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Producing indicative allocations for Community Led Local Development funding in Scotland (2022-23)

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Background and purpose of document

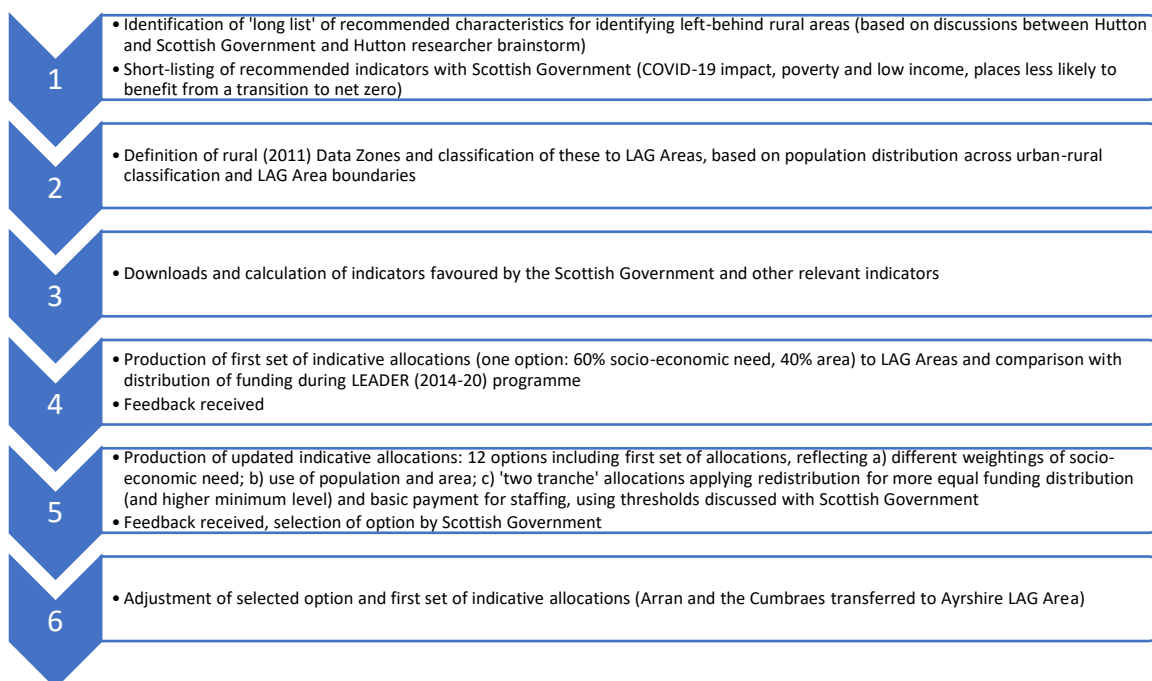
This note provides a short summary of analysis which was undertaken at the James Hutton Institute to distribute funding (£11.6m in total, £7.6m of which was allocated by this analysis) which was made available for Community Led Local Development (CLLD) in 2022-23 in Scotland. In the 2014-20 period, LEADER funding was distributed to 21 Local Action Group (LAG) Areas¹ based on area (40%) and socio-economic need (60%). The latter was measured using the Socio-Economic Performance (SEP) Index², developed by Andrew Copus at the James Hutton Institute for small areas (Data Zones) in rural areas and small towns. The population-weighted average SEP Index for each LAG Area was used for funding distribution. However, the SEP Index was published in 2015 and is somewhat out of date, in terms of the age of data used and its structure, which uses an old version of the National Performance Framework. This updated analysis aimed to account for recent events and newly emerging regional patterns of socio-economic need.

This note presents a simplified and readable overview of the analysis. It accompanies a zip archive which contains data and code. The data analysis has also contributed to additional research within the 2022-27 Strategic Research Programme, within the Rural Futures Theme: however, only work relevant to the CLLD allocations is described here and is included within the other resources.

¹ Published map available at <https://www.ruralnetwork.scot/sites/default/files/documents/LEADER%202014-20%20-%20GIS%20-%20LDS%20-V9%20-%2003%20Feb%202016.pdf>

² Infographic available at [https://www.hutton.ac.uk/sites/default/files/files/SEP Index values \(2011\).pdf](https://www.hutton.ac.uk/sites/default/files/files/SEP%20Index%20values%20(2011).pdf)

Summary of key stages of workflow



Stage 1: Characteristics for identifying left-behind rural areas

A long list of characteristics which could be used to identify 'left behind' rural areas, and therefore form potential criteria for distributing CLLD funding across LAG Areas, was produced from a discussion between Hutton researchers and the Scottish Government, and a brainstorm among researchers in the Social, Economic and Geographical Sciences Department at the James Hutton Institute (both taking place in April 2022). A list of characteristics which could identify socio-economic need in rural areas was produced (Table 1). Recommendations were flagged based on those emphasised in the Hutton-Scottish Government discussion, or noted in other communications with the Scottish Government. These recommendations, and the characteristics emphasised previously, were based on consideration of data and indicators used, and analysis and outputs produced, as part of the 'Communities and Wellbeing' work package of the 2016-22 Strategic Research Programme, as well as awareness of other suitable data. Characteristics not flagged as recommended may reflect those where data availability is poorer, where more time was likely to be needed to clean and calculate indicators, where longer-term assessment of data was needed, or where indicators may correlate strongly with recommended characteristics. Following this, the discussion with the Scottish Government supported a focus on three recommended indicators on poverty, net zero, and COVID-19 impact, in order to assess socio-economic need.

Table 1: Long list of characteristics for identifying 'left behind' small areas, and short-listing of this.

Characteristic	Recommended by Hutton for use in funding allocation	Supported in discussion with the Scottish Government
Evidence of depopulation or a relatively weak population trend	✓	
Susceptibility to future depopulation, based on current population structure	✓	
COVID-19 impact, and recovery from the pandemic	✓	✓
Population sparsity	✓	
Poverty and low income: homelessness, food and fuel poverty, benefit claimant rates, educational support (e.g. free school meals) and healthcare activity	✓	✓
Places which are less likely to benefit from a transition to net zero	✓	✓
Low availability of housing, including affordable housing and mixed tenure housing	✓	
Low availability of superfast broadband	✓	
Low access to facilities and infrastructure which support community activities and resilience		
Types of community associated with longer-term disadvantages or challenges (e.g. remote coastal towns, outlying islands, places which have experienced industrial decline, coalfields)		
Low evidence of community engagement (e.g. activity by development trust(s) and community council(s), cultural activities (e.g. festivals), election turnout), low levels of satisfaction with services and trust in providers		
Poor access to services: e.g. health and social care, airports and ferries, post offices, public toilets, banks		
Places currently not included within the remit of enterprise agencies (e.g. Highlands and Islands Enterprise, South of Scotland Enterprise) or regional development schemes (e.g. Regional Growth Deals)		
Areas which have made few community-led applications for funding previously, and/or which have not received many grants		

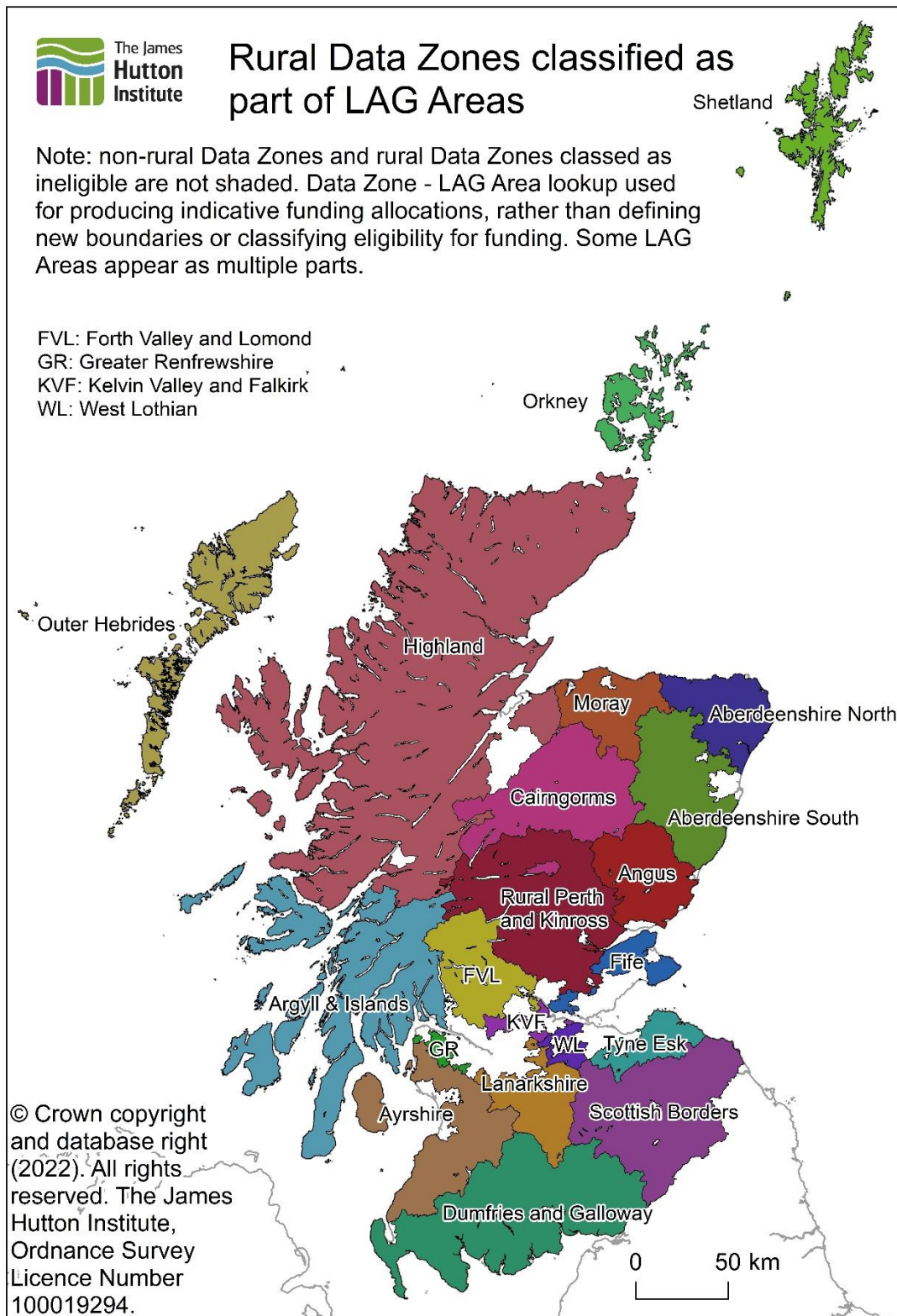
Stage 2: Defining rural Data Zones and classification to LAG Areas

The 21 LAG Areas defined and active in the 2014-20 LEADER programme are likely to have been based on older boundaries and definitions of urban and rural areas. In order to assess the distribution of socio-economic need throughout rural Scotland and across the LAG Areas, as well as rural populations and areas within each, it was necessary to link the LAG Area boundaries (provided by the Scottish Government's Geographic Information Science and Analysis Team) to 2011 Data Zones. This was done based on the postcode-level population distribution (postcode populations from the 2011 Census and postcode locations – grid references - were both sourced from the

Postcode Index published by National Records of Scotland³). Data Zones were classified as 'rural' if more than 50% of their (2011) population lived in rural areas and/or small towns, based on the Scottish Government's Urban Rural Classification (2016). Therefore, 2,065 Data Zones (out of 6,976) were considered rural. In each of these Data Zones, if any population were located in areas previously considered ineligible for CLLD funding, the Data Zone was also classed as an 'Ineligible Area' and not part of a LAG Area. Otherwise, where the population of a Data Zone was distributed across more than one LAG Area, the Data Zone was allocated to that with the highest population. The lookup between Data Zones and LAG Areas did not intend to define LAG Area boundaries or places which were eligible to receive CLLD funding: it was developed for the purposes of this analysis and producing indicative allocations.

³ Note: differences between the NRS Postcode index grid references and those of Census 2011 postcodes published elsewhere (e.g. NRS' 2011 Frozen Postcode Grid References) appear likely to be due to the use of Gridlink® for the vast majority of postcodes in NRS' Postcode Index - grid reference locations are applied to NRS data monthly (see <https://www.nrscotland.gov.uk/files/geography/gridlinkinformationnote.pdf>). The vast majority of the postcode centroids are updated via Gridlink, based on changes to the address distribution - however these and the 2011 Census Populations are used to calculate population statistics in this analysis.

Figure 1: Rural Data Zones classified as part of LAG Areas



Map includes spatial data sourced or derived from: OS Strategi®, GISCO (© EuroGraphics for the administrative boundaries), GI-SAT, Scottish Government.

Stage 3: Indicators used to identify socio-economic need

The three indicators which were used to define socio-economic need in rural areas were informed by recent research outputs, as were other recommended indicators. The three indicators were:

- **The estimated impact of net zero on local-level employment (estimated change in total employment over ten years (%))**, drawing on detailed residence-based employment data (Census 2011) for small areas and an industry-level employment scenario for Europe, created by Cedefop (2021⁴). Some Census data from England and Wales were used in calculations. A similar indicator was used within recent analysis of potential future populations in sparsely populated areas. In this analysis the indicator was calculated for Data Zones based on industry sector-level employment, rather than workplace skills or other variables.
- **The impact of Covid-19 on the local economy (difference between the maximum benefit claimant rate (April 2020-March 2022) and the mean claimant rate (April 2019-March 2020) (percentage points))**, calculated from ONS data. Following an indicator calculated as part of an index of resilience to COVID-19 impacts (see Currie et al., 2021⁵), changes to the benefit claimant rate (considering Universal Credit and Jobseeker's Allowance recipients, expressed as a proportion of the population aged 16-64), could indicate places which were particularly heavily affected by the pandemic. The publicly available claimant rate data used were published to one decimal place and are based on rounded figures.
- **Estimated median weekly household income (2018) (gross £)** (Scottish Government data). Although the Scottish Index of Multiple Deprivation is more suited to identifying urban concentrations of deprivation than disadvantage in rural areas (see Clelland, 2021⁶), low incomes and fuel poverty are significant issues. These recent estimates are therefore used to identify rural areas with relatively low incomes.

Socio-economic need was measured by identifying the most disadvantaged quartile of Data Zones in rural Scotland (across 2,065 Data Zones) for each of these three indicators. In each LAG Area, the total rural population (based on 2020 NRS Population Estimates) living in Data Zones experiencing relative disadvantage for one or more indicators was identified, and this formed the key metric of socio-economic need used in calculating indicative allocations.

Stages 4-6: Production of multiple indicative allocations, selection and adjustment

The first indicative allocations of £7.6m to the 21 LAG Areas in Scotland, which were sent to the Scottish Government, were based on the extent of socio-economic need in rural areas within the LAG Area (60%) and the overall geographical size of the rural area (40%). This weighting matches

⁴ Cedefop (2021). The green employment and skills transformation: insights from a European Green Deal skills forecast scenario. Luxembourg: Publications Office. <http://data.europa.eu/doi/10.2801/112540>

⁵ Currie, M.; McMorran, R.; Hopkins, J.; McKee, A.; Glass, J.; Wilson, R.; Meador, E.; Noble, C.; Craigie, M.; Piras, S.; Bruce, F.; Williams, A.; Pinker, A.; Jones, S.; Maynard, C.; Atterton, J. (2021) Understanding the response to Covid-19: exploring options for a resilient social and economic recovery in Scotland's rural and island communities. Report to the Scottish Government's Rural Economy and Communities Stakeholder Group, March 2021. Available at https://sefari.scot/sites/default/files/documents/Rural%20Covid%2019%20research%20-%20summary%20report%20%20FINAL%20March%202021_1.pdf

⁶ Clelland, D. (2021) In a straightjacket? Targeting deprivation in rural Scotland in the context of localism and austerity. *Journal of Rural Studies*, 83: 155-164. <https://doi.org/10.1016/j.jrurstud.2021.02.008>

that used to distribute funding (£77.4m) in the 2014-20 LEADER programme. In addition to total indicative funding for each LAG Area, the proportion of total funding received was calculated for each LAG Area, and the latter was compared with the respective figures for LEADER across 2014-20, to identify regions which would gain or lose out.

Feedback on these allocations included concern from some LAGs over low funding levels impacting on taking projects forward. Following this, the Scottish Government suggested a division of the £7.6m into project delivery (£6.4m) and staffing (£1.2m) and applying minimum and maximum ranges for these (for project delivery, £100,000-£1,000,000 was suggested by the Scottish Government, with a range of £55,000-£80,000 for staffing). Subsequently, a series of 12 indicative funding allocations, using the specifications in Table 2, were produced by the James Hutton Institute which:

- used different weightings for socio-economic need: 50% (four allocation options), 60% (four options) and 70% (four options)
- used total rural population for funding allocations (six options), as well as total rural area (six options): with different weightings of rural population and socio-economic need
- included a series of two tranche allocations (six options) with £6.4m for project delivery and £1.2m for staffing, aiming to achieve a more equal distribution of funding across the LAG Areas and a higher minimum level. A redistribution⁷ of project delivery funding was applied, ensuring that each LAG Area received a minimum of £100,000 and a maximum of £1,000,000 for project delivery. For the second tranche, each LAG Area receives a 'basic payment' of £57,142.86 for staffing, based on the £1.2m distributed equally. The other six options did not include these steps.

Funding allocations were calculated using the weightings as follows (*a* is the weighting applied to rural area or population, *b* is the weighting applied to socio-economic need).

$$\left(\left(\frac{\text{LAG Area:rural area or population}}{\text{All LAG Areas:total rural area or population}} \right) \times (a\% \text{ of } £7.6m) \right) + \left(\left(\frac{\text{LAG Area:population in areas of socio-economic need}}{\text{All LAG Areas:total population in areas of socio-economic need}} \right) \times (b\% \text{ of } £7.6m) \right)$$

⁷ Redistribution ensures that each LAG Area receives a minimum of £100,000 and a maximum of £1,000,000 for project delivery within their funding allocation (before the basic payment for staffing is added). LAG Areas outside these thresholds were either increased to £100,000 or decreased to £1,000,000, and then the remaining positive or negative 'balance' from the £6.4m was distributed evenly across all LAG Areas, except for LAGs where an even distribution of the balance to 21 LAG Areas would take them outside one of the thresholds.

Table 2: 12 options for indicative funding allocations.

Option	Description of funding distribution to LAG Areas
1	£7.6m distributed based on rural area (50%) and socio-economic need (50%) Redistribution ✗ Additional basic payment for staffing (£57,142.86) ✗
2	£7.6m distributed based on rural area (40%) and socio-economic need (60%) Redistribution ✗ Additional basic payment for staffing (£57,142.86) ✗
3	£7.6m distributed based on rural area (30%) and socio-economic need (70%) Redistribution ✗ Additional basic payment for staffing (£57,142.86) ✗
4	£7.6m distributed based on rural population (50%) and socio-economic need (50%) Redistribution ✗ Additional basic payment for staffing (£57,142.86) ✗
5	£7.6m distributed based on rural population (40%) and socio-economic need (60%) Redistribution ✗ Additional basic payment for staffing (£57,142.86) ✗
6	£7.6m distributed based on rural population (30%) and socio-economic need (70%) Redistribution ✗ Additional basic payment for staffing (£57,142.86) ✗
7	£6.4m distributed based on rural area (50%) and socio-economic need (50%) Redistribution ✓ Additional basic payment for staffing (£57,142.86) ✓
8	£6.4m distributed based on rural area (40%) and socio-economic need (60%) Redistribution ✓ Additional basic payment for staffing (£57,142.86) ✓
9	£6.4m distributed based on rural area (30%) and socio-economic need (70%) Redistribution ✓ Additional basic payment for staffing (£57,142.86) ✓
10	£6.4m distributed based on rural population (50%) and socio-economic need (50%) Redistribution ✓ Additional basic payment for staffing (£57,142.86) ✓
11	£6.4m distributed based on rural population (40%) and socio-economic need (60%) Redistribution ✓ Additional basic payment for staffing (£57,142.86) ✓
12	£6.4m distributed based on rural population (30%) and socio-economic need (70%) Redistribution ✓ Additional basic payment for staffing (£57,142.86) ✓

'rural area': the geographical area (ha) of rural areas; 'rural population': total rural population (2020); 'socio-economic need': rural population (2020) in areas of relative rural socio-economic need. Option 2 represents the first indicative allocation sent to the Scottish Government.

Following the sharing of the 12 indicative allocations⁸, the Scottish Government selected Option 7 out of the allocation options provided, with an adjustment made based on an additional rule which "applies a maximum increase of 1% from the original draft allocations shared on May 12th, which creates a further small saving that has been applied to areas based on their immediate need".

Following this, modified allocations for Options 2 and 7 were generated based on the boundaries of Argyll and Bute, with the Isle of Arran and the Cumbraes transferred to Ayrshire LAG Area. This affected nine Data Zones. These allocations (as provided to the Scottish Government) are shown in Table 3 below.

⁸ summarised in a spreadsheet which shows, for each option, the funding amount and the proportion of total funding to be allocated to each LAG Area, and the difference between the latter figure and the proportion of LEADER funding (2014-20) received by each LAG Area (based on Scottish Government figures: these summaries are not included in this note).

Table 3: Final allocations (Options 2 and 7) for LAG Areas provided to the Scottish Government

LAG Area	Option 2		Option 7	
	£	%	£	%
Aberdeenshire North	433,503	5.70	394,296	5.19
Aberdeenshire South	601,147	7.91	530,694	6.98
Angus	262,123	3.45	278,469	3.66
Argyll & Islands	591,977	7.79	578,795	7.62
Ayrshire	620,297	8.16	543,698	7.15
Cairngorms	228,342	3.00	281,606	3.71
Dumfries and Galloway	726,947	9.57	665,492	8.76
Fife	270,295	3.56	264,306	3.48
Forth Valley and Lomond	171,432	2.26	213,746	2.81
Greater Renfrewshire	42,861	0.56	163,330	2.15
Highland	1,359,783	17.89	1,057,143	13.91
Kelvin Valley and Falkirk	72,989	0.96	163,330	2.15
Lanarkshire	277,259	3.65	282,826	3.72
Moray	289,782	3.81	292,405	3.85
Orkney	108,590	1.43	163,330	2.15
Outer Hebrides	211,017	2.78	255,806	3.37
Rural Perth and Kinross	411,739	5.42	427,202	5.62
Scottish Borders	506,670	6.67	487,275	6.41
Shetland	148,095	1.95	188,538	2.48
Tyne Esk	181,229	2.38	204,382	2.69
West Lothian	83,924	1.10	163,330	2.15

Allocations are given to the nearest £, % figures to 2 decimal places.

Acknowledgements

Indicators representing socio-economic need emerged from discussions with the Scottish Government, and a brainstorm and discussion of characteristics which could be used in funding allocation, involving social scientists at the James Hutton Institute (Tony Craig, Rachel Creaney, Margaret Currie, Jonathan Hopkins, Christina Noble, Simone Piras, Diana Valero, Ruth Wilson).

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Appendix: Software and datasets

Software used within analysis:

Esri ArcGIS Pro 2.7.1. Copyright © 2020 Esri Inc. All Rights Reserved

RStudio (© RStudio, Inc.), R (R Core Team, R Foundation for Statistical Computing), and the following packages within R:

R Core Team (2020). `_foreign`: Read Data Stored by 'Minitab', 'S', 'SAS', 'SPSS', 'Stata', 'Systat', 'Weka', 'dBase', ..._. R package version 0.8-81, <<https://CRAN.R-project.org/package=foreign>>.

Bivand R, Keitt T, Rowlingson B (2021). `_rgdal`: Bindings for the 'Geospatial' Data Abstraction Library_. R package version 1.5-23, <<https://CRAN.R-project.org/package=rgdal>>.

Bivand R, Rundel C (2021). `_rgeos`: Interface to Geometry Engine - Open Source ('GEOS')_. R package version 0.5-9, <<https://CRAN.R-project.org/package=rgeos>>.

Wickham H, Bryan J (2019). `_readxl`: Read Excel Files_. R package version 1.3.1, <<https://CRAN.R-project.org/package=readxl>>.

Wickham H, François R, Henry L, Müller K (2021). `_dplyr`: A Grammar of Data Manipulation_. R package version 1.0.6, <<https://CRAN.R-project.org/package=dplyr>>.

Data acknowledgements:

2022-1 Scottish Postcode Directory: Postcode Index. National Records of Scotland. Contains NRS data © Crown copyright and database right [2022]

2022-1 Scottish Postcode Directory: Geography metadata. National Records of Scotland. Contains NRS data © Crown copyright and database right [2022]

Local Action Group (LAG) Area boundaries. Data provided by Geographic Information Science and Analysis Team, Scottish Government.

Data Zone Boundaries 2011. GI-SAT (Geographic Information Science and Analysis Team), Scottish Government: Data Zone Boundaries 2011. Copyright Scottish Government, contains Ordnance Survey data © Crown copyright and database right (2022). [Simplified boundaries created using Esri ArcGIS Desktop 10.7.1 (Version: 10.7.1.11595) and Simplify Polygon (Cartography) tool]

Census 2011 (2011 census table data: SNS Data Zone 2011) Table QS605SC. National Records of Scotland © Crown copyright. Data supplied by National Records of Scotland

Cedefop (2021). The green employment and skills transformation: insights from a European Green Deal skills forecast scenario. Luxembourg: Publications Office.

<http://data.europa.eu/doi/10.2801/112540>

Eurostat: National accounts employment data by industry (up to NACE A*64) [nama_10_a64_e]. <https://bit.ly/3MFeWzg>

Census 2011: Table CT0144 - Occupation (full) by industry (full) (national) (Data: England and Wales). ONS Crown Copyright Reserved [from Nomis on 1 May 2022]

Local Level Household Income Estimates, Weekly, (£), Banded Income, 2018. Scottish Government (prepared by Heriot-Watt University/David Simmonds Consultancy).

Table 1a: Estimated population by sex, single year of age and 2011 Data Zone area, and council area: 30 June 2020. National Records of Scotland. © Crown Copyright 2021. Data supplied by National Records of Scotland.

Claimant count by sex and age (Age 16+, Claimant count). ONS Crown Copyright Reserved [from Nomis on 11 May 2022].

Claimant count by sex and age (Age 16+, Claimants as a proportion of residents aged 16-64). ONS Crown Copyright Reserved [from Nomis on 29 April 2022]

Data Zone Boundaries 2011. GI-SAT (Geographic Information Science and Analysis Team), Scottish Government: Data Zone Boundaries 2011. Copyright Scottish Government, contains Ordnance Survey data © Crown copyright and database right (2022)