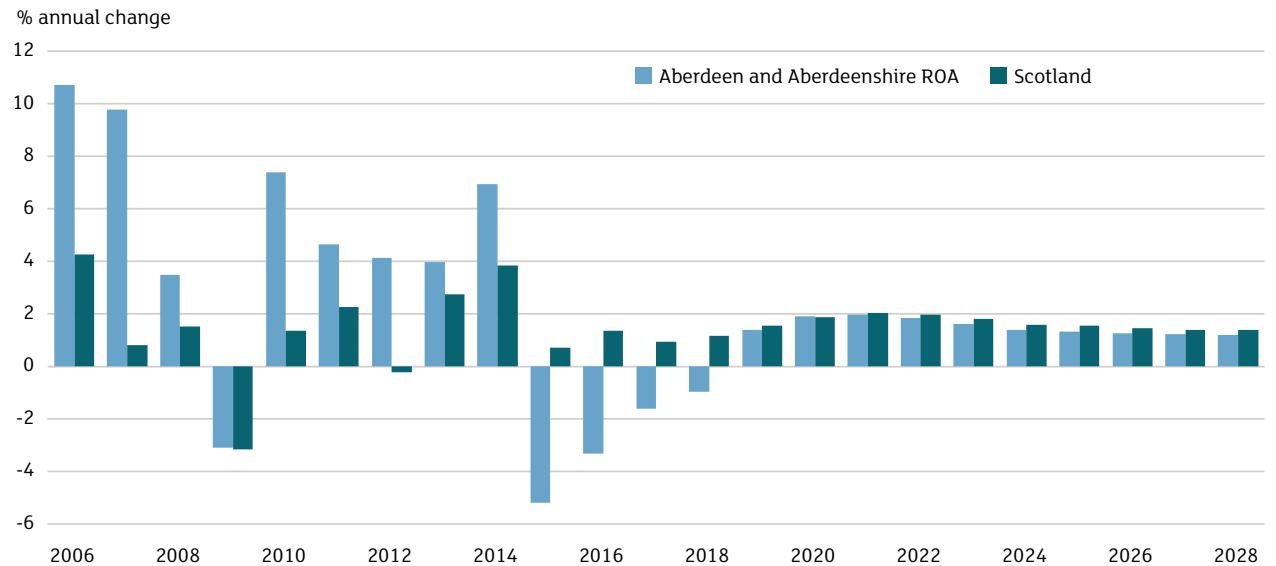
Gross Value Added (GVA) is a measure of the value of goods and services produced in an area. GVA in Aberdeen and Aberdeenshire in 2018 was £16.8bn, 13 per cent of total national output (£134.7bn).

This share of GVA ranks third highest of all RSA regions across Scotland, behind the regions of Edinburgh, East and Midlothian and Glasgow Region.

#### Looking to the future, Aberdeen and Aberdeenshire’s economy is forecast to trail the Scottish average over the forecast period.

GVA growth in Aberdeen and Aberdeenshire is forecast to average 1.5 per cent per year between 2018 and 2028, slower than Scotland at 1.7 per cent. Following four years of negative GVA growth, the Aberdeen and Aberdeenshire economy is expected to return to expansion in 2019, with the pace of growth expected to match the Scottish average in the short term (Figure 2.1).

**Figure 2.1**  
Change in GVA, 2006 - 2028



Source: ONS / Oxford Economics



### **Growth is forecast to be led by Aberdeen and Aberdeenshire's professional, scientific and technical activities sector.**

The previous section showed GVA growth in Aberdeen City and Shire forecast to average 1.5 per cent per year between 2018 and 2028. How the sectors contribute to this growth rate is shown in Figure 2.2<sup>1</sup> opposite.

In the main, bigger sectors tend to generate more output. Professional, scientific and technical activities is currently the biggest sector in terms of GVA in 2018 and is expected to provide the largest contribution to GVA growth over the decade to 2028.

We can also look at percentage change: which individual sectors are expected to grow or decline over 2018-2028, in relation to their 2018 baseline. Over the next ten years, private services<sup>2</sup> are expected to drive growth in Aberdeen and Aberdeenshire, with information and communication forecast to be the fastest growing sector, increasing by 31 per cent over the forecast period or 3.1 per cent per year on average.

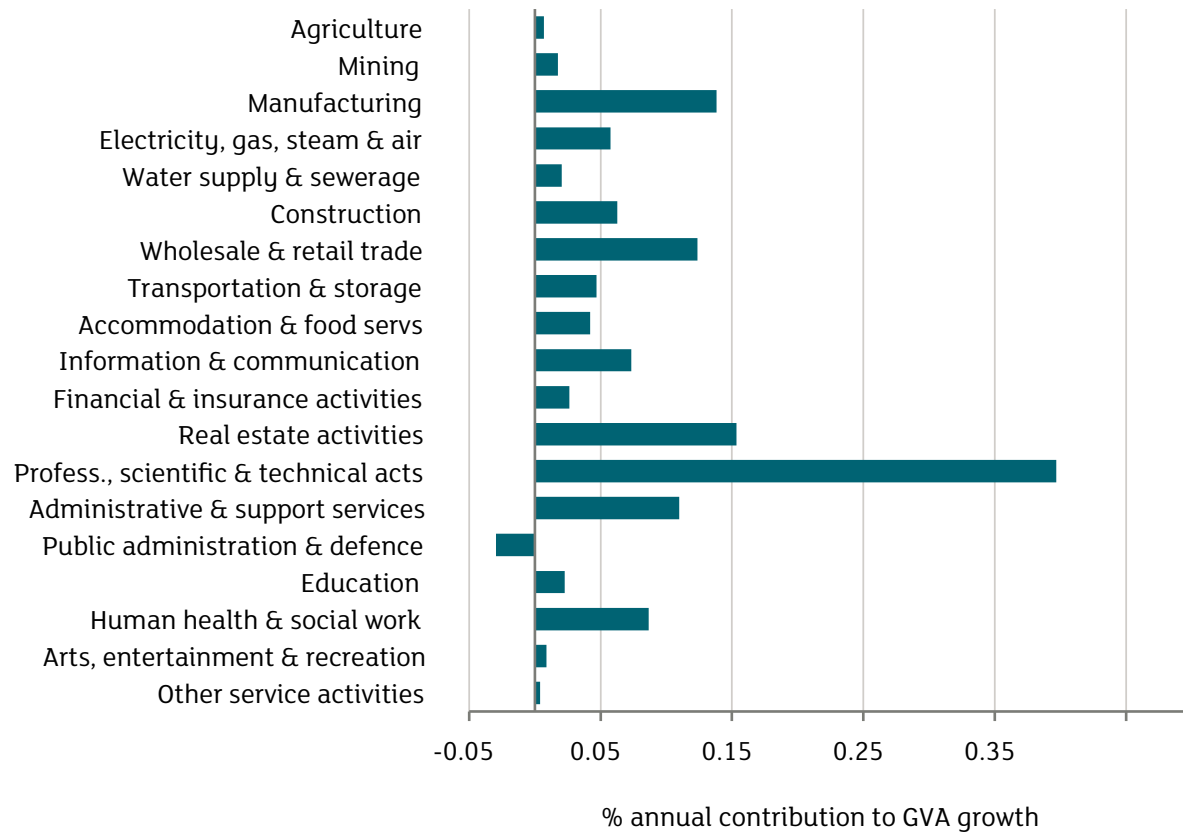
Its smaller size however means its overall contribution to growth is limited. The biggest sector however, professional, scientific and technical activities, is also forecast to be one of the fastest growing sectors, increasing by 27 per cent over the forecast period or 2.7 per cent per year on average. The sector is therefore, in both absolute terms and percentage terms, a critical contributor to growth in the region. Public administration and defence is the only sector expected to contract over the period (-0.7 per cent per year) in relation to its 2018 GVA levels.

Mining related activity continues to play a much larger role in the local economy than in Scotland generally and thus the recent downturn in sectoral activity has hampered economic growth. Mining activity is particularly prevalent in Aberdeen but is still more prominent in Aberdeenshire than Scotland generally.

1 Please note that the industrial sectors may not add up to the average annual GVA growth rate figure. This is a result of a small statistical discrepancy due to chain linking. Further information on this is available at: <https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/methodologies/chainlinkingmethodsusedwithintheuknationalaccounts>

2 Private services' comprise the following sectors: wholesale and retail trade; transportation and storage; accommodation and food services; information and communication; financial and insurance activities; real estate activities; profess., scientific and technical activities; administrative and support services; arts, entertainment and recreation; and other service activities.

**Figure 2.2**  
**GVA by industry sector, 2018 - 2028**

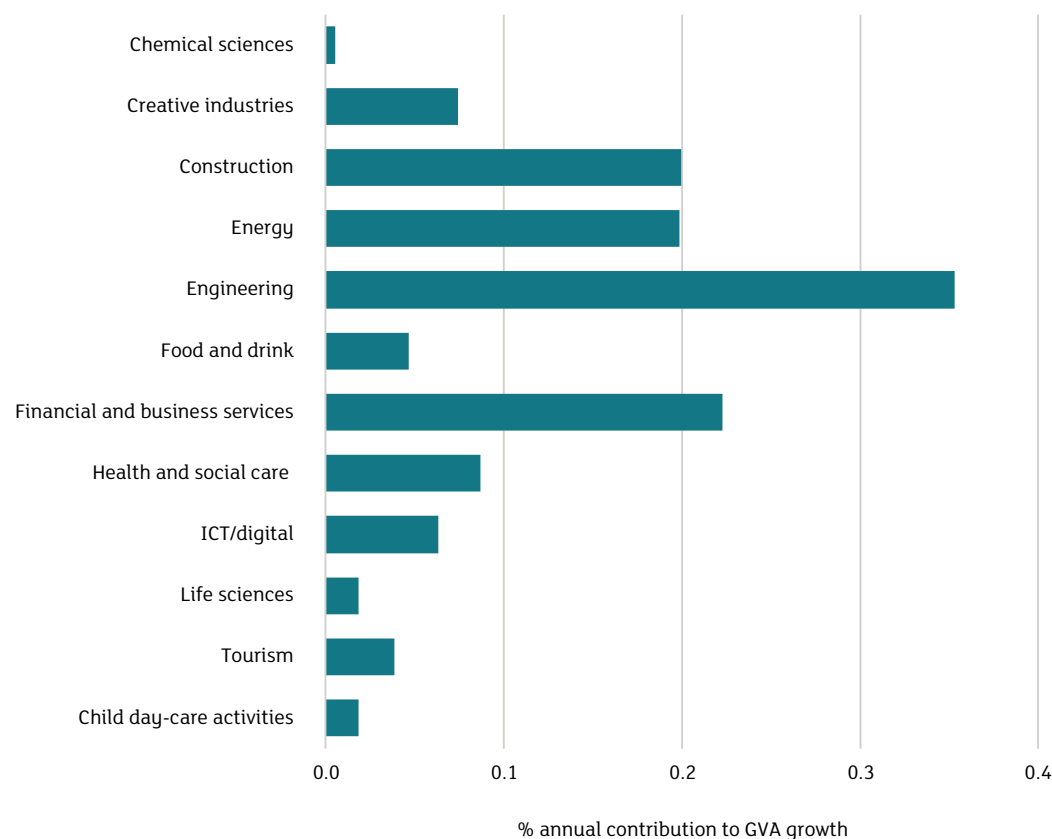


**Of the key sectors, engineering, financial and business services, construction and energy are expected to make the largest contribution to regional GVA growth by 2028.**

The key sectors' contribution to Aberdeen City and Shire's GVA annual growth rate is shown in Figure 2.3 opposite. Engineering, financial and business services, construction and energy are expected to make the largest contributions to growth given their outlook and relative size.

Looking at percentage change within individual key sectors over 2018-2028, child day-care activities and ICT/digital are forecast to be the fastest growing key sectors in Aberdeen and Aberdeenshire over the period. Driven by increased Scottish Government support for the sector, the former is expected to increase by 44 per cent over the forecast period or 4.4 per cent per year on average, with the latter rising by three per cent per year, both substantially ahead of the Aberdeen and Aberdeenshire average of 1.6 per cent per year. However, both key sectors are coming from a low base and their contribution to growth in absolute terms is smaller than most of the others (again, see Figure 2.3).

**Figure 2.3**  
**GVA by key sector, 2018 - 2028**



Source: ONS / Oxford Economics

## 2.2 Productivity

### **Aberdeen and Aberdeenshire has the strongest forecast productivity growth of the RSA regions.**

Productivity is the measure of goods and services produced per unit of labour input. Productivity has been calculated by dividing total regional GVA by total regional employment (measured in jobs).

As of 2018, productivity in Aberdeen and Aberdeenshire was £54,200, higher than the national average of £47,300 and the highest productivity of all the RSA regions.

Productivity in Aberdeen and Aberdeenshire is forecast to grow at an average of 1.6 per cent per year between 2018 and 2028, above the Scotland rate of 1.3 per cent and the UK rate of 1.4 per cent.

# Aberdeen and Aberdeenshire's Employment

# 3

### 3.1 Current Position (2018)<sup>3</sup>

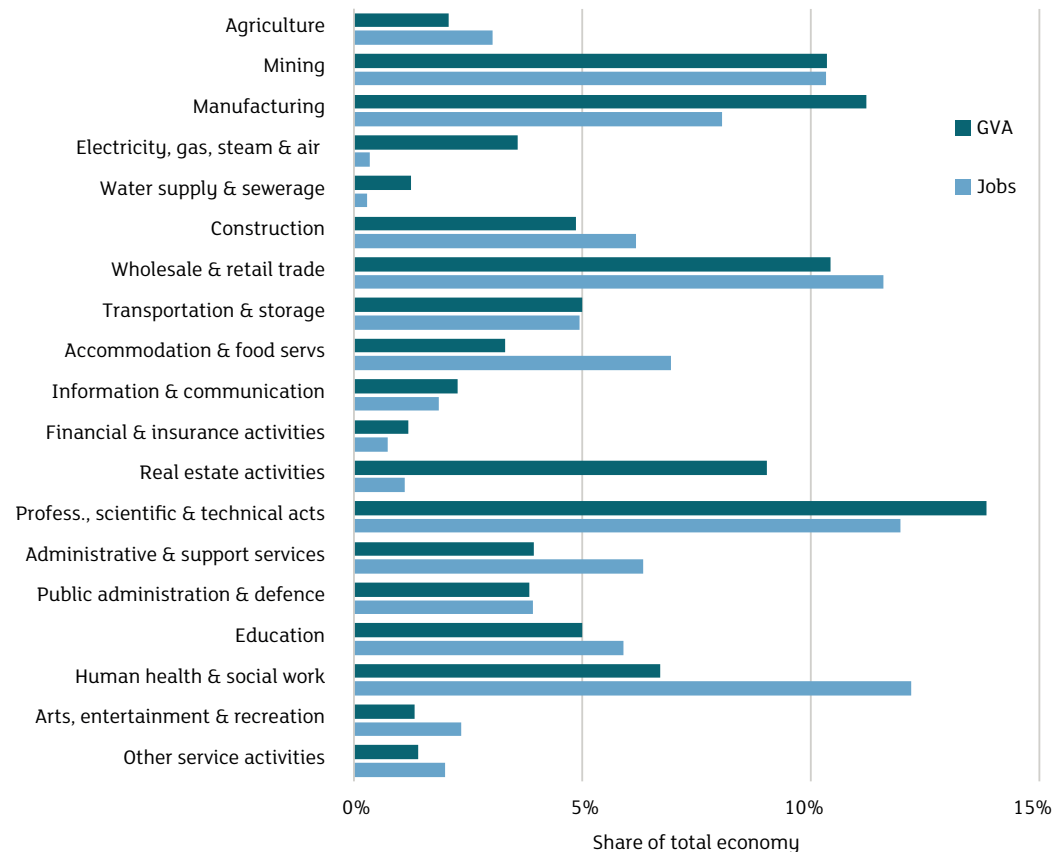
Total regional employment (measured as the number of jobs) is estimated to be 310,700 in 2018, a decrease of 0.3 per cent on 2017.

#### Mining, particularly the extraction of oil, plays a key role in the Aberdeen and Aberdeenshire economy.

The largest sectors by employment<sup>4</sup> are human health and social work, professional, scientific and technical and wholesale and retail, each accounting for 12 per cent of total regional employment (see Figure 3.1).

The largest sectors as measured by GVA are professional, scientific and technical, manufacturing, mining and wholesale and retail.

**Figure 3.1:**  
**Industrial structure, 2018**



Source: ONS / Oxford Economics

<sup>3</sup> Note that 2018 is itself a forecast.

<sup>4</sup> See definitions of Industrial Sectors (SIC) down to 4 digits here: [https://onsdigital.github.io/dp-classification-tools/standard-industrial-classification/ONS\\_SIC\\_hierarchy\\_view.html](https://onsdigital.github.io/dp-classification-tools/standard-industrial-classification/ONS_SIC_hierarchy_view.html)

**Workers in Aberdeen and Aberdeenshire are more likely to be in occupations related to mining than elsewhere in Scotland.**

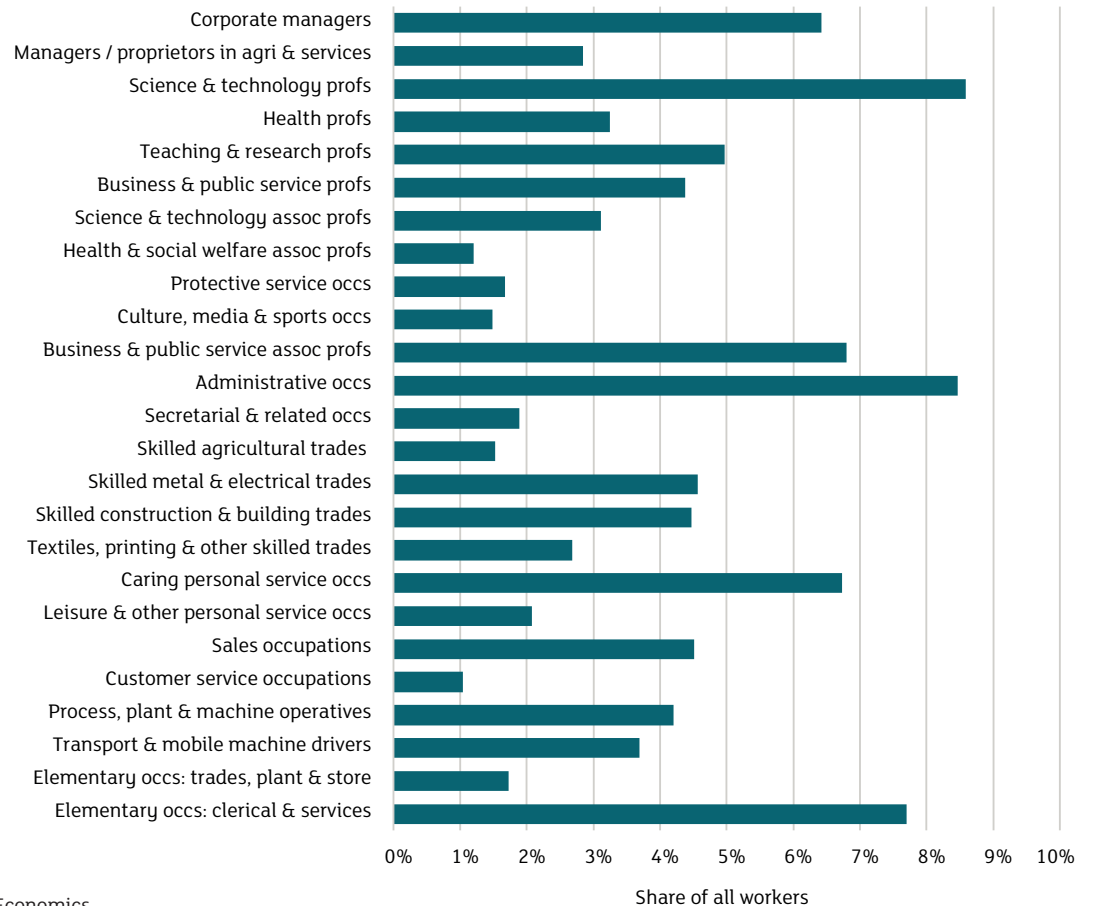
Oxford Economics data shows that in 2018, almost half of all occupations (45 per cent) were 'higher level', with 32 per cent 'mid-level' and 23 per cent being 'lower level' occupations<sup>5</sup>.

Figure 3.2 provides a detailed split by occupation<sup>6</sup>, with the largest occupations in 2018 being science and technology professionals (nine per cent), followed by administrative occupations and clerical and service elementary occupations (eight per cent each).

5 Higher level occupations' are defined as Managers, directors and senior officials, Professional occupations, and Associate professional and technical occupations; 'Mid level occupations' defined as Administrative and secretarial occupations, Skilled trades occupations, Caring, leisure and other service occupations; and 'Lower level occupations' defined as Sales and customer service occupations, Process, plant and machine operatives, Elementary occupations.

6 Here at two digit Standard Occupational Classification level. A link to the Standard Occupational Classification (SOC) is here: [https://onsdigital.github.io/dp-classification-tools/standard-occupational-classification/ONS\\_SOC\\_hierarchy\\_view.html](https://onsdigital.github.io/dp-classification-tools/standard-occupational-classification/ONS_SOC_hierarchy_view.html)

**Figure 3.2: Occupational structure, 2018**



Source: ONS / Oxford Economics

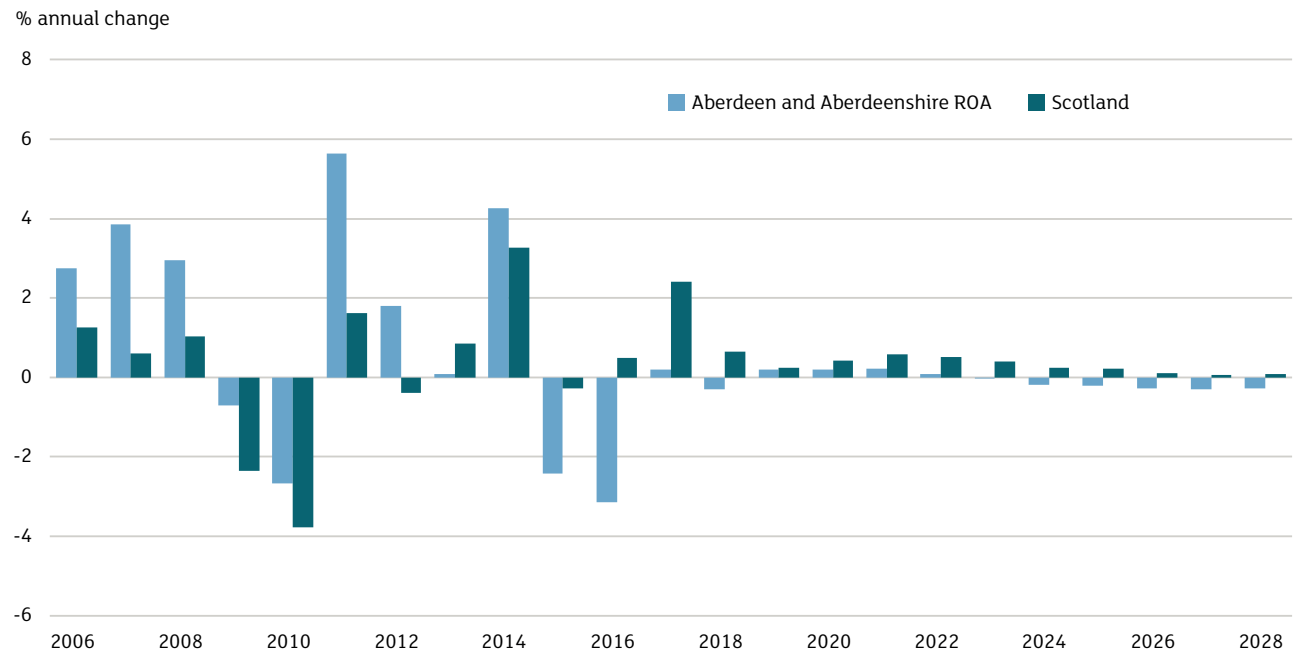
### 3.2 Employment Forecasts (2018-2028)

#### Employment growth in Aberdeen and Aberdeenshire is expected to be negative over the forecast period.

Overall, regional employment has increased since 2006, driven largely by growth within the oil and gas sector. There have, however, been fluctuations, driven by the recession as well as the downturn of the oil and gas sector in recent years (Figure 3.3).

The number of jobs in Aberdeen and Aberdeenshire is forecast to decrease over the forecast period, with the rate of job creation expected to be negative, averaging -0.1 per cent per annum. This equates to 1,800 fewer jobs in Aberdeen and Aberdeenshire by 2028.

**Figure 3.3:** Employment growth (% annual change), 2006 - 2028



Source: ONS / Oxford Economics



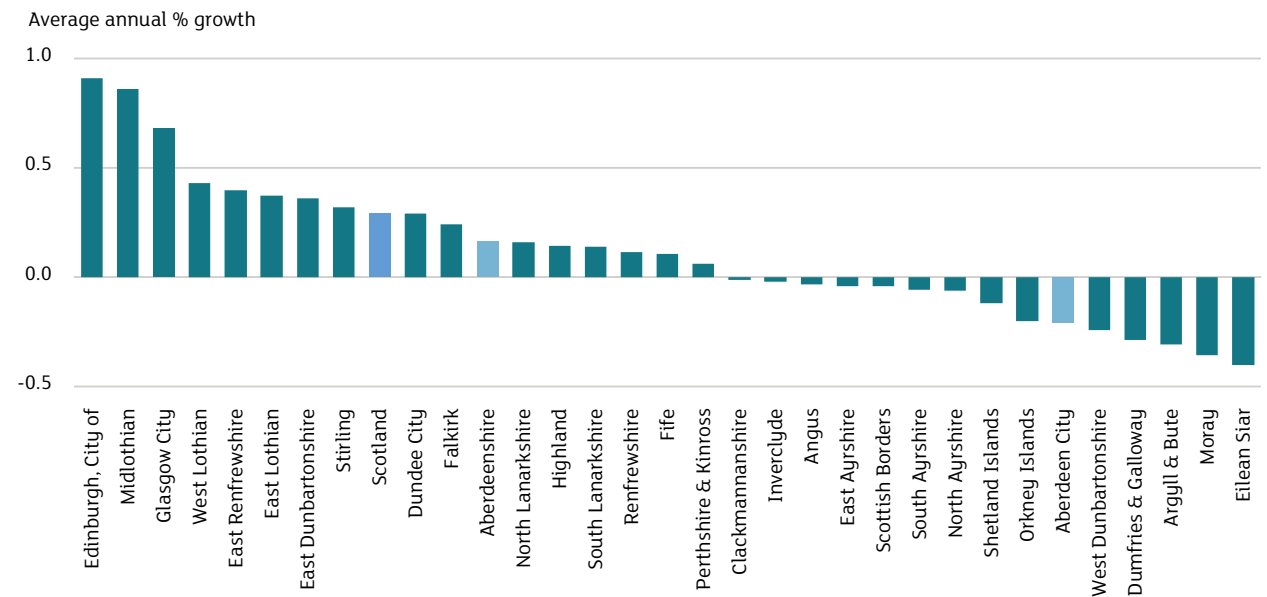
**There is expected to be a decline in the number of jobs in Aberdeen City over the forecast period, in contrast to an increase in Aberdeenshire.**

The relatively weak employment outlook means that jobs growth across the region is forecast to lag behind both Scotland (0.3 per cent per year) and the UK (0.4 per cent per year) over the forecast period.

Employment in Aberdeenshire is forecast to grow between 2018 and 2028, in contrast to a forecast decrease within Aberdeen City – see Figure 3.4.

However, continued job growth in professional, scientific and technical activities, administrative and support services and construction (the three sectors expected to contribute most to job creation) should help to offset losses in mining, manufacturing and public administration in the overall Aberdeen and Aberdeenshire economy.

**Figure 3.4:**  
**Employment growth by local authority**  
**(% annual change), 2018 - 2028**



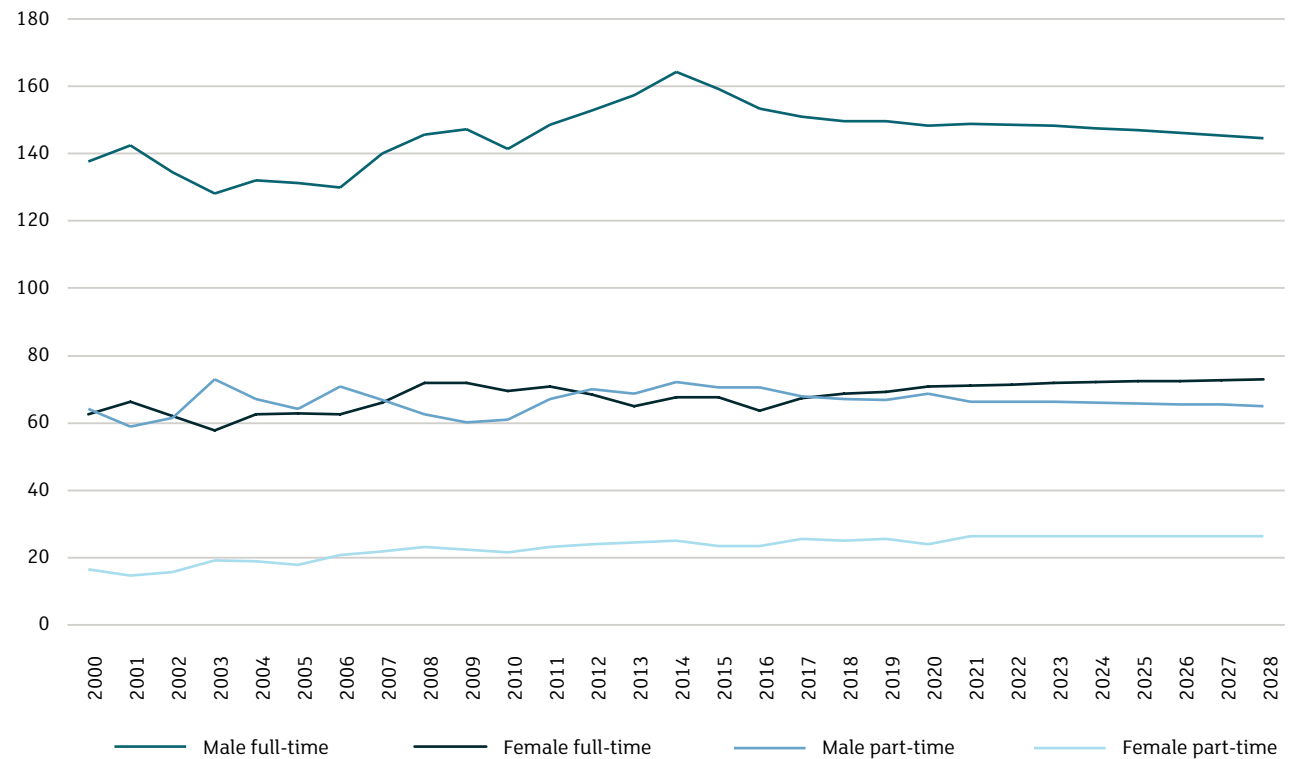
Source: ONS / Oxford Economics

**New jobs are expected to be filled by female workers.**

There is also expected to be a notable gender divide in employment trends between 2018 and 2028. Oxford Economics forecast an increase in the number of females in employment, rising by 2,300 jobs by 2028 - equivalent to a growth rate of 0.2 per cent per annum - whilst male employment is expected to contract by 4,100 jobs (see Figure 3.5).

This divergence is underpinned by the decline of the traditionally male dominated mining sector and growth in areas such as professional services, which would be expected to have a more equitable gender split. Changes to female retirement age may also play a role in this increase.

**Figure 3.5:**  
**Employment by gender and employment status 2000 - 2028**



Source: ONS / Oxford Economics

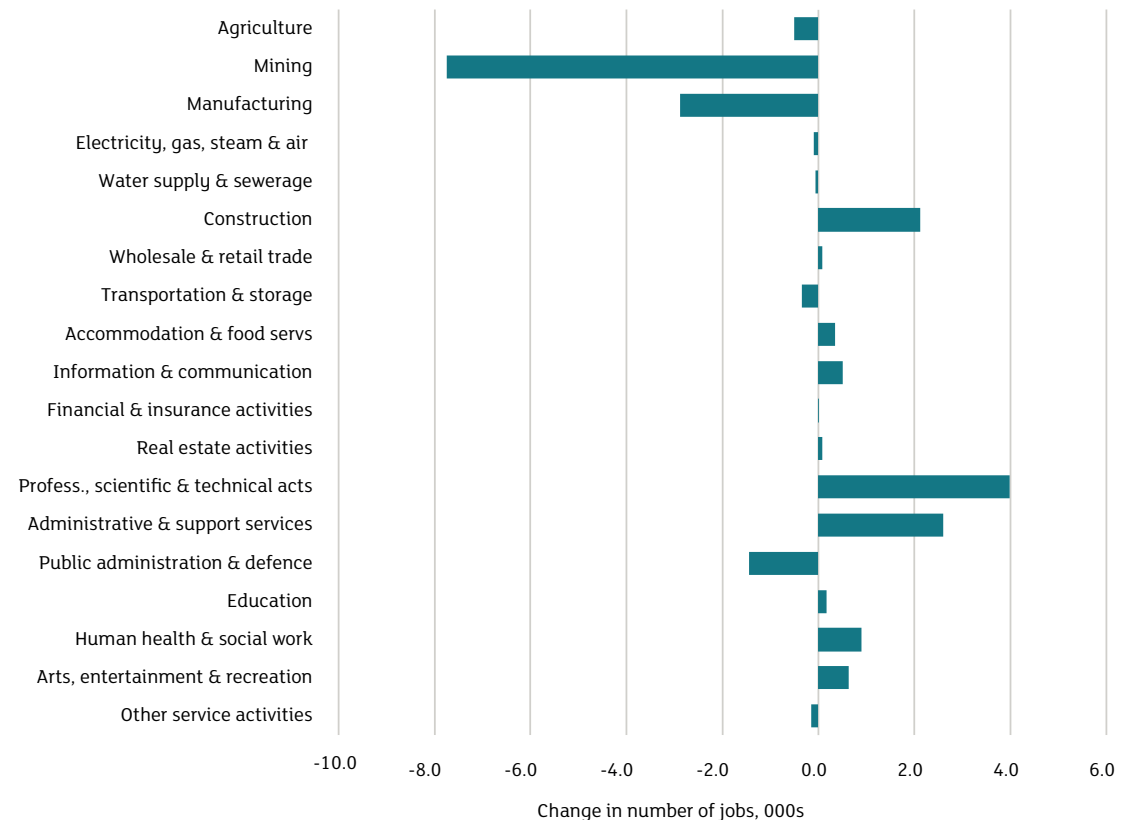
### 3.3 Employment Forecasts by Sectors and Occupations

#### Job losses are expected to be largest in mining in Aberdeen and Aberdeenshire.

Professional, scientific and technical activities are expected to be the source of 4,000 new jobs for the region between 2018 and 2028, growing at an average annual rate of one per cent. Construction is expected to see the fastest average annual growth (1.1 per cent), adding 2,100 jobs (Figure 3.6). Other notable increases in employment over the forecast period are expected from administrative and support services (2,600 jobs) and human health and social work (900 jobs). Rising human health and social work employment contrasts with the forecast for job losses in public administration and defence (-1,400 jobs). This reflects political priorities and demographic pressures, which insulate the health sector from the worst of government spending restraint.

Job losses are also expected from the Aberdeen and Aberdeenshire production sectors, most notably mining (-7,700 jobs). The sector plays a much larger role in the local economy than in Scotland generally, accounting for over ten per cent of all employment in 2018. Notable job losses are also expected in manufacturing (-2,900 jobs), reflecting the general downward trend in the sector as automation takes hold.

**Figure 3.6:**  
Change in employment by sector 2018 - 2028



Source: ONS / Oxford Economics

The share of employment accounted for by the construction sector is forecast to increase from six per cent in 2018 to seven per cent in 2028, whilst job losses from manufacturing underpin a falling share, to seven per cent of jobs in 2028. Mining is expected to see its share of total employment decline from ten per cent to eight per cent over the forecast period, still well above the Scotland or UK shares (one per cent and 0.1 per cent, respectively).

In contrast to the outlook for private services<sup>7</sup> in general, employment in financial services is expected to remain flat in the period to 2028. However, this sector plays a relatively small role in the local economy accounting for just one per cent of total employment. This sector profile of employment growth means that the share of regional jobs accounted for by private services is expected to grow from 50 per cent to 53 per cent between 2018 and 2028. The percentage of jobs accounted for by public services<sup>8</sup> is forecast to remain at the 2018 level of 22 per cent by 2028, below the Scottish share of 27 per cent.

7 N.B. 'private services' comprise the following sectors: wholesale & retail trade; transportation & storage; accommodation & food services; information & communication; financial & insurance activities; real estate activities; profess., scientific & technical activities; administrative & support services; arts, entertainment & recreation; and other service activities."

8 Comprising public administration and defence, education, and human health and social work.

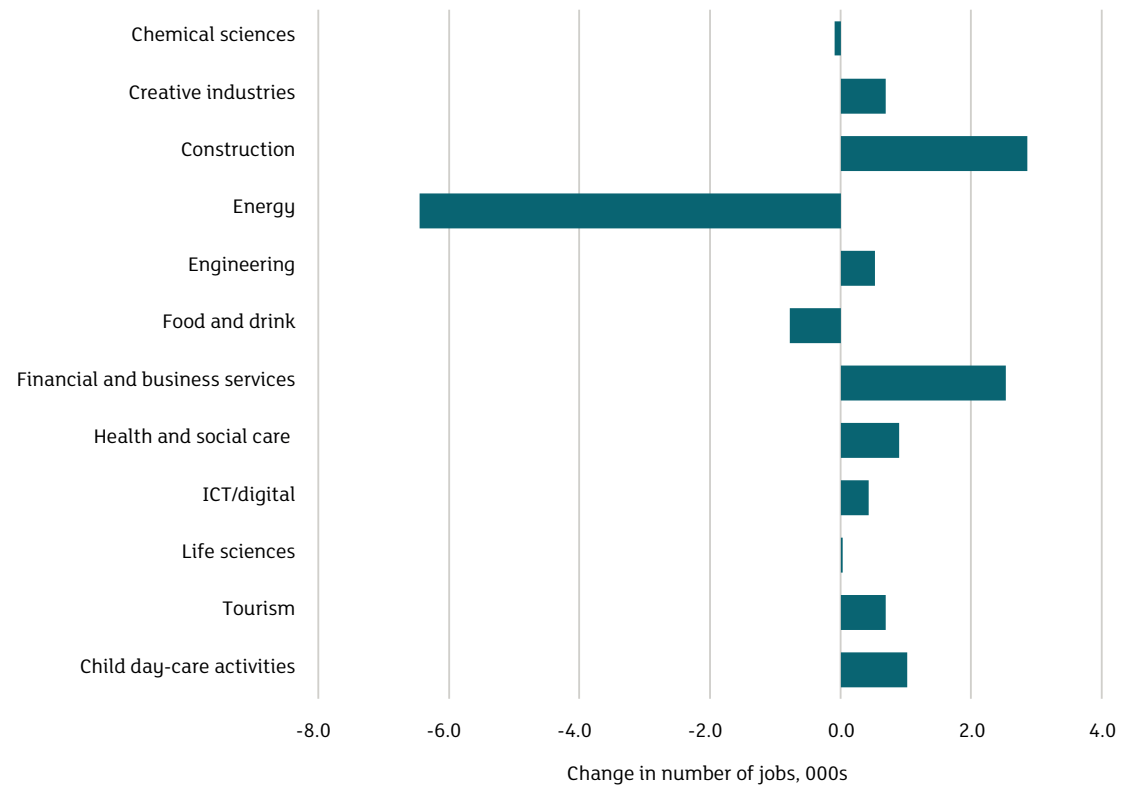
**The construction key sector is forecast to enjoy the strongest growth over the forecast period.**

In employment terms, the largest key sector in Aberdeen and Aberdeenshire is energy, accounting for 41,400 jobs in 2018, followed by health and social care, which accounts for 37,900 jobs.

Looking ahead (see Figure 3.7), the outlook for the key sectors largely echoes the broad sector trends summarised above – with a substantial decrease in employment expected for the energy sector (of 6,400 jobs), driven by contraction of the oil and gas sub-sector.

The sectors that are expected to increase in employment over the forecast period include construction, which is expected to be the source of an additional 2,900 jobs for the region, and financial and business services, which is forecast to increase by 2,500 jobs.

**Figure 3.7:**  
**Change in employment by key sector 2018 - 2028**



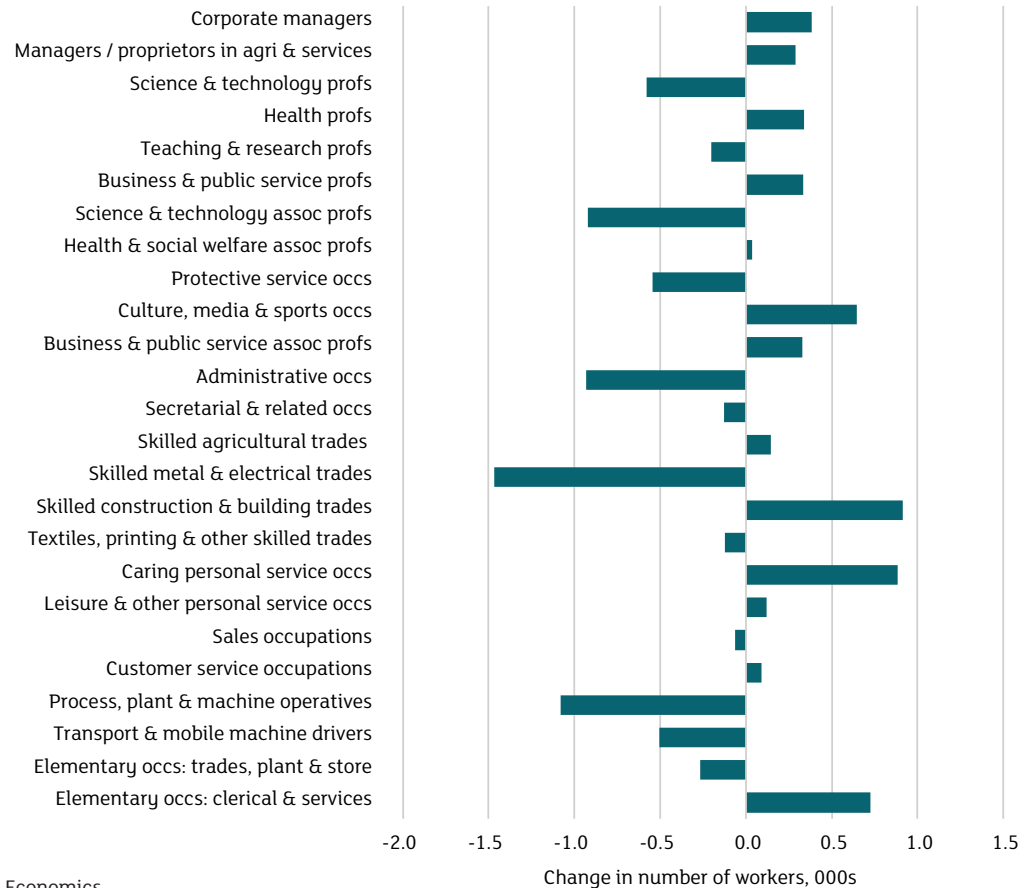
Source: ONS / Oxford Economics

**The changing profile of jobs in Aberdeen and Aberdeenshire is projected to boost service-based occupations.**

Skilled construction and building trade occupations are forecast to see the largest increases in employment (900 additional people each) in Aberdeen and Aberdeenshire between 2018 and 2028 (Figure 3.8). Growth here is closely related to the rise in construction employment. Rising employment in human health and social work is forecast to support more roles for caring and personal service occupations (900 people) and health professionals (300 people), while increases to employment in administrative and support services are expected to support an increase of 700 people in elementary clerical and service occupations. Other occupations forecast to see a notable rise in Aberdeen and Aberdeenshire over the forecast period include culture, media and sport occupations (600 people) and corporate managers (400 people).

The occupations likely to see the greatest decline in Aberdeen and Aberdeenshire over the period tend to be those most closely associated with production sectors, such as skilled metal and electrical trades (-1,500 people) and process, plant and machine operatives (-1,100 people). That said, decreases are also forecast in administrative and secretarial occupations and science and technology associate professionals (900 people each) – which are occupations typically in sectors forecast to grow.

**Figure 3.8:**  
**Change in employment by occupation,**  
**2018 - 2028**



Source: ONS / Oxford Economics

4

Total Requirement:  
Expansion and  
Replacement  
Demand

#### 4.1 Total Requirement by Occupation<sup>9</sup>

**There are expected to be 90,300 job openings in Aberdeen and Aberdeenshire between 2018 and 2028, driven entirely by replacement demand.**

Net change in employment is expected to result in 1,600 fewer jobs in Aberdeen and Aberdeenshire over the forecast period. Replacement demand, which captures people leaving the labour market or moving between occupations, is projected to result in around 91,800 job openings over the next ten years. Together, the net change in expansion and replacement demand is forecast to result in 90,300 job openings in Aberdeen and Aberdeenshire between 2018 and 2028 (see Table 4.1 below).

As a consequence of this labour market churn, openings are expected to occur across most occupations, including those that are expected to see lower levels of employment in the future (see Figure 4.1). Only process, plant and machine operatives and those in protective service occupations are forecast to decrease, whilst associate professionals in health and social welfare and those in customer service occupations are expected to remain unchanged.

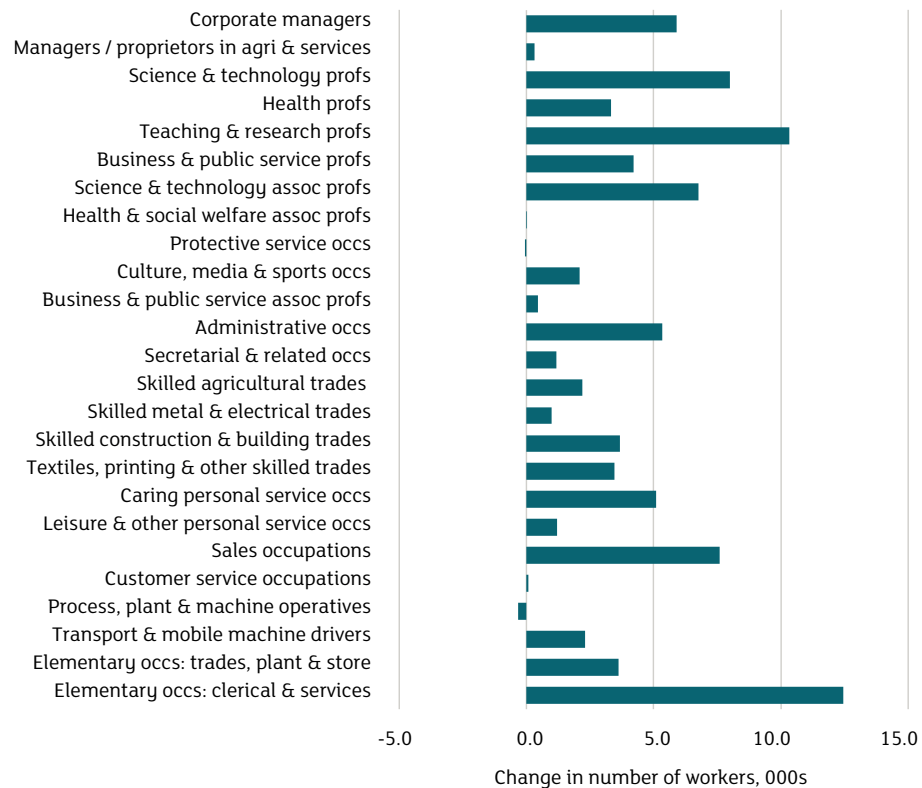
Openings are expected to be most numerous in occupations where employment is forecast to rise, and those that tend to experience high labour turnover. The largest requirement is expected for elementary clerical and service occupations, with 12,500 openings over the period, equivalent to almost 14 per cent of all openings across

the region. Teaching and research occupations (10,300 people), science and technology professions (8,000 people) and sales occupations (7,600 people), are also likely to see a substantial number of openings across the region.

<sup>9</sup> Broken down at two digit Standard Occupational Classification level.



**Figure 4.1:**  
**Total requirement, 2018 - 2028**



Source: ONS / Oxford Economics

**Table 4.1:**  
**Expansion, replacement demand, and total requirement, by occupation, 2018 – 2028**

| Occupation  | Expansion Demand | Replacement Demand | Total Requirement |
|---|------------------|--------------------|-------------------|
| Corporate Managers  | 0.4              | 5.5                | 5.9               |
| Managers / Proprietors in agriculture and services        | 0.3              | 0.0                | 0.3               |
| Science and Technology Professionals                      | -0.6             | 8.6                | 8.0               |
| Health Professionals                                      | 0.3              | 3.0                | 3.3               |
| Teaching and Research Professionals                       | -0.2             | 10.5               | 10.3              |
| Business and Public Service Professionals                 | 0.3              | 3.9                | 4.2               |
| Science and Technology Associate Professionals            | -0.9             | 7.7                | 6.8               |
| Health and Social Welfare Associate Professionals         | 0.0              | 0.0                | 0.0               |
| Protective Service Occupations                            | -0.5             | 0.5                | -0.1              |
| Culture, Media and Sports Occupations                     | 0.6              | 1.4                | 2.1               |
| Business and Public Service Associate Professionals       | 0.3              | 0.1                | 0.4               |
| Administrative Occupations                                | -0.9             | 6.3                | 5.3               |
| Secretarial and Related Occupations                       | -0.1             | 1.3                | 1.2               |
| Skilled Agricultural Trades                               | 0.1              | 2.1                | 2.2               |
| Skilled Metal and Electrical Trades                       | -1.5             | 2.5                | 1.0               |
| Skilled Construction and Building Trades                  | 0.9              | 2.8                | 3.7               |
| Textiles, Printing and Other Skilled Trades               | -0.1             | 3.6                | 3.5               |
| Caring Personal Service Occupations                       | 0.9              | 4.2                | 5.1               |
| Leisure and Other Personal Service Occupations            | 0.1              | 1.1                | 1.2               |
| Sales Occupations   | -0.1             | 7.6                | 7.6               |
| Customer Service Occupations                              | 0.1              | 0.0                | 0.1               |
| Process, Plant and Machine Operatives                     | -1.1             | 0.8                | -0.3              |
| Transport and Mobile Machine Drivers and Operatives       | -0.5             | 2.8                | 2.3               |
| Elementary Occupations: Trades, Plant and Storage related | -0.3             | 3.9                | 3.6               |
| Elementary Occupations: Clerical and Services related     | 0.7              | 11.7               | 12.5              |
| <b>Total</b>  | <b>-1.6</b>      | <b>91.8</b>        | <b>90.3</b>       |

Source: ONS / Oxford Economics N.B. Some totals may not sum due to rounding.



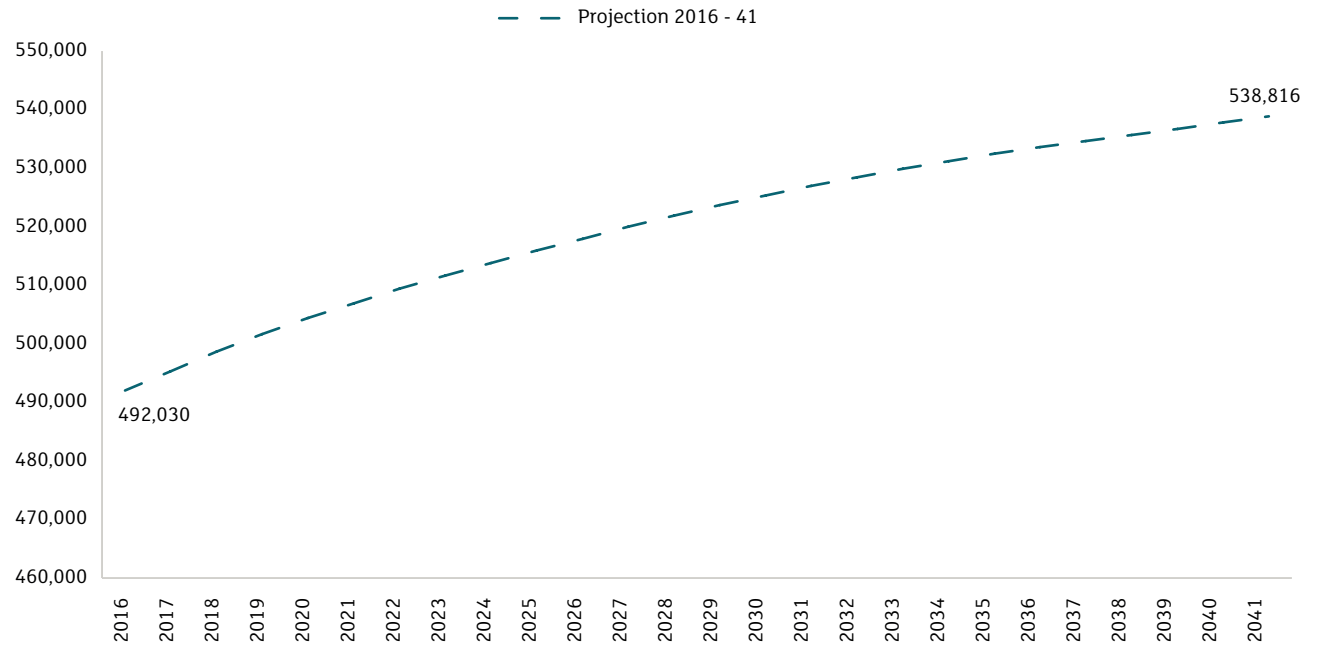
Supply of  
People

5

### 5.1 Population Projections: Total Population

As of 2016, the population of Aberdeen and Aberdeenshire was 492,000 (see Figure 5.1\*). The population of the region is forecast to increase over the coming decades, with an increase of almost 46,800 people expected between 2016 and 2041. Equating to a ten per cent increase, this is double the national projected growth rate of five per cent over the same period.

**Figure 5.1:**  
Population projections, total population, 2016-41



\* Note: Figures are unrounded.

Source: National Records of Scotland Projections (2016-2041).

## 5.2 Population Projections: Age Profile

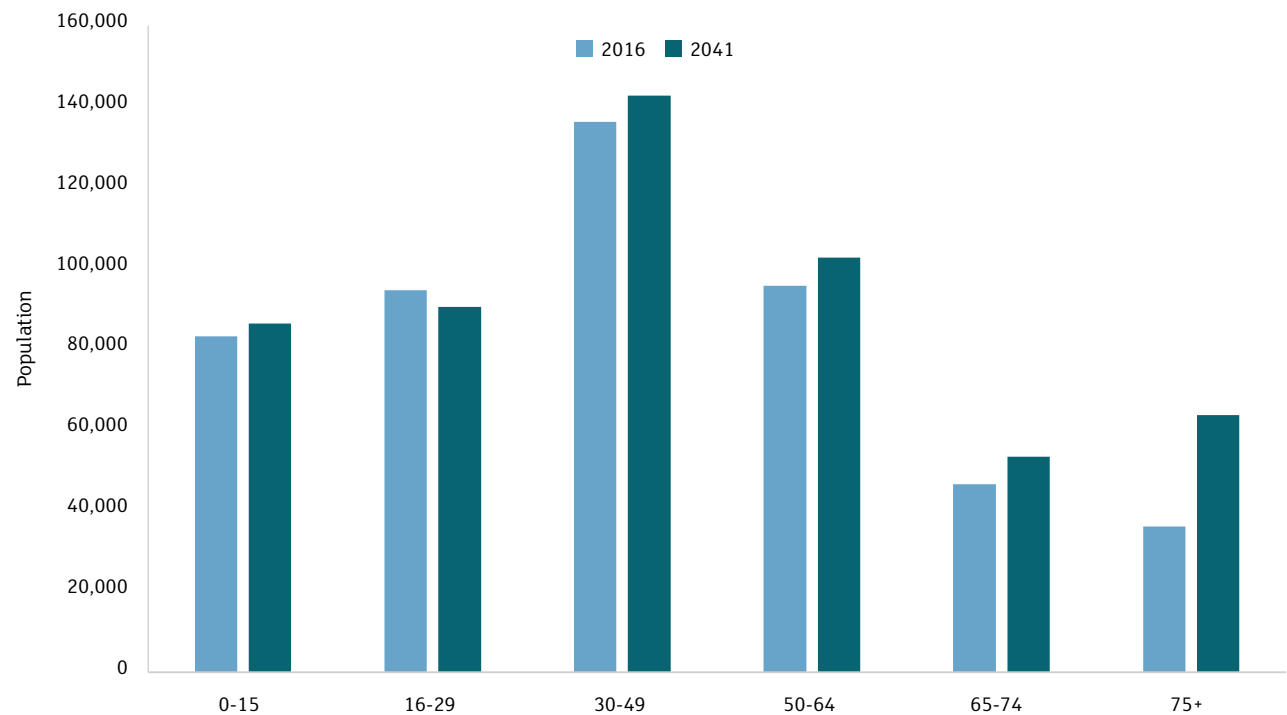
As of 2016, 66 per cent of the population in Aberdeen City and Shire, or 326,300 people, were of working age (16-64). Outside of this age range, 17 per cent were aged 0-15 (83,100 people), nine per cent were aged between 65 and 74 (46,500 people), and the remaining seven per cent were aged 75 or older (36,100 people): see Figure 5.2 below.

By 2041, the age structure of the regional population is expected to remain largely unchanged but with some subtle differences. Those of working age are expected to continue to account for the majority of the population, although decreasing to 62 per cent, or 335,600 people. Despite a projected increase in the number of people of working age, from 326,300 people in 2016 to 335,600 people in 2041 (an increase of 9,300 people), as a percentage of the overall population, it nonetheless represents a decrease.

This is due mainly to the large growth forecast in the 65+ age groups, with a 76 per cent increase projected for those aged 75+, a projected increase of 27,500 people; and a 15 per cent increase among those aged 65-74, a projected increase of 6,800 people. Taken together, the increase in the 65+ age groups (34,300 people in total) far outstrips the increase in the working age group (9,300 people). Hence the falling working age share of the population.

Finally, the number of people aged 16-29 is expected to decrease by four per cent (-4,200 people) – the only age group forecast to decline over the period.

**Figure 5.2:**  
**Population change by age band, 2016-41**



Source: National Records of Scotland Projections (2016-2041).

# 6

Conclusion

The regional GVA of £16.9bn in 2018 equated to 13 per cent of total national output. Aberdeen and Aberdeenshire ranks third largest of all RSA regions in economic terms. Regional GVA growth is forecast to average 1.5 per cent per year between 2018 and 2028, which is lower than the forecast growth rate of 1.7 per cent for Scotland over the same period. GVA growth is forecast to be driven by the professional, scientific and technical sector, which is expected to increase by an average of 0.4 per cent per year – around three times the rate of the next largest growing sectors (real estate and manufacturing).

Total regional employment (measured in jobs) was estimated to be 310,700 in 2018. Employment is forecast to contract by 1,800 jobs between 2018 and 2028, largely driven by continued challenges facing the oil and gas sector. The largest employing sectors currently (measured by jobs) are human health and social work, professional, scientific and technical and retail, each accounting for 12 per cent of total regional employment.

Professional, scientific and technical activities are forecast to grow by 4,000 jobs across the region by 2028, with construction forecast to bring an additional 2,100 jobs. Forecast growth in the human health and social work sector contrasts with expected job losses in public administration and defence (-1,400), reflecting a continued decline in government spending. Job losses are also forecast among the production sectors, such as mining (-7,700) and manufacturing (-2,900), reflecting the general downward trend in the latter as automation takes hold.

Almost half of all jobs in the region in 2018 were in 'higher level' occupations (45 per cent). The largest single occupational groups across all occupation levels are science and technology professionals and administrative occupations (each accounting for nine per cent of all jobs), and clerical and service elementary occupations (eight per cent).

There are expected to be a total of 90,300 job openings in the region between 2018 and 2028, with openings expected across most occupations. The largest total requirement is expected to be for elementary clerical and service occupations, with 12,500 openings expected over the forecast period, equivalent to almost 14 per cent of all openings across the region.

One of the main challenges to the region over the forecast period is the forecast continued downturn of the oil and gas sector. Currently accounting for ten per cent of regional employment, there is a greater reliance on this sector for employment than at the national level (one per cent). Employment growth however is forecast in other sectors such as professional, scientific and technical activities, construction, and human health and social work. This suggests a twofold approach. There needs to be a continued focus on the oil and gas sector, given its importance to the region, and as the North Sea basin matures new solutions and technologies will be needed to extend the life of the basin as well as its international reach. Alongside this, developing other sectors within the economy will help lessen the reliance on oil and gas,

especially diversification into other high productivity sectors in order to maintain the region's current high productivity levels in relation to the rest of Scotland.

**Contact Us:**

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# Appendices



# Appendix 1: Oxford Economics Definitions

| Variable                                  | Definition  |
|---|---|
| GVA                                       | The value of goods and services produced in an area.  |
| Total employment (jobs)                   | Workplace based Jobs; annual average. This includes anyone who is aged 16 and over who holds a job, whether as an employee, self-employed, Government Supported Trainee or within Her Majesty's Forces. |
| Male full-time employment (jobs)          | The number of full-time jobs (more than 30 hours per week), held by males.  |
| Male part-time employment (jobs)          | The number of part-time jobs (30 hours or less per week), held by males.  |
| Female full-time employment (jobs)        | The number of full-time jobs (more than 30 hours per week), held by females.  |
| Female part-time employment (jobs)        | The number of part-time jobs (30 hours or less per week), held by females.  |
| Total employment (people)                 | Total number of people aged 16 plus who work in an area.  |
| Productivity                              | GVA per job; workplace based.   |
| GVA by industry                           | The value of goods and services produced by each SIC 2007 based sector.   |
| Total employment by industry (jobs)       | Workplace based jobs within each SIC 2007 based sector; annual average.   |
| Total employment by occupation (people)   | The number of workers within each SOC 2010 based occupation grouping. The results are also presented on a workplace basis; annual average.  |
| Expansion demand by occupation (people)   | The net change in occupation employment over the forecast period and can therefore be a positive or negative figure.  |
| Replacement demand by occupation (people) | The sum of leavers from employment plus net occupation mobility and represents how many workers will be required at each level due to labour market churn.  |
| Total requirement by occupation (people)  | The sum of expansion demand and replacement demand.   |

## Appendix 2: Oxford Economics Methodology

| Calculation                 | Methodology   |
|-----------------------------|---|
| GVA Growth 2018-2028        | The change in GVA from 2018 to 2028 and calculated as the average annual growth per year in 2019 to 2028.   |
| Total Requirement 2018-2028 | The change in employment from 2018 to 2028 and calculated as the sum of job openings in 2019 to 2028. It includes the increase in employment from 2018 to 2028 and also includes anyone who is expected to leave the labour market. |
| Total Employment 2018-2028  | The difference between employment levels in 2018 and 2028.  |

## Appendix 3: Key Sector Definitions

| SIC 2007 code                          | Description   | Attributable Activity |
|--|---|-----------------------|
| <b>Financial and Business Services</b> |   |                       |
| 64.1                                   | Monetary intermediation   | 100%                  |
| 64.3                                   | Trusts, funds and similar financial entities  | 100%                  |
| 64.9                                   | Other financial service activities, except insurance and pension funding  | 100%                  |
| 65                                     | Insurance, reinsurance and pension funding, except compulsory social security   | 100%                  |
| 66                                     | Activities auxiliary to financial services and insurance activities   | 100%                  |
| 69.1                                   | Legal activities  | 100%                  |
| 69.2                                   | Accounting, bookkeeping and auditing activities; tax consultancy  | 100%                  |
| 70.2                                   | Management consultancy activities   | 100%                  |
| 71.129                                 | Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities) | 100%                  |
| 73.2                                   | Market research and public opinion polling  | 100%                  |
| 74.3                                   | Translation and interpretation activities   | 100%                  |
| 78.109                                 | Activities of employment placement agencies (other than motion picture, television and other theatrical casting) n.e.c.   | 100%                  |
| 78.3                                   | Other human resources provision   | 100%                  |
| 82.1                                   | Office administrative and support activities  | 100%                  |
| 82.2                                   | Activities of call centres  | 100%                  |
| 82.30                                  | Organisation of conventions and trade shows   | 100%                  |
| 82.91                                  | Activities of collection agencies and credit bureaus  | 100%                  |
| 82.99                                  | Other business support service activities n.e.c.  | 100%                  |

| Chemical Sciences |   | Attributable Activity |
|-------------------|---|-----------------------|
| 20.11             | Manufacture of industrial gases   | 100%                  |
| 20.12             | Manufacture of dyes and pigments  | 100%                  |
| 20.13             | Manufacture of other inorganic basic chemicals                              | 100%                  |
| 20.14             | Manufacture of other organic basic chemicals                                | 100%                  |
| 20.15             | Manufacture of fertilisers and nitrogen compounds                           | 100%                  |
| 20.16             | Manufacture of plastics in primary forms                                    | 100%                  |
| 20.17             | Manufacture of synthetic rubber in primary forms                            | 100%                  |
| 20.20             | Manufacture of pesticides and other agrochemical products                   | 100%                  |
| 20.30/1           | Manufacture of paints, varnishes and similar coatings, mastics and sealants | 100%                  |
| 20.30/2           | Manufacture of printing ink   | 100%                  |
| 20.41/1           | Manufacture of soap and detergents  | 100%                  |
| 20.41/2           | Manufacture of cleaning and polishing preparations                          | 100%                  |
| 20.51             | Manufacture of explosives   | 100%                  |
| 20.52             | Manufacture of glues  | 100%                  |
| 20.53             | Manufacture of essential oils   | 100%                  |
| 20.59             | Manufacture of other chemical products n.e.c.                               | 100%                  |
| 20.60             | Manufacture of man-made fibres  | 100%                  |
| 21.1              | Manufacture of basic pharmaceutical products                                | 100%                  |
| 21.2              | Manufacture of pharmaceutical preparations                                  | 100%                  |

| Creative industries |   |      |
|---------------------|---|------|
| 73.11               | Advertising agencies  | 100% |
| 73.12               | Media representation  | 100% |
| 71.11               | Architectural activities  | 100% |
| 90.03               | Artistic creation   | 70%  |
| 47.78/1             | Retail sale in commercial art galleries                             | 100% |
| 31.09               | Manufacture of other furniture                                      | 100% |
| 16.29               | Manufacture of other wood products                                  | 30%  |
| 32.12               | Manufacture of jewellery and related products                       | 100% |
| 32.13               | Manufacture of imitation jewellery and related articles             | 100% |
| 23.41               | Manufacture of ceramic household and ornamental articles            | 35%  |
| 23.49               | Manufacture of other ceramic products                               | 35%  |
| 23.13               | Manufacture of hollow glass   | 15%  |
| 23.19               | Manufacture of other glass  | 15%  |
| 47.79/1             | Retail sale of antiques and antique books                           | 100% |
| 95.24               | Repair of furniture and home furnishings                            | 100% |
| 13                  | Manufacture of textiles   | 25%  |
| 14                  | Manufacture of wearing apparel                                      | 20%  |
| 15                  | Manufacture of leather and related products                         | 20%  |
| 74.1                | Specialised design activities                                       | 25%  |
| 71.12/1             | Engineering design activities for industrial process and production | 100% |
| 74.1                | Specialised design activities                                       | 75%  |
| 90.01               | Performing arts   | 100% |
| 90.02               | Support activities to performing arts                               | 100% |

|         |  |      |
|---------|--|------|
| 90.04   | Operation of arts facilities   | 100% |
| 78.10/1 | Motion picture, television and other theatrical casting  | 100% |
| 59.2    | Sound recording and publishing activities  | 100% |
| 18.20/1 | Reproduction of sound recording  | 100% |
| 32.2    | Manufacture of musical instruments   | 100% |
| 74.20/1 | Portrait photographic activities   | 100% |
| 74.20/2 | Other specialist photography (not including portrait photography)  | 100% |
| 74.20/9 | Other photographic activities (not including portrait and other specialist photography and film processing) n.e.c. | 100% |
| 18.20/2 | Reproduction of video recording  | 100% |
| 59.11/1 | Motion picture production activities   | 100% |
| 59.11/2 | Video production activities  | 100% |
| 59.12   | Motion picture, video and television programme post-production activities  | 25%  |
| 59.13/1 | Motion picture distribution activities   | 100% |
| 59.13/2 | Video distribution activities  | 100% |
| 59.14   | Motion picture projection activities   | 100% |
| 58.21   | Publishing of computer games   | 100% |
| 62.01/1 | Ready-made interactive leisure and entertainment software development  | 100% |
| 59.11/3 | Television programme production activities   | 100% |
| 59.13/3 | Television programme distribution activities   | 100% |
| 59.12   | Motion picture, video and television programme post-production activities  | 75%  |
| 60.1    | Radio broadcasting   | 100% |
| 60.2    | Television programming and broadcasting activities   | 100% |
| 90.03   | Artistic creation  | 30%  |
| 58.11   | Book publishing  | 100% |

|         |  |      |
|---------|--|------|
| 58.13   | Publishing of newspapers                   | 100% |
| 58.14   | Publishing of journals and periodicals     | 100% |
| 58.19   | Other publishing activities                | 100% |
| 18.11   | Printing of newspapers                     | 100% |
| 18.129  | Other printing (not labels)                | 100% |
| 18.13   | Pre press and media services               | 100% |
| 63.91   | News agency activities                     | 100% |
| 91.01   | Libraries and archive activities           | 100% |
| 58.29   | Other software publishing                  | 100% |
| 62.01/2 | Business and domestic software development | 100% |
| 62.02   | Computer consultancy activities            | 100% |
| 85.52   | Cultural Education                         | 100% |

| Construction |  |     |
|--------------|--|-----|
| 02.2         | Logging  | 20% |
| 08.11        | Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate   | 70% |
| 08.12        | Operation of gravel and sand pits; mining of clays and kaolin                    | 70% |
| 16.23        | Manufacture of other builders' carpentry and joinery                             | 40% |
| 20.30/1      | Manufacture of paints, varnishes and similar coatings, mastics and sealants      | 25% |
| 20.30/2      | Manufacture of printing ink  | 25% |
| 22.11        | Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres | 20% |
| 22.19        | Manufacture of other rubber products   | 20% |
| 22.23        | Manufacture of builders' ware of plastic   | 35% |
| 23.32        | Manufacture of bricks, tiles and construction products, in baked clay            | 85% |
| 23.41        | Manufacture of ceramic household and ornamental articles                         | 60% |
| 23.42        | Manufacture of ceramic sanitary fixtures   | 60% |
| 23.43        | Manufacture of ceramic insulators and insulating fittings                        | 60% |
| 23.44        | Manufacture of other technical ceramic products                                  | 60% |
| 23.49        | Manufacture of other ceramic products  | 60% |
| 23.51        | Manufacture of cement  | 25% |
| 23.52        | Manufacture of lime and plaster  | 25% |
| 23.61        | Manufacture of concrete products for construction purposes                       | 90% |
| 23.62        | Manufacture of plaster products for construction purposes                        | 90% |
| 23.63        | Manufacture of ready-mixed concrete  | 90% |
| 23.64        | Manufacture of mortars   | 90% |
| 23.65        | Manufacture of fibre cement  | 90% |
| 23.69        | Manufacture of other articles of concrete, plaster and cement                    | 90% |



|         |   |      |
|---------|---|------|
| 25.11   | Manufacture of metal structures and parts of structures                   | 60%  |
| 25.12   | Manufacture of doors and windows of metal                                 | 60%  |
| 25.21   | Manufacture of central heating radiators and boilers                      | 40%  |
| 25.29   | Manufacture of other tanks, reservoirs and containers of metal            | 40%  |
| 25.3    | Manufacture of steam generators, except central heating hot water boilers | 40%  |
| 26.11   | Manufacture of electronic components                                      | 35%  |
| 41.10   | Development of building projects  | 100% |
| 41.20/1 | Construction of commercial buildings                                      | 100% |
| 41.20/2 | Construction of domestic buildings  | 100% |
| 42.11   | Construction of roads and motorways                                       | 100% |
| 42.12   | Construction of railways and underground railways                         | 100% |
| 42.13   | Construction of bridges and tunnels                                       | 100% |
| 42.21   | Construction of utility projects for fluids                               | 100% |
| 42.22   | Construction of utility projects for electricity and telecommunications   | 100% |
| 42.91   | Construction of water projects  | 100% |
| 42.99   | Construction of other civil engineering projects n.e.c.                   | 100% |
| 43.11   | Demolition  | 100% |
| 43.12   | Site preparation  | 100% |
| 43.13   | Test drilling and boring  | 100% |
| 43.21   | Electrical installation   | 100% |
| 43.22   | Plumbing, heat and air-conditioning installation                          | 100% |
| 43.29   | Other construction installation   | 100% |
| 43.31   | Plastering  | 100% |
| 43.32   | Joinery installation  | 100% |

|         |   |      |
|---------|---|------|
| 46.73   | Wholesale of wood, construction materials and sanitary equipment  | 50%  |
| 71.11/1 | Architectural activities  | 100% |
| 71.11/2 | Urban planning and landscape architectural activities   | 50%  |
| 71.12/1 | Engineering design activities for industrial process and production   | 50%  |
| 71.12/2 | Engineering related scientific and technical consulting activities  | 50%  |
| 71.12/9 | Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities) | 50%  |
| 74.90/2 | Quantity surveying activities   | 100% |

| Energy  |  |      |
|---------|--|------|
| 05      | Mining of coal and lignite   | 100% |
| 06      | Extraction of crude petroleum and natural gas                      | 100% |
| 09      | Mining support service activities                                  | 100% |
| 19      | Manufacture of coke and refined petroleum products                 | 100% |
| 20.14   | Manufacture of other organic basic chemicals                       | 100% |
| 35      | Electricity, gas, steam and air conditioning supply                | 100% |
| 36      | Water collection, treatment and supply                             | 100% |
| 38.22   | Treatment and disposal of hazardous waste                          | 100% |
| 71.12/2 | Engineering related scientific and technical consulting activities | 100% |
| 74.90/1 | Environmental consulting activities                                | 100% |

| Engineering |   |      |
|-------------|---|------|
| 24          | Manufacture of basic metals   | 100% |
| 25          | Manufacture of fabricated metal products, except machinery and equipment        | 100% |
| 26          | Manufacture of computer, electronic and optical products                        | 100% |
| 27          | Manufacture of electrical equipment   | 100% |
| 28          | Manufacture of machinery and equipment n.e.c.                                   | 100% |
| 29          | Manufacture of motor vehicles, trailers and semi-trailers                       | 100% |
| 30          | Manufacture of other transport equipment  | 100% |
| 33          | Repair and installation of machinery and equipment                              | 100% |
| 71          | Architectural and engineering activities; technical testing and analysis        | 100% |
| 72.19       | Other research and experimental development on natural sciences and engineering | 100% |
| 13.94       | Manufacture of cordage, rope, twine and netting                                 | 100% |
| 38.31       | Dismantling of wrecks   | 100% |

| Food and Drink |  |      |
|----------------|--|------|
| 01             | Crop and animal production, hunting and related service activities | 100% |
| 03             | Fishing and aquaculture  | 100% |
| 10             | Manufacture of food products                                       | 100% |
| 11             | Manufacture of beverages   | 100% |

| of which, Primary production |  |      |
|------------------------------|--|------|
| 01                           | Crop and animal production, hunting and related service activities | 100% |
| 03                           | Fishing and aquaculture  | 100% |

| of which, Manufacturing |                              |      |
|-------------------------|------------------------------|------|
| 10                      | Manufacture of food products | 100% |
| 11                      | Manufacture of beverages     | 100% |

| Health and Social Care |  |      |
|------------------------|--|------|
| 86.1                   | Hospital activities  | 100% |
| 86.21                  | General medical practice activities  | 100% |
| 86.22                  | Specialist medical practice activities   | 100% |
| 86.23                  | Dental practice activities   | 100% |
| 86.9                   | Other human health activities  | 100% |
| 87.1                   | Residential nursing care activities  | 100% |
| 87.2                   | Residential care activities for learning disabilities, mental health and substance abuse | 100% |
| 87.3                   | Residential care activities for the elderly and disabled                                 | 100% |
| 87.9                   | Other residential care activities  | 100% |
| 88.1                   | Social work activities without accommodation for the elderly and disabled                | 100% |
| 88.91                  | Child day-care activities  | 100% |
| 88.99                  | Other social work activities without accommodation n.e.c.                                | 100% |

| of which, Social care |  |      |
|-----------------------|--|------|
| 87.1                  | Residential nursing care activities  | 100% |
| 87.2                  | Residential care activities for learning disabilities, mental health and substance abuse | 100% |
| 87.3                  | Residential care activities for the elderly and disabled                                 | 100% |
| 87.9                  | Other residential care activities  | 100% |
| 88.1                  | Social work activities without accommodation for the elderly and disabled                | 100% |
| 88.91                 | Child day-care activities  | 100% |
| 88.99                 | Other social work activities without accommodation n.e.c.                                | 100% |

|                           |                           |      |
|---------------------------|---------------------------|------|
| Child day-care activities |                           |      |
| 85.1                      | Pre-primary education     | 100% |
| 88.91                     | Child day-care activities | 100% |

| ICT/Digital |  |      |
|-------------|--|------|
| 18.20/3     | Reproduction of computer media                               | 100% |
| 26.11       | Manufacture of electronic components                         | 100% |
| 26.12       | Manufacture of loaded electronic boards                      | 100% |
| 26.20       | Manufacture of computers and peripheral equipment            | 100% |
| 26.30       | Manufacture of communication equipment                       | 100% |
| 26.40       | Manufacture of consumer electronics                          | 100% |
| 26.8        | Manufacture of magnetic and optical media                    | 100% |
| 27.31       | Manufacture of fibre optic cables                            | 100% |
| 58.21       | Publishing of computer games                                 | 100% |
| 58.29       | Other software publishing                                    | 100% |
| 61.1        | Wired telecommunications activities                          | 100% |
| 61.2        | Wireless telecommunications activities                       | 100% |
| 61.3        | Satellite telecommunications activities                      | 100% |
| 61.9        | Other telecommunications activities                          | 100% |
| 62.01       | Computer programming activities                              | 100% |
| 62.02       | Computer consultancy activities                              | 100% |
| 62.03       | Computer facilities management activities                    | 100% |
| 62.09       | Other information technology and computer service activities | 100% |
| 63.11       | Data processing, hosting and related activities              | 100% |
| 63.12       | Web portals  | 100% |
| 63.99       | Other information service activities n.e.c.                  | 100% |
| 95.11       | Repair of computers and peripheral equipment                 | 100% |
| 95.12       | Repair of communication equipment                            | 100% |



| Life Sciences |   |      |
|---------------|---|------|
| 21            | Manufacture of basic pharmaceutical products and pharmaceutical preparations    | 100% |
| 26.6          | Manufacture of irradiation, electromedical and electrotherapeutic equipment     | 100% |
| 32.5          | Manufacture of medical and dental instruments and supplies                      | 100% |
| 72.11         | Research and experimental development on biotechnology                          | 100% |
| 72.19         | Other research and experimental development on natural sciences and engineering | 100% |

| ICT/Digital |  |      |
|-------------|--|------|
| 18.20/3     | Reproduction of computer media                               | 100% |
| 26.11       | Manufacture of electronic components                         | 100% |
| 26.12       | Manufacture of loaded electronic boards                      | 100% |
| 26.20       | Manufacture of computers and peripheral equipment            | 100% |
| 26.30       | Manufacture of communication equipment                       | 100% |
| 26.40       | Manufacture of consumer electronics                          | 100% |
| 26.8        | Manufacture of magnetic and optical media                    | 100% |
| 27.31       | Manufacture of fibre optic cables                            | 100% |
| 58.21       | Publishing of computer games                                 | 100% |
| 58.29       | Other software publishing                                    | 100% |
| 61.1        | Wired telecommunications activities                          | 100% |
| 61.2        | Wireless telecommunications activities                       | 100% |
| 61.3        | Satellite telecommunications activities                      | 100% |
| 61.9        | Other telecommunications activities                          | 100% |
| 62.01       | Computer programming activities                              | 100% |
| 62.02       | Computer consultancy activities                              | 100% |
| 62.03       | Computer facilities management activities                    | 100% |
| 62.09       | Other information technology and computer service activities | 100% |
| 63.11       | Data processing, hosting and related activities              | 100% |
| 63.12       | Web portals  | 100% |
| 63.99       | Other information service activities n.e.c.                  | 100% |
| 95.11       | Repair of computers and peripheral equipment                 | 100% |
| 95.12       | Repair of communication equipment                            | 100% |

| Life Sciences |   |      |
|---------------|---|------|
| 21            | Manufacture of basic pharmaceutical products and pharmaceutical preparations    | 100% |
| 26.6          | Manufacture of irradiation, electromedical and electrotherapeutic equipment     | 100% |
| 32.5          | Manufacture of medical and dental instruments and supplies                      | 100% |
| 72.11         | Research and experimental development on biotechnology                          | 100% |
| 72.19         | Other research and experimental development on natural sciences and engineering | 100% |

| Tourism |   |      |
|---------|---|------|
| 55.1    | Hotels and similar accommodation  | 100% |
| 55.2    | Holiday and other short-stay accommodation                                    | 100% |
| 55.3    | Camping grounds, recreational vehicle parks and trailer parks                 | 100% |
| 56.1    | Restaurants and mobile food service activities                                | 100% |
| 56.3    | Beverage serving activities   | 100% |
| 79.12   | Tour operator activities  | 100% |
| 79.9    | Other reservation service and related activities                              | 100% |
| 91.02   | Museum activities   | 100% |
| 91.03   | Operation of historical sites and buildings and similar visitor attractions   | 100% |
| 91.04   | Botanical and zoological gardens and nature reserve activities                | 100% |
| 93.11   | Operation of sports facilities  | 100% |
| 93.19/9 | Other sports activities (not including activities of racehorse owners) n.e.c. | 100% |
| 93.21   | Activities of amusement parks and theme parks                                 | 100% |
| 93.29   | Other amusement and recreation activities                                     | 100% |

