**Growth Sector Statistics Database – User Note**

**Introduction**

The growth sector statistics database provides economic statistics for the following industry sectors:

* Life Sciences
* Sustainable Tourism
* Creative Industries (including digital)
* Energy (including renewables)
* Financial & Business Services
* Food & Drink (including agriculture & fisheries)

The growth sector definitions are based on [Standard Industrial Classification (SIC) Codes 2007](https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007). This note summarises the SIC based approach to defining each of the growth sectors.

**Data available in each source**

[Full Growth Sector Database](https://www.gov.scot/publications/growth-sector-statistics/):

Data is provided for:

* Tables 1.1 to 1.4 (business counts from [Businesses in Scotland](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Tables 2.1 to 2.4 (data from [Scottish Annual Business Statistics](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Tables 2.5 to 2.6 (employment estimates from the [Business Register and Employment Survey](http://www.ons.gov.uk/ons/rel/bus-register/business-register-employment-survey/index.html))
* Table 3 (median weekly gross pay from [Annual Survey of Hours and Earnings](http://www.ons.gov.uk/ons/rel/ashe/annual-survey-of-hours-and-earnings/index.html))
* Table 4 (quarterly [Scottish Gross Domestic Product (GDP) Index](https://www.gov.scot/collections/economy-statistics/))
* Tables 5.1 to 5.5 (export data from [Export Statistics Scotland](https://www.gov.scot/collections/economy-statistics/))
* Table 6 (data from [Business Enterprise Research and Development](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Table 7.1 to 7.6 ([Business Demography](http://www.ons.gov.uk/ons/rel/bus-register/business-demography/index.html))

The Growth Sector definitions have been applied back in time as far as each data source allows so that there is not a step change in the economic statistics which would hinder time series analysis.

The tables include, where possible, the UK (or GB), Scotland, the six growth sector totals and the SIC codes making up these growth sectors (see next section of this note for further details on the definitions).

[Local Authority Area Database](http://www.gov.scot/Topics/Statistics/Browse/Business/Publications/GrowthSectors/LADatabase):

Data is provided for:

* Tables 1.1 to 1.2 and 3.1 to 3.2 (business counts from [Businesses in Scotland](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Tables 2.1 to 2.4 and 3.4 to 3.7 (data from [Scottish Annual Business Statistics](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Tables 2.5 & 3.3 (employment estimates from the [Business Register and Employment Survey](http://www.ons.gov.uk/ons/rel/bus-register/business-register-employment-survey/index.html))

The tables include, where possible, Scotland and the six growth sector totals by Local Authority Area.

[International Tourism Definition](http://www.gov.scot/Topics/Statistics/Browse/Business/Publications/GrowthSectors/TourismDatabase):

Data is provided for the International definition of the Tourism Industries for Scotland and the SIC codes making up this definition (see the section on Tourism Industries in this note for further details on this definition).

Data is provided for:

* Tables 1.1 to 1.4 (business counts from [Businesses in Scotland](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Tables 2.1 to 2.4 (data from [Scottish Annual Business Statistics](https://www.gov.scot/collections/business-and-innovation-statistics/))
* Tables 2.5 to 2.6 (employment estimates from the [Business Register and Employment Survey](http://www.ons.gov.uk/ons/rel/bus-register/business-register-employment-survey/index.html))
* Table 3 (median weekly gross pay from [Annual Survey of Hours and Earnings](http://www.ons.gov.uk/ons/rel/ashe/annual-survey-of-hours-and-earnings/index.html))
* Tables 4.1 to 4.3 (export data from [Export Statistics Scotland](https://www.gov.scot/collections/economy-statistics/))

[Life Sciences cluster](http://www.gov.scot/Topics/Statistics/Browse/Business/Publications/GrowthSectors/LifeSciencesSourcebook):

Data is provided for the Life Sciences cluster, derived from matching a Scottish Enterprise maintained database of companies to [Scottish Annual Business Statistics](https://www.gov.scot/collections/business-and-innovation-statistics/) and [Export Statistics Scotland](https://www.gov.scot/collections/economy-statistics/) (see the section on Life Sciences in this note for further details on this).

**Defining Growth Sectors**

SIC codes allow businesses to be classified by the type of economic activity in which they are mainly engaged. The Growth sectors are defined by SIC Codes as follows however, and as discussed below, these definitions are a best fit or proxy in some cases.

**Life Sciences**

The term Life Sciences reflects a wide range of activity including the discovery, research, development and manufacture of therapeutics; diagnostics; medical devices and platform technologies as well as the specialist suppliers of products and services necessary for these organisations to function. As such it is not possible to specifically define the industry in terms of SIC codes. However, a set of SIC codes (outlined below) can be used to track changes in part of the Scottish Life Sciences sector over time.

**Life Sciences**

SIC 21: Manufacture of basic pharmaceutical products and pharmaceutical preparations

SIC 26.6: Manufacture of irradiation, electromedical and electrotherapeutic equipment

SIC 32.5: Manufacture of medical and dental instruments and supplies

SIC 72.11: Research and experimental development on biotechnology

SIC 72.19: Other research and experimental development on natural sciences and engineering

A supplementary source for measuring the economic activity of the Life Sciences sector can be derived from a Scottish Enterprise maintained database of companies involved in research, product and technology development, services, and support within the Life Sciences sector.

Scottish Enterprise supplies the Scottish Government with its Life Sciences database each year so that estimates of turnover and GVA can be sourced by matching the Life Sciences database with financial data from Scottish Annual Business Statistics via a company matching exercise.

In addition to results from the company matching exercise described above, an overall employment figure in the Life Sciences Cluster is calculated by also adding staff in Higher Education Institutions (HEIs) sourced to Higher Education Statistics Agency.

This Life Sciences database has also been used to estimate the international exports value of Scotland's Life Sciences Cluster by identifying businesses in both the Life Sciences database and the Export Statistics Scotland data.

Tables summarising statistics from the different sources can be found in Life Sciences cluster workbook here:
[Growth sector statistics - gov.scot (www.gov.scot)](https://www.gov.scot/publications/growth-sector-statistics/)

**Sustainable Tourism**

Economic activity generated by tourism expenditure cannot be precisely captured using SIC Codes as tourism is a characteristic of demand rather than specific products or services. However, a number of industries within the service sector can be used to capture economic activity in a set of tourism-related industries – outlined below. Data based on this classification do not represent a direct measure of economic activity from tourism as part of the demand in these industries will be generated by non-tourists as well as tourists.

There is an international definition of the Tourism Industries, data for which are provided separately to allow comparisons between Scotland and other countries. However, the Scottish Government's preferred definition of the tourism-related industries for monitoring change in the Sustainable Tourism Growth Sector are available in the Growth Sector Statistics Database, using the SIC codes outlined below.

**Tourism-related Industries**

SIC 55.1: Hotels and similar accommodation

SIC 55.2: Holiday and other short-stay accommodation

SIC 55.3: Camping grounds, recreational vehicle parks and trailer parks

SIC 56.1: Restaurants and mobile food service activities

SIC 56.3: Beverage serving activities

SIC 79.12: Tour operator activities

SIC 79.9: Other reservation service and related activities

SIC 91.02: Museum activities

SIC 91.03: Operation of historical sites and buildings and similar visitor attractions

SIC 91.04: Botanical and zoological gardens and nature reserve activities

SIC 93.11: Operation of sports facilities

SIC 93.199: Other sports activities (not including activities of racehorse owners) nec

SIC 93.21 Activities of amusement parks and theme parks

SIC 93.29: Other amusement and recreation activities

The international definition of Tourism Industries is the same as that used by the Tourism Intelligence Unit at the Office for National Statistics, outlined in their [Supply Side of Tourism: The Geography of Tourism Employment Release](http://www.ons.gov.uk/ons/dcp171776_287932.pdf) (November 2012). The TIU definition is as follows:

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| --- |
| **The Tourism Industries at SIC2007 5 digit level** (Sources: Eurostat, OECD and UNWTO) |
| **International definition of the Tourism Industries** |
| **Industry** | **SIC 2007 code(s)** |
| Railway Passenger transport | 49100 |
| Road Passenger transport | 49320, 49390 |
| Water Passenger transport | 50100, 50300 |
| Air Passenger transport | 51101, 51102 |
| Accommodation for Visitors | 55100, 55201, 55202, 55209, 55300, 55900 |
|  |  |
| Travel agencies & other reservation services activities | 79110, 79120, 79901, 79909 |
| Food and beverage serving activities | 56101, 56102, 56103, 56210, 56290, 56301, 56302 |
| Transport Equipment Rental | 77110, 77341, 77351, |
| Sporting and recreational activities | 77210, 92000, 93110, 93199, 93210, 93290 |
| Country-specific tourism characteristic activities | 82301, 82302, 68202 |
| Cultural Activities | 90010, 90020, 90030, 90040, 91020, 91030, 91040 |
|  |  |

**Creative Industries**

On 28 June 2012, Creative Scotland, published the report “Economic Contribution Study: An Approach to the Economic Assessment of the Arts & Creative Industries in Scotland”, which is available here:

<http://www.creativescotland.com/sites/default/files/editor/ECS_-_Final_Report_June_2012.pdf>

The Scottish Government (SG) Creative Industries Growth Sector definition was informed by the Economic Contribution Study. However, there are some definitional differences between the SG Growth Sector definition and the Creative Scotland economic contribution study definition, outlined below:

* For the Growth Sector definition ‘SIC 74.1: Specialised design activities’ is split between “Fashion and textiles” and “Design”. Whereas for the economic contribution study definition, ‘SIC 74.1: Specialised design activities’ is split between “Architecture” and “Design”.
* For the Growth Sector definition, ‘SIC 78.101: Motion picture, television and other theatrical casting’ is included in the “Performing Arts” definition. The economic contribution study definition splits SIC 78.101 out between “Performing Arts”, “Film and Video” and “Radio and TV”.
* For the Growth Sector definition, ‘SIC 74.203: Film processing’ is not included in the “Photography” sector, but it is in the economic contribution study definition.
* For the Growth Sector definition ‘SIC 63.91: News agency activities’ is included in the “Writing and Publishing” group – this code is not included in the economic contribution study definition.
* For the Growth Sector definition, ‘SIC 18.121: Manufacture of printed labels’, ‘SIC 18.140: Binding and related services’, ‘SIC 58.120: Publishing of directories and mailing lists’ and ‘SIC 74.300: Translation and interpretation activities’ are not included in the “Writing and Publishing” group, but they are included in the economic contribution study definition.
* For the Growth Sector definition only ‘SIC 91.01: Libraries and archive activities’ is included under “Heritage”, whereas the economic contribution study definition includes SIC 91.01 but also ‘SIC 91.02: Museum activities’, ‘SIC 91.03: Operation of historical sites and buildings and similar visitor attractions’ and ‘SIC 91.04: Botanical and zoological gardens and nature reserve activities’. Codes 91.02 to 91.04 have not been included in the Creative Industries Growth Sector definition because they are already included in the Sustainable Tourism Growth Sector definition.
* For the Growth Sector definition, under “crafts”, SG have not included parts of SIC codes 13, 14 and 15 as these are already covered by “Fashion and textiles”.

The table in the ‘Creative Industries’ worksheet in the [Growth Sector Database](http://www.gov.scot/Topics/Statistics/Browse/Business/Publications/GrowthSectors/Database) provides detail on the SIC 2007 codes making up the Creative Industries definition:

SG analysts developed a consistent methodology to capture the creative element of the SIC codes and to share the SIC codes out across the domains and, using the Annual Population Survey.

To capture the creative jobs within the SIC codes, the overlap between the SIC and SOC (Standard Occupational Classification) codes for the occupations specific to the creative industries is examined. For example for ‘SIC 16.29: Manufacture of other wood products’, the percentage of jobs in the SOC codes ‘5315: Carpenters and joiners’, ‘5323: Painters and decorators’, ‘5492: Furniture makers, other craft woodworkers’ and ‘5493: Pattern makers (moulds)’ is allocated as the creative proportion of employment for this SIC code (30%). The table below shows the SIC/SOC overlaps and the proportion allocation:

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| --- | --- |
| SIC | SOC |
| SIC 16.29: Manufacture of other wood products (30%) | SOC 2000: 5315 Carpenters and joiners |
| SOC 2000: 5323 Painters and decorators |
| SOC 2000: 5492 Furntre mkr, other crft woodworkers |
| SOC 2000: 5493 Pattern makers (moulds) |
| SIC 14: Manufacture of wearing apparel (20%) and SIC 15: Manufacture of leather and related products (20%) | SOC 2000: 5411 Weavers and knitters |
| SOC 2000: 5413 Leather and related trades |
| SOC 2000: 5414 Tailors and dressmakers |
| SOC 2000: 5419 Text, garment & related trades nec. |
| SIC 23.13 Manufacture of hollow glass (15%) and SIC 23.19 Manufacture of other glass (15%) | SOC 2000: 5491 Glss & cermic mkr, decortr, finshr |
| SOC 2000: 5499 Hand craft occupations n.e.c. |
| SIC 23.41 Manufacture of ceramic household and ornamental articles (35%) and SIC 23.49 Manufacture of other ceramic products (35%) | SOC 2000: 5491 Glss & cermic mkr, decortr, finshr |
| SIC 13: Manufacture of textiles (25%) | SOC 2000: 5411 Weavers and knitters |
| SOC 2000: 5412 Upholsterers |
| SOC 2000: 5414 Tailors and dressmakers |
| SOC 2000: 5419 Text, garment & related trades nec. |
| SOC 2000: 5499 Hand craft occupations n.e.c. |

A similar approach is adopted to share the SIC codes across the domains. For example, the SOC code ‘3422: Product, Clothing and Related Designers’ covers 25% of ‘SIC 74.1: Specialised design activities’, so the Fashion and Textiles Domain is allocated 25% of the employment for this SIC code. The other 75% is allocated to the Design Domain. The table below shows the allocations for the other SIC codes:

|  |  |  |  |
| --- | --- | --- | --- |
| **SIC** | **SOC** | **Domain 1** | **Domain 2** |
| SIC 74.1: Specialised design activities | SOC 2000: 3422: Product, Clothing and Related Designers | Fashion and Textiles (25%) | Design (75%) |
| SIC 59.12: Motion picture, video and television programme post-production activities | SOC 2000: 3434 Photo. & audio-visual equip operats | Film and Video (25%) | Radio and TV (75%) |
| SIC 90.03: Artistic creation | SOC 2000: 3412 Authors, writers | Writing and Publishing (30%) | Visual Art (70%) |
| SOC 2000: 3431 Journalists, newsppr & period eds |

The creative industries are those industries that are based on individual creativity, skill and talent. They also include industries that have the potential to create wealth and jobs through developing intellectual property. It is important to note that there is a conceptual difference between measuring creative industries and creative jobs. The definition of creative industries allows identification of creative industries/businesses where products or services provided are identified to be creative in nature. Creativity can however also be a defining feature of a specific occupation or job rather than an end product or service.

For the financial data from Scottish Annual Business Statistics (turnover, GVA and labour costs) the Creative Industries is restricted to the private sector only - public corporations/nationalised bodies, central government and local authorities are excluded for all years for these variables.

Enterprise counts are provided for the Creative Industries subsectors – this is simply the proportion applied to the enterprise count for that SIC Code.

**Measuring the Computer Games Sector as at April 2013 – Historic Change**

Official employment and financial statistics for industry sectors are built up from data collected, from businesses, by the Office for National Statistics (ONS).

Every business that is VAT and/or PAYE registered in the UK is included in the Inter-Departmental Business Register (IDBR). The IDBR, maintained by the ONS, is used as the main sampling frame for ONS business surveys such as:

1. Annual Business Survey (ABS) – this is the source for detailed industry sector estimates of turnover, purchases, GVA, etc.

2. Business Register and Employment Survey (BRES) - this is the source for detailed industry sector estimates of employment.

Since moving from the old SIC 2003 codes to the new SIC 2007 codes, this has allowed the computer games industry to be specifically identified for the first time. The SIC 2007 codes for the computer games industry are:

* SIC 58.21: Publishing of computer games

This class includes:

–– publishing of computer games for all platforms

* SIC 62.01/1: Ready-made interactive leisure / entertainment software development

This subclass includes the development, production, supply and documentation of ready-made interactive leisure and entertainment software, such as games software, designed for publication by a different enterprise. A key component part of the software is audio-visual content with which the user interacts. The software can be published across any format, such as games consoles, the internet and mobile phones.

The Problem

In the past official statistics for the computer games industry (as defined by SIC 2007 58.21 and SIC 2007 62.011) were at odds with industry figures which, for example, estimate computer games company employment in Scotland at around 600 rather than 200.

Understanding and Addressing the Problem

To understand the problem Scottish Government (SG) analysts considered the list of developers/publishers available from the <http://scottishgames.net/>Company Directory (as at October 2012). This list of 77 companies was matched to the IDBR, using company name, trading name and location information. This resulted in 45 (58%) matches, and so 32 (42%) of the companies on the directory list could not be matched.

By considering information on websites and Companies House, the non-matched companies appeared to be either very small and/or very new. It can take time for enterprises to register for VAT/PAYE when they first start-up and so some of the non-matched companies may appear on the IDBR in time – but others, that never operate a PAYE scheme and never generate a turnover above the VAT threshold, may not.

The 45 companies, that could be matched to the IDBR, were then matched into the latest Business Register and Employment Survey (BRES) data for 2011. The table below shows that the matched companies account for 600 jobs – with 400 of these jobs falling under SIC codes outside the specific Computer Games codes (SIC 58.21 / SIC 62.011).

|  |  |
| --- | --- |
| **SIC 2007 codes** | **Number of jobs** |
| **Computer Games (SIC 58.21 / SIC 62.011)** | 200 |
| **SIC 62.02 (Computer Consultancy Activities) or** **SIC 62.09 (Other information technology and computed services activities)** | 300 |
| **Other SIC Codes[[1]](#footnote-1)** | 100 |
| **Totals** | **600** |

Source: BRES 2011 (ONS)

Figures are rounded to the nearest hundred.

ONS agreed to change all the matched companies falling under SIC 62.02 and SIC 62.09 to SIC 62.011 to bring them into the computer games industry. ONS made the changes to the IDBR, which means that all surveys sampled from the IDBR were updated to reflect this change too. And, therefore, when the BRES employment data for 2012 and revised data for 2011 was published in September 2013 the computer games industry estimates were revised, and the estimated employment was in the region of 500-600 jobs, which was line with industry estimates.

The changes also followed through to the GVA data from the SABS, published in August 2013, since the ABS is also sampled from the IDBR. The SABS figures for the computer games sector have been revised back to 2010 to take account of the methodological changes made on the back of the work with the industry. So there is a step change in the results for the sector with comparable figures for 2010/2011 but these are not comparable with the results for 2008/2009. In terms of the impact that this change had on the overall Creative Industries figures – the impact was small – the movers into the computer games came from codes 62.02 and 62.09. Those in code 62.02 were already being counted under software/electronic publishing, it would only be those in code 62.09 that would be new to the creative industries as a whole for 2010/2011.

**Energy**

The Energy Growth Sector is defined in terms of SIC Codes as follows:

**Energy**

SIC 05: Mining of coal and lignite

SIC 06: Extraction of crude petroleum and natural gas

SIC 09: Mining support service activities

SIC 19: Manufacture of coke and refined petroleum products

SIC 20.14: Manufacture of other organic based chemicals

SIC 35: Electricity, gas, steam and air conditioning supply

SIC 36: Water collection, treatment and supply

SIC 38.22: Treatment and disposal of hazardous waste

SIC 71.12/2 Engineering related scientific and technical consulting activities

SIC 74.90/1 Environmental consulting activities

Oil & Gas

There is an issue with regards to the treatment of SIC 6: Extraction of crude petroleum and natural gas. Estimates of GVA (from the Scottish Annual Business Statistics) and employment (from the Business Register and Employment Survey) are allocated to UK regions (including Scotland) according to the address at which the business is registered - onshore and offshore Oil & Gas extraction and activities are allocated in this way. GVA associated with off-shore activity, under UK regional accounts procedures, is normally allocated to a separate ‘Extra Regio’ category rather than allocated to a region within the UK.

A number of different approaches can be used to allocate a share of economic output to Scotland under various assumptions about the delineation of the oil and gas industry. The Government Expenditure and Revenue Scotland (GERS) report provides two illustrative approaches for estimating Scotland’s share of North Sea revenue[[2]](#footnote-2).

The Scottish Government also produces estimates of Scotland's GDP which includes the "Scottish Zone" of the North Sea (either by population share or geographical share), available GDP Quarterly National Accounts publication:

[Economy statistics - gov.scot (www.gov.scot)](https://www.gov.scot/collections/economy-statistics/)

Renewable Energy

The renewable energy industry is not assigned a Standard Industrial Classification (SIC) code and therefore is not identified as a separate sector of the economy for statistical reporting purposes. While some portion of renewable energy related output and employment will be captured in other energy sectors, for example large electricity generators based in Scotland will have a renewable energy division, other activities focussed on servicing the sector will be categorised under the core function of the business, for example, construction, manufacturing or business services.

**Financial and Business Services**

The Financial and Business Service Growth Sector is defined, in terms of SIC Codes, as follows:

**Financial and Business Services**

SIC 64.1: Monetary intermediation

SIC 64.3: Trusts, funds and similar financial entities

SIC 64.9: Other financial service activities, except insurance and pension funding

SIC 65: Insurance, reinsurance and pension funding, except compulsory social security

SIC 66: Activities auxiliary to financial services and insurance activities

SIC 69.1: Legal activities

SIC 69.2: Accounting, bookkeeping and auditing activities; tax consultancy

SIC 70.2: Management consultancy activities

SIC 71.129: Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)

SIC 73.2: Market research and public opinion polling

SIC 74.3: Translation and interpretation activities

SIC 78.109: Activities of employment placement agencies (other than motion picture, television and other theatrical casting) n.e.c.

SIC 78.3: Other human resources provision

SIC 82.1: Office administrative and support activities

SIC 82.2: Activities of call centres

SIC 82.3: Organisation of conventions and trade shows

SIC 82.91: Activities of collection agencies and credit bureaus

SIC 82.99: Other business support service activities n.e.c.

The coverage of the financial element of Scottish Annual Business Statistics (which provides estimates of turnover, GVA and labour costs) does not extend to all of the Financial sub-sectors. None of SIC 64.1: Monetary intermediation, SIC 64.3: Trusts, funds and similar financial entities and SIC 66: Activities auxiliary to financial services and insurance activities are covered in ABS. Scotland level ABS data for SIC 65.1 and SIC 65.2 (Insurance and Reinsurance) was previously published in the Growth Sector database but was removed in April 2013. The reason for the removal of this data is that the validation of data returns for 2011 highlighted that a small number of businesses within the insurance sector were returning global figures rather than UK only.

**Food and Drink**

The Food and Drink Growth Sector is defined, in terms of SIC Codes, as follows:

**Food and Drink**

SIC 01: Crop and Animal Production, Hunting and Related Service Activities

SIC 03: Fishing and Aquaculture

SIC 10: Manufacture of Food Products

SIC 11: Manufacture of Beverages

Note the coverage of the Annual Business Survey does not extend to Agriculture. However, turnover, GVA and labour costs for Agriculture are included in the growth sectors statistics database, sourced from the [Economic Report on Scottish Agriculture](http://www.scotland.gov.uk/Publications/2012/06/6894/downloads). Similarly the Agriculture employment figures are sourced from the Agricultural Census.

1. The Other SIC codes covered by the matched companies include: SIC 46.18 (Agents specialised in the sale of other particular products), SIC 58.29 (Other software publishing), SIC 59.113 (Television programme production activities), SIC 62.012 (Business and domestic software development), SIC 74.1 (Specialised design activities) and SIC 85.59 (Other education nec). [↑](#footnote-ref-1)
2. *Government Expenditure and Revenue Scotland (GERS*), available at:

[Economy statistics - gov.scot (www.gov.scot)](https://www.gov.scot/collections/economy-statistics/) [↑](#footnote-ref-2)