Just Transition: Sustainable Decision-Making In A Time Of Economic Crises

Rural Scotland

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Contents

Acknowledgements

1 Executive Summary

This report communicates the findings of a 6-month research project exploring the just transition to net zero and the circular economy in rural Scotland.

The work was carried out by researchers at the University of the Highlands and Islands on behalf of Zero Waste Scotland.

The research comprised a narrative literature review and primary data collection through short surveys, qualitative interviews and focus groups. These methods were chosen to explore two main areas:

- How rural residents understand the concepts of the circular economy and the just transition to net zero.

- Factors informing rural residents' sustainable decision-making and the impacts of the cost of living crisis.

We used a social practices approach for understanding behaviours in their wider context; moving beyond individual, psychological models of behaviour.

A sample of adult participants was purposively generated from 'accessible rural' and 'remote rural' communities in Argyll, Moray and South Lanarkshire. Recruitment was based on seeking perspectives from as broad a demographic as possible, especially those of different income brackets, ages, genders and household types. A total of 40 individuals took part in the research.

The main findings were:

- Understanding of the circular economy is varied but largely underdeveloped among rural residents. Once explained, respondents were able to apply the concept to different areas of life such as food, travel and waste, but also recognised that there are many barriers to enacting the circular economy.

- Respondents were less aware of the concept of 'just transition' than 'net zero'. Once explained, there was a recognition that the just transition could have specific implications in terms of employment and poverty in Scotland, as well as Scotland's relationship with the rest of the world.

- Respondents were sceptical about Scottish Government targets around the circular economy and net zero, and would like to see greater consultation and engagement to ensure that targets are achievable.

- Respondents identified several key challenges and opportunities concerning how a circular

economy and just transition to net zero would be implemented. These were related to: encouraging behaviour change; the role of and need for education; generational differences; the cost of living crisis and poverty; the globalisation of the economy and consumerism; rural living and infrastructure.

Regarding the decision-making of rural residents amid the cost of living crisis, we found:

- Key factors informing behaviours related to consumption and travel were predominantly about cost, need and sustainability. These varied between respondents and communities in terms of their prominence and importance.

- The cost of living crisis impacted nearly everyone across a range of demographics and income brackets, with only a handful of people feeling unaffected. The main impacts were around reducing consumption and energy use and changing purchasing habits. The nature of these impacts varied, from people going without food, to people changing their holiday destinations due to financial pressures.

- Respondents were receiving some sources of local support, such as money from wind farms, to help cover energy costs. The level of support was not always considered to have a significant

mitigating impact on the increased cost of energy. Respondents were generally unaware of any national sources of help and support for improving sustainability or financial conditions in rural communities.

- Perceived barriers to making more sustainable choices in the individual lives of rural residents were related to: the limitations of public transport; cost factors; local produce availability; effort involved in behaviour change; habits and convenience; and a lack of knowledge and awareness. People were often willing to engage in changes but were unable to do so due to lack of public transport infrastructure and access to affordable local produce.

- Opportunities that emerged were around: coping strategies (including connecting with nature and forward planning); community/individual resilience and self-sufficiency (in relation to mental health support in the context of emerging from COVID lockdowns and dealing with bereavement and life transitions); improving wellbeing through sustainable living and business practices (including growing food locally, using strategies to reduce the amount purchased); and role models within communities who were motivating others and providing support and guidance.

The findings support key conclusions of a recent Zero Waste Scotland tracker survey stating that cost (as opposed to environmental concerns) is a key motivating factor during times of economic crisis. However, many respondents supported sustainability transitions, including approaches which comprised both individual and societal change, and challenging our culture of consumption.

The research helped to map changing patterns of consumption and travel in a cost of living crisis in Scotland, but was predominantly focused on people's perceptions in a few case study areas. Further in-depth research is needed to add greater nuance to place dynamics and rural infrastructures. There is also scope for more collaborative ways of working with rural communities, to enhance the role they in shaping future directions for the circular economy and the just transition to net zero.

Rural residents' sustainable decision-making

2 Introduction

The changes that are required to create a more sustainable society have been described as 'far-reaching and unprecedented'.[1] We must move towards a low-carbon, circular economy, and create societal transitions based on justice and equity.

In Scotland, policy and legislation on the circular economy and just transition are continually evolving, including the introduction of a new Circular Economy Bill in June 2023.[2]

The Scottish Government has committed to achieving net zero greenhouse gas emissions by 2045 and recognizes that this transition must be managed in a way that is fair and equitable for all, particularly for workers and communities that may be most affected by the transition.[3]

However, how people in Scotland interpret what is meant by a circular economy and by a just transition to net zero is unclear. Research was needed to determine whether the policy context and the language used is understood within communities.

This report was therefore commissioned by Zero Waste Scotland, a not-for-profit organisation with a national remit to implement the circular economy, and support the just transition to net zero.

Zero Waste Scotland worked in partnership with researchers from the University of the Highlands and Islands to carry out research in rural Scotland. Together we designed a project to answer two overarching research questions:

(1) How do rural resident understand the concepts of the circular economy and the just transition to net zero?

(2) How is rural residents' behaviour around sustainable decision-making affected in times of economic crisis?

This introduction chapter sets the scene for how we approached these questions by reviewing the existing research evidence.

Chapter 3 outlines the methodology that was used to gather perspectives from residents in rural Scotland.

The findings of the work are presented in Chapter 4, including quotes from participants to help illustrate the key themes.

Chapter 5 discusses the implications of the findings for research, policy and practice and Chapter 6 provides a conclusion for the overall report.

2.1 Research Context

In order to answer the two questions above, we conducted a narrative literature review to explore what is already known and how we can build on existing research. We outline

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[1] Abram, S. et al. (2022) 'Just Transition: A whole-systems approach to decarbonisation', Climate Policy, 22(8), pp. 1033–1049.

[2] https://www.gov.scot/news/circular-economy-bill-published/

[3] https://www.gov.scot/policies/climate-change/reducing-emissions/

briefly the existing knowledge regarding:

- How sustainability concepts are understood
- The link between attitudes and behaviours
- Defining sustainable behaviours
- The role of income and the impact of crises on people's behaviours

2.1.1 Understanding of concepts

Existing research studies have already identified some of the challenges associated with concepts like the circular economy and just transition generally. A key issue is the difficulty of defining these terms (see Boxes 1 and 2).

> "A circular economy is part of the solution to our global climate emergency - one in which products, services and systems are designed to maximise their value and minimise waste. It's an all-encompassing approach to life and business, where everything has value and nothing is wasted. In simple terms, it can be explained as 'make, use, remake' as opposed to 'make, use, dispose'."
>
> Box 1: Zero Waste Scotland Definition, Source:
> https://www.zerowastescotland.org.uk/resources/about-circular-economy

The circular economy is often considered to be 'ambiguous'[4] and its meaning can change depending on the context it is used, and who is using it.[5] Similarly meanings around the just transition can vary,[6] although it is commonly considered to relate to issues of justice and equity relevant to processes of change in society.[7]

> A Just Transition means greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind.
>
> Box 2: International Labour Organization Definition
>
> Source:
> https://www.ilo.org/global/topics/green-jobs/WCMS_824102/lang–en/index.htm

[4] Mihai, F.C. et al. (2021) 'Plastic Pollution, Waste Management Issues, and Circular Economy Opportunities in Rural Communities', Sustainability, 14(20), p. 20.

[5] Rödl, M.B. et al. (2022) Performing the circular economy: How an ambiguous discourse is managed and maintained through meetings. Journal of Cleaner Production, 36091), p. 132144.

[6] Wang, X. and Lo, K. (2021) 'Just transition: A conceptual review', Energy Research & Social Science, 82, p. 102291.

[7] Newell, P. and Mulvaney, D. (2013) 'The political economy of the "just transition"', The Geographical Journal, 179(2), pp. 132–140.

There are numerous research reviews outlining the different ways that the circular economy can be understood.[8,9,10,11,12,13,14,15] It is often said the circular economy is a 'business imperative' and more work is needed to deliver on social and environmental issues.[16] In Scotland studies often focus on the technical and industrial processes of implementing a circular economy,[17] rather than on the social dimensions.[18]

There are few studies globally concerning the perspectives of rural communities[19], and no studies have been focused on rural residents in Scotland. Researchers are calling for more focus on how communities understand the circular economy, not only for more successful implementation of initiatives, but to increase social inclusion and equity.[20]

[8] Kirchherr, J., Reike, D. and Hekkert, M. (2017) 'Conceptualizing the circular economy: An analysis of 114 definitions', Resources, Conservation and Recycling, 127, pp. 221–232.

[9] Arruda, E.H. et al. (2021) 'Circular economy: A brief literature review (2015–2020)', Sustainable Operations and Computers, 2, pp. 79–86.

[10] Corvellec, H., Stowell, A.F. and Johansson, N. (2022) 'Critiques of the circular economy', Journal of Industrial Ecology, 26(2), pp. 421–432.

[11] Geissdoerfer, M. et al. (2017) 'The Circular Economy – A new sustainability paradigm?', Journal of Cleaner Production, 143, pp. 757–768.

[12] Hart, J. and Pomponi, F. (2021) 'A Circular Economy: Where Will It Take Us?', Circular Economy and Sustainability, 1(1), pp. 127–141.

[13] Homrich, A.S. et al. (2018) 'The circular economy umbrella: Trends and gaps on integrating pathways', Journal of Cleaner Production, 175, pp. 525–543.

[14] Korhonen, J., Honkasalo, A. and Seppälä, J. (2018) 'Circular Economy: The Concept and its Limitations', Ecological Economics, 143, pp. 37–46.

[15] Winans, K., Kendall, A. and Deng, H. (2017) 'The history and current applications of the circular economy concept', Renewable and Sustainable Energy Reviews, 68, pp. 825–833.

[16] Hart, J. and Pomponi, F. (2021) 'A Circular Economy: Where Will It Take Us?', Circular Economy and Sustainability, 1(1), pp. 127–141. Available at: https://doi.org/10.1007/s43615-021-00013-4.

[17] For example: Wilson, L. (2015) 'The sustainable future of the Scottish textiles sector: challenges and opportunities of introducing a circular economy model', Textiles and Clothing Sustainability, 1(1), pp. 1–9. ; Salemdeeb, R. et al. (2022) 'Beyond recycling: An LCA-based decision-support tool to accelerate Scotland's transition to a circular economy', Resources, Conservation & Recycling Ad-vances, 13, p. 200069.

[18] Mies, A. and Gold, S. (2021) 'Mapping the social dimension of the circular economy', Journal of Cleaner Production, 321, p. 128960.

[19] Pinilla, G.J.V. (2022) 'Learning about the circular economy in rural communities of Cauca', Cuadernos de Administración, 38(73), p. 1f(12).

[20] Mies, A. and Gold, S. (2021) 'Mapping the social dimension of the circular economy', Journal of Cleaner Production, 321, p. 128960.

The just transition is a growing research and policy area globally, [21,22,23,24] including in Scotland, [25, 26,27] but similarly to the circular economy, there is a need to better understand the perspectives of residents including rural communities.

Given differences between rural and urban areas in any national context, researchers are also calling for a 'just transition' that accommodates rural perspectives in Scotland.[28]

2.2.2 Attitudes and behaviours

It is well recognised in research that there are often gaps between attitudes and behaviours. [29, 30, 31] Awareness does not always translate into concrete behaviours, and pro-environmental habits are an underexplored area.[32]

What we know from existing research of people's views of sustainability in Scotland, is that awareness is often limited to specific acts such as recycling[33], compared with the links between meat consumption and climate change.[34]

However, research outside Scotland does show awareness of concepts is not essential to carrying out sustainability practices. [35,36] Research shows that people may be motivated by practical or financial reasons rather than by environmental issues.

[21] Johansson, V. (2023) 'Just Transition as an Evolving Concept in International Climate Law', Journal of Environmental Law, 35(2), pp. 229–249.

[22] Abram, S. et al. (2022) 'Just Transition: A whole-systems approach to decarbonisation', Climate Policy, 22(8), pp. 1033–1049..

[23] Otlhogile, M. and Shirley, R. (2023) 'The evolving just transition: definitions, context, and practical insights for Africa', Environmental Research: Infrastructure and Sustainability, 3(1), p. 013001.

[24] Winkler, H. (2020) 'Towards a theory of just transition: A neo-Gramscian understanding of how to shift development pathways to zero poverty and zero carbon', Energy Research & Social Science, 70, p. 101789

[25] Krawchenko, T.A. and Gordon, M. (2022) 'Just Transitions for Oil and Gas Regions and the Role of Regional Development Policies', Energies, 15(13), p. 4834.

[26] Withouck, I. et al. (2023) 'Diving into a just transition: How are fisheries considered during the emergence of renewable energy production in Scottish waters?', Energy Research & Social Science, 101, p. 103135.

[27] Santos Ayllón, L.M. and Jenkins, K.E.H. (2023) 'Energy justice, Just Transitions and Scottish energy policy: A re-grounding of theory in policy practice', Energy Research & Social Science, 96, p. 102922.

[28] Markantoni, M. and Woolvin, M. (2015) The role of rural communities in the transition to a low-carbon Scotland, Local Environment, (20(2), pp.202-219.

[29] Blake, J. (1999) Overcoming the 'value-action gap' in environmental policy: Tensions be-tween national policy and local experience. Local Environment 4: 257–278.

[30] Davidson, S. et al. (2009) Scottish Environmental Attitudes and Behaviours Survey.

[31] von Borgstede, C., Andersson, M. and Johnsson, F. (2013) 'Public attitudes to climate change and carbon mitigation—Implications for energy-associated behaviours', Energy Policy, 57, pp. 182–193.)

[32] Linder, N. et al. (2022) 'Pro-environmental habits: An underexplored research agenda in sustainability science', Ambio, 51(3), pp. 546–556

[33] Roy, D., Verplanken B. & Griffin, C. (2015) Making Sense of Sustainability: Exploring the Subjective Meaning of Sustainable Consumption, Applied Environmental Education & Communication, 14:3, 187-195.

[34] Macdiarmid, J.I., Douglas, F. and Campbell, J. (2016) 'Eating like there's no tomorrow: Public awareness of the environmental impact of food and reluctance to eat less meat as part of a sustainable diet', Appetite, 96, pp. 487–493.

[35] Pinilla, G.J.V. (2022) 'Learning about the circular economy in rural communities of Cauca', Cuadernos de Administración, 38(73), p. 1f(12).

[36] Verplanken, B. (2018) 'Promoting Sustainability: Towards a Segmentation Model of Individual and Household Behaviour and Behaviour Change', Sustainable Development, 26(3), pp. 193–205.

However, people with pro-environmental attitudes (such as in relation to climate change), will for example also favour renewable energies and engage more in energy efficient behaviours.[37] In the UK there is evidence of the relationship between habitual ecological worrying and pro-environmental attitudes and behaviours.[38] In contrast, knowledge of a global challenge such as climate change can be seen as unrelated to daily living, and/or unchangeable, and therefore leading to inaction.[39]

We know that factors that motivate behaviours can change over time and depending on context.[40] Different conceptual models exist that try to explain the relationship between motivations and behaviours in regards to sustainability.[41] Often these focus on how people's habits can form and change over time. [42,43,44] Moving house, changing jobs, homeworking and retirement can be times where old habits are broken and new ones form.

Behaviour changes can occur more readily in certain areas of life too. Such as being unwilling to make changes to food consumption compared with other non-food behaviours.[45] People may make small changes around the home, but resist changes to leisure activities.[46] Often people may opt for 'easy' actions rather than those which demand more sacrifice.[47][48]

Recognising the complex link between attitudes and behaviours is important for researching how rural residents' behaviours are impacted by the cost of living crisis.

2.2.3 Defining sustainable behaviours

Defining what counts as 'sustainable behaviours' and decision-making can

[37] von Borgstede, C., Andersson, M. and Johnsson, F. (2013) 'Public attitudes to climate change and carbon mitigation—Implications for energy-associated behaviours', Energy Policy, 57, pp. 182–193.)

[38] Verplanken, B and Roy, D (2015) Consumer habits and sustainable consumption. in L Reisch & J Thogersen (eds), Handbook of Research on Sustainable Consumption. Elgar Original Reference, Edward Elgar Publishing Ltd, Cheltenham, pp. 243-253.

[39] Kittipongvises, S. and Mino, T. (2013) 'The Influence of Psychological Factors on Global Climate Change Perceptions Held by the Rural Citizens of Thailand', Ecopsychology, 5(2), pp. 126–135.

[40] Verplanken, B. (2018) 'Promoting Sustainability: Towards a Segmentation Model of Individual and Household Behaviour and Behaviour Change', Sustainable Development, 26(3), pp. 193–205.

[41] Verplanken, B. (2018) 'Promoting Sustainability: Towards a Segmentation Model of Individual and Household Behaviour and Behaviour Change', Sustainable Development, 26(3), pp. 193–205.

[42] Verplanken, B and Roy, D (2015) Consumer habits and sustainable consumption. in L Reisch & J Thogersen (eds), Handbook of Research on Sustainable Consumption. Elgar Original Reference, Edward Elgar Publishing Ltd, Cheltenham, pp. 243-253.

[43] Kurz, T. et al. (2015) 'Habitual behaviors or patterns of practice? Explaining and changing repetitive climate-relevant actions', WIREs Climate Change, 6(1), pp. 113–128.

[44] Burningham, K. et al. (2014) 'New motherhood: a moment of change in everyday shopping practices?', Young Consumers. Edited by D. Mary Jane Kehily and Dr Lydia Martens, 15(3), pp. 211–226.

[45] MacDiarmid et al. (n 23).

[46] Barr, S., Gilg, A. and Shaw, G. (2011) '"Helping People Make Better Choices": Exploring the behaviour change agenda for environmental sustainability', Applied Geography, 31(2), pp. 712–720.

[47] Davidson, S. et al. (2009) Scottish Environmental Attitudes and Behaviours Survey.

[48] von Borgstede, C., Andersson, M. and Johnsson, F. (2013) 'Public attitudes to climate change and carbon mitigation—Implications for energy-associated behaviours', Energy Policy, 57, pp. 182–193.

be difficult. However, there are some existing frameworks in policy that provide a guide.

Sustainable behaviours could be defined as behaviours that contribute towards the Sustainable Development Goals.[49] Examples of behaviours can be found in two UK policy frameworks: DEFRA's sustainable behaviours framework and the Sustainable Lifestyles Framework[50]; and the Scottish Government's Low Carbon Behaviours Framework.[51]

DEFRA's framework recognises there are many behaviours that contribute to sustainable living, and based on a review with input from representatives from various sectors, proposed nine headline behaviours.[52]

Key themes targeted in Scotland are broadly similar to the nine identified in a UK context – home energy, transport, food and consumption – which each have key behaviour areas. For this research, we considered all of these areas when asking rural residents about their behaviours and the impact of the costs of living crisis.

2.2.4 The influence of income and crisis on sustainable behaviours

A number of studies explore the relationship between income and sustainable behaviours. Income is usually seen as an important factor alongside attitudes,[53] but is not considered the main predictor of sustainable behaviours because consumption is seen as more complex and changeable. [54]

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[49] Verplanken, B. (2018) 'Promoting Sustainability: Towards a Segmentation Model of Individual and Household Behaviour and Behaviour Change', Sustainable Development, 26(3), pp. 193–205.
[50] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69277/pb13574-behaviours-report-080110.pdf
;https://www.sustainabilityexchange.ac.uk/files/defra_sustainable_lifestyles_framework.pdf
[51] https://www.gov.scot/publications/low-carbon-scotland-behaviours-framework/pages/9/
[52] The nine headline behaviours are: Ecoimproving homes; using energy and water efficiently; extending the life of things; cooking and managing a sustainable and healthier diet; choosing eco-products and services; travelling sustainably; setting up and using resources in your community; using and future-proofing outdoor spaces; being part of improving the environment.
[53] Michaelidou, N. and Hassan, L.M. (2010) 'Modeling the factors affecting rural consumers' purchase of organic and free-range produce: A case study of consumers' from the Island of Arran in Scotland, UK', Food Policy, 35(2), pp. 130–139.
[54] Guarín, A. and Scholz, I., (2015). 15. Consumers, the environment and the new global middle classes. Handbook of Ecological Economics, p.360.

Evidence shows for example that people across all income levels will buy local sustainable food to support rural community livelihoods.[55] It seems that pro-environmental behaviour change is more likely over the long term when people see this as meaningful[56], compared to changes driven by incentives, regulations or anxiety, which can be more temporary and prone to dissipate.[57]

However, none of these studies focus on periods of economic crisis, and we know little about how the cost of living crisis has affected people's behaviours and decision making in Scotland.

Studies of other crises and times of economic austerity give some indication of potential effects on consumption in the UK.[58] They caution that even where individuals might consume less due to economic downturns, this may not lead to sustainable consumption at a societal level. Similarly positive sustainability changes made during the COVID-19

pandemic may not translate into new habitual behaviours.[59]

However, research evidence also shows that communities in rural Scotland are proactively pursuing change to improve longer term community resilience and sustainability, such as through purchase of land, which can mitigate against negative effects of crises.[60]

In this research we are interested in both short-term responses to the cost of living crisis, or 'coping strategies' as they have been termed in relation to COVID-19,[61] and longer term strategies for sustainability in rural areas.

Considering the wider context is important, even though our focus is on rural residents' individual attitudes, behaviours and understandings. Existing research cautions against overemphasising the individual's ability to act without considering broader societal conditions including the global economy. [62, 63, 64]

[55] Seyfang, G. (2006) 'Ecological citizenship and sustainable consumption: Examining local organic food networks', Journal of Rural Studies, 22(4), pp. 383–395.

[56] Maiteny, P.T. (2002) 'Mind in the Gap: Summary of research exploring "inner" influences on pro-sustainability learning and behaviour', Environmental Education Research, 8(3), pp. 299–306.

[57] von Borgstede, C., Andersson, M. and Johnsson, F. (2013) 'Public attitudes to climate change and carbon mitigation—Implications for energy-associated behaviours', Energy Policy, 57, pp. 182–193.

[58] Hinton, E. and Redclift, M. (2009) 'Austerity and sufficiency: the changing politics of sustain-able consumption', Environment, Politics and Development Working Paper Series, 17.

[59] Phillipson, J. et al. (2020) 'The COVID-19 Pandemic and Its Implications for Rural Economies', Sustainability, 12(10), p. 3973.

[60] Rennie and Billing (n 21); Skerratt (n 5)

[61] Phillipson, J. et al. (2020) 'The COVID-19 Pandemic and Its Implications for Rural Economies', Sustainability, 12(10), p. 3973.

[62] Roy, J. and Pal, S., 2009. Lifestyles and climate change: link awaiting activation. Current Opinion in Environmental Sustainability, 1(2), pp.192-200.

[63] Huttunen, S. et al. (2021) 'Pluralising agency to understand behaviour change in sustainability transitions', Energy Research & Social Science, 76, p. 102067.

[64] Verplanken, B. (2018) 'Promoting Sustainability: Towards a Segmentation Model of Individual and Household Behaviour and Behaviour Change', Sustainable Development, 26(3), pp. 193–205.

Hence, rather than more individualistic behaviour change approaches, we used 'social practices' theory. This recognises how individuals are positioned in relation to societal institutions, infrastructures.[65, 66] It draws our attention to people's relationships with others in their household, and ideas about how life changes affect decisions and patterns of consumption across many areas e.g. food, energy, and transport. [67, 68]

2.2 Conclusion

There is a lack of research concerning how rural residents in Scotland understand the circular economy and a just transition to net zero as well as the ways that residents may enact these ideas in a rural setting.

There is a dearth of research on the current impacts of the cost of living crisis for rural residents in Scotland given the contemporary nature of this challenge. However, there are some studies that have explored the nexus of sustainable decision making and economic crisis and motivations towards pro-environmental behaviours.

We build on these studies to address knowledge gaps, and develop actionable insights for research, policy and practice.

65 Welch, D. (2017) 'Behaviour Change and Theories of Practice: Contributions, Limitations and Developments' Social Business, 7(3-4), pp. 241-261
66 Huttunen, S. et al. (2021) 'Pluralising agency to understand behaviour change in sustainability transitions', Energy Research & Social Science, 76, p. 102067.
67 Burningham, K. et al. (2014) 'New motherhood: a moment of change in everyday shopping practices?', Young Consumers. Edited by D. Mary Jane Kehily and Dr Lydia Martens, 15(3), pp. 211–226.
68 Shove, E., Pantzar, M. and Watson, M. (2012) The Dynamics of Social Practice: Everyday Life and How it Changes. Sage: London.

3 Methodology

3.1 Qualitative Research Design

To answer the research questions a qualitative research design was adopted which was well suited to the exploring the understandings and behaviours of rural residents in Scotland.

We used a case study design approach to select the rural areas from which to sample residents and used methods of focus groups and interviews to generate our data.

The methods were designed to allow for exploratory and open ended questions, to build a foundation of knowledge to information future research and interventions.

Our approach also allowed for more local and regional depth of understanding to support a broader national approach.

3.2 Case study selection

98% of the land mass of Scotland is rural and is home to 17% of the population.[69] We therefore had a large geographic area to choose from for the research.

To begin the selection process, we first considered the urban-rural classification which defines areas as shown in Table 1. We sought to identify one community in an accessible area, and one in a remote rural area.

This was part of the remit of the research as defined by Zero Waste Scotland, but it also recognises that rural areas are not homogeneous and there can be differences within, and between rural communities.

An initial sample of local authority areas was generated in order to compare the characteristics of different local communities. Our selection parameters included, but were not limited to: the Scottish Index of Multiple Deprivation scores for different areas; the total population; whether the area was considered over or under researched; and a pragmatic assessment of the convenience and accessibility of areas for members of the research team.

Following review and discussion with Zero Waste Scotland, we decided on two main communities: one remote rural in Argyll and one accessible rural in South Lanarkshire. During the course of the research a third area in Moray was added to supplement the focus groups in the two other areas where there were recruitment challenges. These areas are highlighted in Figure 1.

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[69] https://www.gov.scot/publications/rural-scotland-key-facts-2021/pages/2/

Table 1: Urban-Rural Classification

Class	Class Name	Description
1	Large urban areas	Settlements of 125,000 people and over.
2	Other urban areas	Settlements of 10,000 to 124,999 people.
3	Accessible small towns	Settlements of 3,000 to 9,999 people, and within a 30-minute drive time of a Settlement of 10,000 or more.
4	Remote small towns	Settlements of 3,000 to 9,999 people, and with a drive time of over 30 minutes but less than or equal to 60 minutes to a Settlement of 10,000 or more.
5	Very remote small towns	Settlements of 3,000 to 9,999 people, and with a drive time of over 60 minutes to a Settlement of 10,000 or more.
6	Accessible rural areas	Areas with a population of less than 3,000 people, and within a drive time of 30 minutes to a Settlement of 10,000 or more.
7	Remote rural areas	Areas with a population of less than 3,000 people, and with a drive time of over 30 minutes but less than or equal to 60 minutes to a Settlement of 10,000 or more.
8	Very remote rural areas	Areas with a population of less than 3,000 people, and with a drive time of over 60 minutes to a Settlement of 10,000 or more.
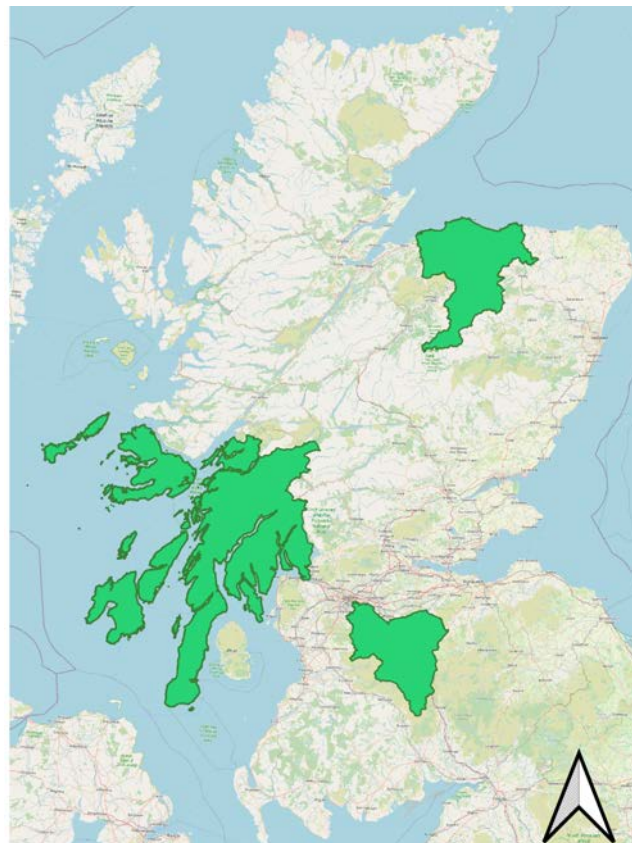
Figure 1 Case Study Local Authority Areas

Rural residents' sustainable decision-making

3.3 Methods design

Once the areas were chosen, we began the process of refining our methods. We aligned one method to each of the two areas of the research.

To study rural residents understanding of concepts, we used the focus group method. Focus groups enabled the possibility for deliberation and the production of collective understandings and debate among residents. It also allowed for the use of an 'information intervention' provided by Zero Waste Scotland. This took the form of a video about the circular economy which can be viewed [here](#), and a definition of the just transition to net zero (see Appendix 1).

The circular economy intervention was selected on the basis of accessibility of language, conciseness and simplicity of presentation. For the just transition to net zero, though the Scottish Government has a definition for a just transition, no single definition that combined the concepts of a just transition and net zero could be determined. Therefore, a definition was collaboratively generated specifically for this context by Zero Waste Scotland analysts, designed to define and combine definitions for just transition and net zero in accessible language.

To understand people's behaviours and the impacts of the cost of living crisis, we chose semi-structured interviews to allow for in-depth discussion with rural residents. These were best suited to discussing potentially sensitive topics including financial circumstances.

A focus group guide and an interview guide (see Appendices 1 and 2) were prepared with a range of questions to cover different themes of interest outlined in the research brief. These included areas of relevance to the circular economy such as: food; textiles; appliances; travel; and white goods and electrical appliances. The focus group and interview guides focused on asking open questions to enable exploratory discussion and new themes to emerge.

The demographic survey (see Appendix 3) was designed with closed questions to enable us to collect sample characteristics and data about recent purchases and behaviours for use during the interview discussion. The guide was developed collaboratively with Zero Waste Scotland and to align with a concurrent project carried out by the University of Dundee focusing on urban communities.

3.4 Selecting Participants

Once the methods were designed, we began the process of sampling rural residents for focus groups and interviews. Participants for focus groups and interviews were recruited from within the case study areas with support from local community organisations. Key individuals in each organisation supported the research by sharing flyers and information in local spaces and on social media.

Our sampling strategy was based on a combination of snowball,

convenience and purposeful approaches.[70] Snowball sampling is based on asking a small number of people to participate who then propose other participants. Convenience sampling is when participants are selected due to their availability by the researcher. Purposive sampling is a strategic way of choosing participants to ensure variety and key characteristics relevant to the research.

40 participants took part in the research, representing a broad range of demographic variables, including: age, gender, income, and household type. A breakdown of the sample can be seen in Appendix 4.

There were 28 female and 12 male participants, and the age range was 20-78. The majority of the sample either own their home outright or have a mortgage. The majority of the sample lived in two-person (20) or single person (14) adult households with 1-3 children (18).

3.5 Ethics

Ethical approval for the research was granted through the University of the Highlands and Islands general ethics committee. The main ethical issues were related to confidentiality and anonymity, informed consent, sensitive topics, data sharing between the partners and provision of a research incentive.

Participants were provided with participant information sheets and given an opportunity to ask any questions, before being asked to sign consent forms. They were able to withdraw their consent at any time up to the analysis of the data.

A data sharing agreement was agreed between UHI Perth and Zero Waste Scotland regarding the use and storage of data.

3.6 Data Analysis

Analysis of the data gathered was based on an abductive thematic approach.[71] This is commonly used in qualitative research, involving the noting of pre-defined areas of interest while allowing for new data to define themes, patterns and ideas. This exploratory approach to analysis was appropriate given the relatively underexplored area of research and informing future research and policy development.

QSR NVivo was used as a data management tool, and for coding of data into distinct themes. Two researchers were involved in the collection and analysis of data and use of NVivo supported the collation of transcripts for analysis. One researcher was predominantly based in Argyll, whilst the other was based in South Lanarkshire and Moray.

Each researcher analysed their own set of interview data separately, whilst the focus group data was

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[70] Bryman, A. (2012). Social Research Methods. 4th ed. Oxford: OUP.
[71] Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological (pp. 57–71)

analysed together. The aim of the analysis was to produce a set of themes that addressed the broader category of rural residents, rather than rich description of each case study area. However, the process of analysis, dialogue between the researchers helped to elucidate area differences and detail on these differences is included in the findings where significant.

3.7 Conclusion

The qualitative methodology of this research was the most suited to addressing the two main areas of interest outlined in the research brief. The use of focus groups and interviews allowed for the production of a rich data set covering a diverse sample of rural residents in Scotland.

The research was focused on a small number of rural areas as a way to recruit participants and allow for contextually specific discussions to emerge. The sample was generated with support from local community organisations.

The methods guides were produced in collaboration with Zero Waste Scotland and aimed to allow for exploratory themes to emerge. Similarly the process of data analysis was designed to produce a broad range of themes that could help support future research and information interventions in Scotland.

4 Findings

This chapter contains findings related to: rural residents' knowledge and interpretations of the circular economy and the just transition to net zero (focus group findings); and rural residents' sustainable decision-making and the cost of living crisis impacts (interview findings).

4.1 Understanding the Circular Economy

Respondents in focus groups shared their understanding of the circular economy:

- In South Lanarkshire, one participant, already part of a local 'circular economy' shop, had in-depth knowledge. Another described it as being a shift away from a 'disposable society'.

- Participants in Argyll described it as reusing and creating a local economy based on barter and time exchange and discussed wellbeing rather than profit motives. A more critical view was the idea of it being a 'green buzz phrase'.

- The Moray group mentioned moving away from the linear economy, recycling, and not being wasteful. Social reciprocity was mentioned as important, moving beyond ideas of individual gain to an economy where 'everybody profits'.

After watching the video on the circular economy, some participants said they found it engaging and informative, but there were questions and uncertainties. For example, what happens to items that cannot be recycled and where do recycled goods ultimately end up? Some cited stories of recycling being dumped in other countries, and questioned whether glass recycling is hugely beneficial.

Some participants had concerns about the impact on industry, does less manufacturing mean less jobs and employment? Another felt that the shift towards a circular economy was challenging because it meant convincing people to 'lower their living standards', linked in particular to the idea of not buying new and instead repairing.

Participants reflected on the ease of replacing goods compared with repairing in today's society. There was a sense of nostalgia across most groups about the more wasteful tendencies of the current times as compared with the past.

4.2 Understanding the Just Transition to Net Zero

Participants also discussed the just transition to net zero:

- In South Lanarkshire, a participant had heard the term due to applying for government funding. They criticised net zero as a 'tick box' exercise for local authorities. They argued of the need to balance economic growth and a just transition.

- In Argyll, some were familiar, while others were not, with varying understandings including linkage to 'people's livelihoods'

and income status, such as not having money to afford changes to more sustainable products and modes of transport.

- In Moray, there was little familiarity with the just transition, which was described as 'jargony' and not making sense. However, participants did describe ideas around climate injustice at a global level and ideas of 'doing consumption in a way that is equitable'. Net zero was recognised, however one participant expressed scepticism of carbon offsetting allowing damaging practices to continue, such as airlines planting trees.

After receiving a definition of the just transition to net zero:

- South Lanarkshire residents discussed fairness and the importance of 20-minute neighbourhoods in relation to travel and reducing carbon emissions. They also saw more opportunities for local employment.

- Argyll found the definition somewhat vague, 'a lot of noise' and 'aspirational'. Inequalities on a global level emerged as important, related to standards of living in Scotland compared to the rest of the world.

- Moray participants wanted a simpler, more accessible definition. They were unsure what this would mean in practice, but discussed affordability of renewable energies for home improvements

and travel, and agreed more government financial support would be needed to help people implement the transition. Finance for other countries was also supported.

4.3 Perceptions of National Policy and Targets

Some participants brought up national policies and targets related to the circular economy and net zero without prompting. Key points raised were:

- Questioning the realism and political will behind current circular economy and net zero targets.

- Participants in Argyll and South Lanarkshire felt that targets were often politically driven and lacked public and industry consultation.

- There was a perception that targets are already, and in future will be, backtracked on. Such as current landfill targets.

- Concerns about "greenwashing" by companies and challenges related to the prominence of the oil industry and transitioning to alternative energy resources.

- The need for national leadership because rural communities doing their 'wee bit' will not create real change

4.4 Key Challenges and Opportunities

A number of key challenges and opportunities around the circular economy and the just transition to net zero were identified.

4.4.1 Behaviour change

Rural residents agreed on the importance of encouraging behaviour change. In Argyll, influences on behaviour like celebrities and social media influencers were discussed. South Lanarkshire emphasised cultivating a positive mindset. For example, rather than thinking a 40% recycling rate is a negative figure, 'you should actually say wow, it's 40% because people like to follow their neighbours'. Moray considered potential methods for encouraging behaviour change, including legal enforcement, social unacceptability, and financial incentives.

4.4.2 Education

The role of, and need for education, to create a more circular economy was prominent in South Lanarkshire. Including on how to improve recycling, prevent food waste, and increase cooking skills. It was suggested that schools should teach an environmental sustainability higher. In Moray, the idea of holding workshops to give people opportunities to learn to sew and repair was raised, albeit with the recognition that people may struggle to have time to commit to such learning.

4.4.3 Generational differences

Generational differences was a strong theme in South Lanarkshire.

Participants felt younger people are learning more about sustainability at school and can help their parents to change.
Younger people being 'switched on' was felt to include greater interest in upcycling and second-hand clothing. The sense of generational differences was generally felt to be positive, excluding the overuse of mobile technologies that were described as creating a time poor generation.

4.4.4 Cost of living, poverty and inequality

The impact of the cost of living crisis, poverty and inequalities were raised by all groups. The key issues discussed were:

- The cost of the deposit return scheme in a context of people struggling to feed their families and heat their homes.

- How to encourage people to care about environmental matters, and to think longer term when they are struggling financially and living day to day.

- Shifting away from consumption at cheaper shops like Primark when this may be all that is affordable.

- The hidden poverty in rural areas of Scotland and the impact from COVID-19 and seasonality.

- The relative nature of poverty in Scotland compared with elsewhere.

There was a perception of a link between sustainability and income, however, focus group participants

were not usually sharing their own experience, but reflecting about others. People were aware locally of families struggling and of issues such as increased demand for second-hand children's clothes.

However, a general rise in reusing children's clothes was seen as positive for sustainability and reducing stigma around buying second hand. Compared for example with use of a foodbank which is a 'much more of a poverty issue'.

4.4.5 Globalisation and consumerism

The impacts of globalisation and consumerism were discussed in the following ways:

- In South Lanarkshire, concerns were raised about foreign companies monopolizing the circular economy, with a preference for supporting Scottish companies.

- The importance of eating locally-grown seasonal food and reducing food miles was emphasized, questioning the need for exotic fruits like pineapples.

- Globalization was seen as more of a barrier than an opportunity for a circular economy and a just transition.

- COVID-19 highlighted the vulnerabilities of a global economy, including food system fragility and consumerism linked to globalized convenience.

- In Argyll, challenges for local, sustainable businesses competing

with larger supermarkets were discussed.

- Some felt that unsustainable industries must go out of business, while others were sceptical of companies embracing sustainability solely for profit.

- Moray participants discussed the erosion of reciprocity in small communities and the need for a cultural shift toward sustainability.

- Concerns were raised about Scotland's resources being owned by other countries and communities rarely benefiting

- Some companies may resist change due to uncertainties, like the perception of recycled aggregates in construction.

4.4.6 Rural living

The rural setting was discussed as part of how people interpreted key challenges and opportunities for the circular economy and just transition to net zero. Participants noted key differences between urban and rural areas:

- South Lanarkshire discussed the challenges of recycling in urban areas due to limited space in tenement and high-rise buildings.

- Rural areas were seen as more affected by flytipping compared to cities.

- In rural areas, residents tend to use resources more efficiently due to travel inconvenience and distance to shops.

- Urban residents face challenges like the inability to install solar panels in communal spaces, limited on-street parking for electric vehicles, and lack of space for recycling food waste.

- Poverty was felt to be a more significant challenge in urban areas.

People also discussed some of the specifics around the infrastructure of rural areas:

- Concerns were raised in South Lanarkshire about small rural businesses struggling with "one-size-fits-all" policies like the deposit return scheme.

- Inadequate transport infrastructure, especially for electric cars, was a concern in both South Lanarkshire and Argyll.

- Some areas lacked infrastructure for composting and had poor soils for food growing.

- Lack of recycling infrastructure in council buildings and different recycling practices across councils were noted in South Lanarkshire and Moray.

- Communities felt they needed support and resources for new infrastructures to drive change.

- Participants mentioned feeling "time-poor" due to overconsumption of technology, which can be a barrier to sustainable practices. Larger societal shifts were seen as necessary to address this.

4.5 Rural Residents' Sustainable Decision-making

Findings from the qualitative interviews with rural residents in Argyll and South Lanarkshire are presented here. Common themes and variations across interviewees and areas are highlighted.

Before interview, participants completed a demographic survey, including questions about purchasing habits and travel.

On transport, findings show travel by car is the most common. Very few regularly used buses and none used the train due to lack of local stations. The main way people heat their homes is using gas and oil, followed by electric heating. A full summary of responses is presented in Appendix 3.

4.5.1 Factors Informing Consumption and Travel Decisions in South Lanarkshire and Argyll

In our interviews, we explored the factors that shape people's decisions regarding consumption and travel. The following key themes emerged.

4.5.1.1 Cost and Necessity

Cost played a significant role in decision-making for both regions. Respondents in South Lanarkshire were highly conscious of the cost of living, leading them to adopt practices such as seeking deals, shopping at larger supermarkets for perceived cost savings, opting for store-brand products, and reducing car usage due to high fuel costs.

Interestingly, some interviewees in South Lanarkshire mentioned the positive aspect of reshaping their decisions based on "need," emphasising the benefits of 'appreciating' things more and avoiding unnecessary purchases. This also extended to festive periods, where cost increases were viewed as an opportunity to cut back on overconsumption.

Furthermore, cost considerations were linked to avoiding wastage by purchasing the right amount of items and changing shopping habits, such as shopping online to prevent impulse buying. Respondents also displayed an increased willingness to shop around for better value, visiting different supermarkets to achieve this.

4.5.1.2 Brands and Quality

Changes in behaviour related to brands and quality were evident. Respondents in both regions mentioned switching to cheaper alternative brands, particularly favouring supermarket own-brand products. For clothing, people explored options like second-hand shopping platforms and charity shops to find branded items at lower prices. However, quality remained a key consideration, with some willing to pay more upfront for items they perceived as having better long-term value. The preference for new electrical goods was linked to concerns about warranties and functionality.

Consumption decisions also revolved around specific needs, including replacing broken appliances. Some

individuals opted for repairs, although most chose to buy new items. Renovations at home introduced additional dimensions such as aesthetics into the decision-making process.

4.5.1.3 Lifestyle Factors and Convenience

Lifestyle factors played a vital role in shaping decisions, particularly household size, having children, proximity to work, family, health, and leisure activities. In South Lanarkshire, cost considerations led to cutbacks on leisure activities with children, reduced dining out, and increased remote working. The lack of accessible public transport forced many to rely on cars.

Convenience was a recurring theme, influencing decisions based on established habits or patterns. Respondents acknowledged that convenience sometimes had to be sacrificed for cost-effectiveness, such as cancelling subscriptions for meal recipe deliveries. Some even changed habits like smoking and drinking to reduce costs.

Regarding travel, changes in circumstances, such as increased remote working, impacted travel decisions. While remote working reduced fuel costs, it raised concerns about home heating expenses. People were engaged a range of behaviours to monitor and reduce home energy use while working from home.

4.5.1.4 Supporting Local

Support for local businesses was less frequently mentioned as a factor

shaping consumption, but still significant. Some interviewees expressed a desire to support local businesses when possible, including butchers and bakers. However, they noted that it was not always cost-effective, and that local product availability was often limited.

In summary, cost considerations and lifestyle factors were pivotal in shaping consumption and travel decisions in both South Lanarkshire and Argyll. Sustainability concerns emerged as a more prominent factor in Argyll, where residents exhibited a greater focus on reducing unnecessary consumption, carbon emissions, and their environmental impact. Availability and functionality also influenced decision-making in Argyll, particularly in the context of food purchases, clothing, and white goods. For example, due to the location of the community, people rely more on freezing food, and certain products are not available for delivery.

Overall, these factors shed light on the nuanced and dynamics driving consumer choices in these areas.

4.5.2 Cost of Living Crisis

People were asked about changes to travel and consumption in the last 6 months. In South Lanarkshire, a handful of people said they had not made any changes, whilst for most others the key changes were related to:

- energy saving behaviours;
- cost cutting in all areas;

- changes of circumstance e.g. getting a new job, moving home, or changes in household composition;
- shopping for food differently;
- cutting back on clothes and selling second-hand as well as sometimes buying second-hand designer clothes.

In Argyll, around half of the interviewees said they had not made changes to their behaviour but were aware of price increases associated with the cost of living crisis. Those who had made changes were employing a range of strategies to manage finances. These changes were similar in nature to those in South Lanarkshire, predominantly concerning:

- reducing fuel costs;
- reducing food costs;
- no longer spending on non-essential items.

As introduced above, in South Lanarkshire and Argyll people are increasingly paying more attention to whether they 'need' something, which applies to everyday shopping and larger purchases such as appliances. People engaged in a range of activities to reduce costs during the crisis including:

- meal planning
- buying less variety of food
- avoiding expensive items e.g. nuts

Other interviewees also spoke about buying less variety of foods, and

avoiding more expensive items like nuts. One interviewee also reported only eating one meal a day and skipping meals as they cannot afford food:

> I have got down to the point where I'll be having one meal a day. I may get a bit of a meal at work. I'll have breakfast but will skip lunch and then might have a couple of rice crackers. I have got used to that now.

As well as changes to behaviour and decision-making, people were asked directly about the impact on their lives of the cost of living crisis.

In Argyll, the impact of hidden poverty and difficulty with affording food and bills was impacting on the health of people impacted. There was a feeling that things are significantly worse than at any previous stage in their lives, and that there is no opportunity to engage in things which make life worth living:

> It just feels like a lot of the things that umm I used to enjoy… it feels like some of the enjoyable things in life have just been stifled. You can find enjoyment in other things but there are a lot of things that have just been completely crippled. You just don't have that anymore.

This was particularly the case for middle aged respondents without children who were struggling to access support. In the Argyll sample there was an acknowledgment that food bank collections were taken to larger centre of population, leaving people locally having to be resourceful and find a way of surviving. One Argyll interviewee spoke about the cost of living crisis meaning they would not have been able to afford to eat if they had children. There was a sense of despair linked to the fact they reuse everything until it wears out, yet still are requiring support from their parents in their 40's. The financial pressures combined with worries about the environment were reported as having an impact on mental wellbeing, increasing stress and inducing a sense of hopelessness.

In South Lanarkshire, a handful of people reported that they felt they were not hugely impacted due to different reasons, and these individuals varied in their circumstance. For example, in a young single parent household with children, parental separation had reduced overall household costs limiting cost of living impacts. This was explained in relation to different approaches to consumption, with the remaining parent preferring frugality and describing her ex-partner as frequently indulging unnecessarily. It was also related to greater level of control over household budget.

A young, unemployed interviewee living alone said they felt they had

not been affected too badly. Apart from having energy costs double, they felt they were not living too differently than before. The interviewee explained pre-existing cost-saving behaviours in their lifestyle:

> I have always been conscious about switching lights off when I'm not in a room and all that sort of stuff anyway… I was doing all of that long before the cost of living stuff started… it just seemed like the right thing to do.

Finally, an older person living with their spouse, both retired, reported they were not affected by the cost of living crisis.

For the majority that did report they had been impacted, these were mostly around rising energy bills, fuel costs, food, and consumer price rises. People described how energy prices doubled in a short space of time, such as from £90 a month to £180 a month, or to fill an oil tank from £700 to £1400.

For those most impacted by the rising costs of energy, this has a direct effect on their decisions about how much to, and when to heat their home. Some people report trialling different approaches such as having heating on all the time on a lower setting, or having it come on for short bursts at a time. Others are more likely to avoid using the heating all together and just overall reducing the amount of use:

> We don't have our heating on as much, definitely cut back on that just because of the cost of oil. It's went through the roof, so we can't really afford to keep filling it up. So we've got to watch that as well, we don't have the heating on about a quarter of what we used to have. So it's quite tough.

Some people also report being no longer able to afford to run certain appliances such as tumble dryers which they would have used without concern in the past.

In terms of energy saving behaviours these are shown in Figure 2. The three main categories of changes relate to going without, limiting and monitoring use of energy, and adopting new technologies.

People describe the particulars of energy in a rural context where many households are relying on liquid gas,

> …the prices of energy just now, is the worst part of it to be honest. Before, I was on like a certain amount, maybe £40 a week and that was me actually paying a wee bit extra than I should have been so my heating would be on and you weren't sitting cold or that. And now I'm scared to put my heating on to be honest.

Going Without
- Not having baths
- Stopping the use of a log burner
- Putting extra layers on during the day instead of heating the home
- Only heating certain rooms

Energy Saving Behaviour Changes

Limiting and Monitoring Use
- Not boiling the kettle as often
- Using the oven less
- Monitoring use via smart meter and meter readings for specific appliances
- Doing less washing and only on specific days
- Switching off all plugs
- Shorter showering times
- Only heating when children are home
- Taking decives off standby
- Turning devices off when not in use

New Technologies
- Using LED bulbs
- Using an airfryer to reduce cooking
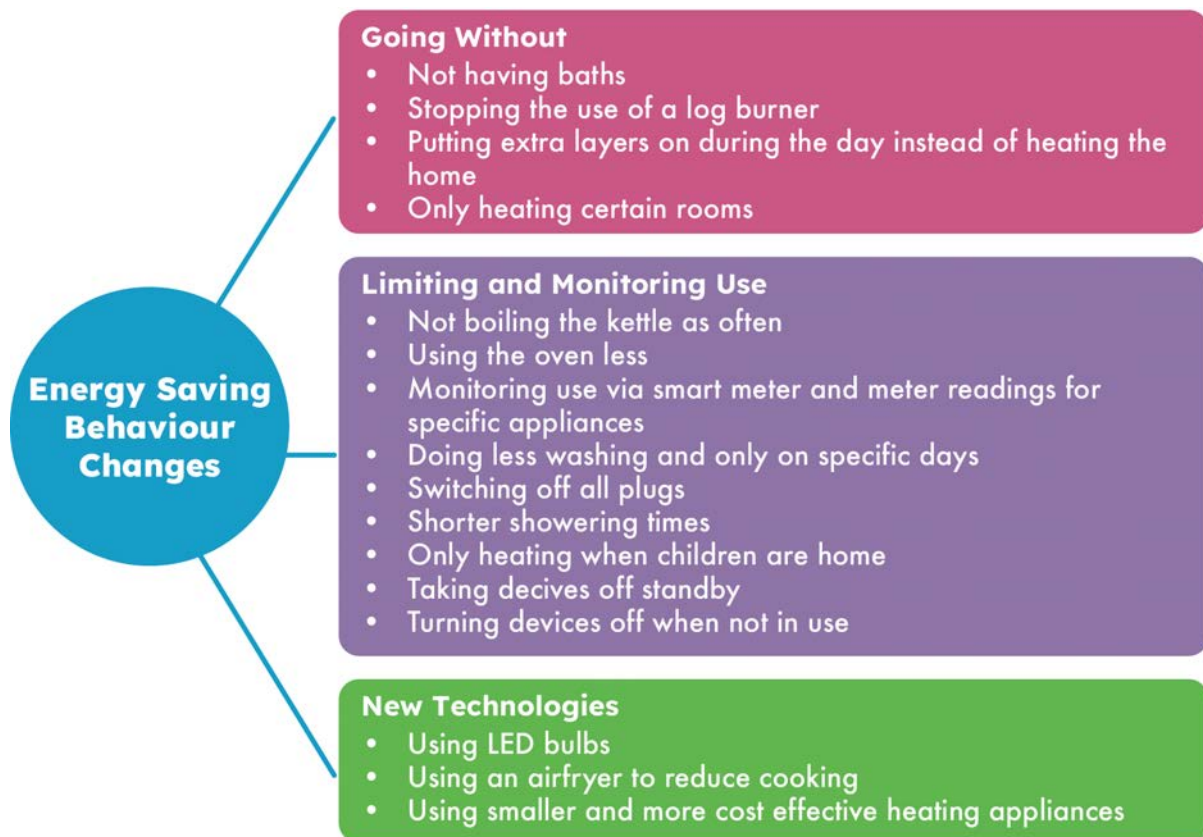- Using smaller and more cost effective heating appliances

Figure 2 Energy Saving Behaviours Reported

and some of the challenges in this regard pre-date the energy crisis. For example, a resident moving from London to South Lanarkshire describes the feeling of being disadvantaged when everyone else had 'normal bills' whilst they were paying nearly £400 a month for gas. Other individuals were experiencing difficulties such as feeling their home is never warm, and having energy arrears since moving to an airsource heat pump. However, respondents in Argyll were broadly supportive of airsource heat pumps, seeing them as a better option for both cost and environmental reasons.

Finally, some respondents in Argyll reported that they were returning to heating their house through burning wood, seeing this as a financial

necessity while recognising its potential impact on the environment.

4.5.3 Sources of Help and Support

In both Argyll and South Lanarkshire, rural communities were receiving some help from local sources. In Argyll, one local development trust was providing households with support towards rising living costs of around £200.

In South Lanarkshire, local wind farm companies were providing a similar amount to households to support rising energy costs. However, this was not equitably distributed. Some individuals who self-reported being comfortable with their finances had received the money and were told that it needed to be used up, whilst an

unemployed person on benefits had not been able to access the funds yet.

It was perceived as difficult to apply for the money with some lack of knowledge and awareness. It was suggested information about sources of help and support should be distributed beyond social media, which excludes particular populations.

Overall, although people were grateful for the support from wind farms, some felt it was not enough to make a difference and that companies should be doing more.

Other sources of support mentioned in South Lanarkshire included: free bus passes, the national energy discount scheme and community warm spaces.

Although people were aware of the council led recycling schemes, they were not aware of any other kinds of environmentally focused support or help, nor many examples of local clothes swapping/re-use activities.

In Argyll there was also mention of sources of support including: Home Energy Scotland, Argyll and Bute local authority, the Trussell Trust and Highlands and Islands Enterprise.

Regarding the need for help and support in Argyll, the overall situation regarding poverty in the area was highlighted. There were clear examples of people living in poverty who participated in individual interviews, but a common perception within focus group discussions that there was no poverty locally. It was unclear as to whether this disparity

was due to a subjective judgement on what constitutes poverty, the demographic makeup of the focus group, or the perception that the overall level of wealth locally could have hidden such instances of pockets of poverty.

There is a local foodbank collection by the local Church but anything collected gets taken to the foodbank elsewhere where there is perceived to be greater need. This may be due to a feeling that historically this community has always managed to support everyone within it. However, with the current cost of living crisis, and changing demographics as people move in and out of the area, it does appear people are struggling to manage. The perception of the area of consisting of wealthy incomers and self-sufficient longer term residents has not yet adapted to include the fact that people within the community are struggling financially.

4.5.4 Barriers and Opportunities in Rural Communities

In our research, we identified several barriers that individuals in both South Lanarkshire and Argyll face when trying to make more sustainable choices:

- Transportation Challenges: Public transport limitations, including recent cuts to bus services, hindered accessibility and forced residents to rely on private vehicles. High public transport costs, especially for families, discouraged its use compared to private cars.

- **Cost Factors:** The overall costs associated with sustainability, such as electric cars and energy-efficient appliances, were perceived as barriers. Charging fees for electric cars and the need for recharging on long journeys were mentioned concerns.

- **Availability of Local Produce:** Limited availability of local and organic foods, as well as fresh produce, deterred residents from making more sustainable food choices.

- **Effort and Habits:** The perceived effort and discomfort involved in certain sustainable practices, like dealing with food waste, discouraged their adoption. Habits and convenience played a role in resisting change.

- **Lack of Knowledge and Awareness:** Many residents lacked knowledge about sustainable options, costs, and the impact of their choices. Uncertainty about recycling, product life cycles, and the permission requirements for certain actions hindered progress.

- **Housing and Income:** In Argyll, housing issues, particularly insulating older homes, posed a barrier to maintaining warmth. Disposable incomes and unstable employment were mentioned as barriers to environmental practices.

In contrast to these barriers, the Argyll interviews highlighted several opportunities for sustainable change:

- **Coping Strategies and Resilience:** Communities demonstrated resilience across health, well-being, and sustainable behaviours. People actively reduced their carbon footprints and engaged in activities like walking, cycling, and nature-based endeavours like litter picking. Being part of a supportive community was seen as a source of well-being.

- **Improving Well-being:** Sustainable living and business practices were linked to improved well-being. Some residents found purpose and support in addressing health concerns, such as alcoholism, through sustainable behaviours.

- **Role Models:** Within communities, role models motivated and guided others in sustainable practices. Examples included individuals adopting sustainable heating systems, growing their own food, or using electric vehicles. Family members also played a crucial role in passing on knowledge and experiences related to sustainability.

- **Knowledge Sharing:** Communities actively shared knowledge about sustainable practices, including repairing items, growing food, meal planning, food preservation, and sustainable construction and energy sources. Learning from each other and from other countries enriched residents' understanding of sustainability.

Overall, while rural communities face significant barriers to adopting

sustainable practices, there are promising opportunities for change. These include building resilience, improving well-being, learning from role models, and actively sharing knowledge within the community.

5 Discussion

This research explored the understanding and behaviours related to the circular economy and just transition to net zero among rural residents in Scotland, particularly in the context of the recent cost of living crisis.

5.1 Key Findings in Context

The study revealed some promising but inconsistent comprehension of concepts of the circular economy and just transition to net zero. Regarding the former, there was a tendency for recycling to dominate discussions. On the latter, although people were familiar with the idea of 'net zero' they were less familiar with the meaning of a 'just transition'. A key actionable insight here would be to increase knowledge of the meanings associated with both the circular economy and just transition.

We found that people generally desire more information on what they can do to implement change. There were examples of people keen to do more but unsure what they could do. It would therefore be prudent to investigate this further in terms of what practical on the ground support is already available and what else could be developed.

People were are also sceptical about political will and engagement in addressing the challenges of the circular economy and just transition. This was predominantly focused around perceptions of targets being unrealistic and requiring more engagement to ensure they are achievable in practice.

Participants displayed awareness of many different practices supporting a circular economy, such as growing their own food, sharing items, reducing consumption, and repairing and reusing items. However, uncertainty often accompanied these ideas as to the broader impacts and how to get broader societal engagement. People debated whether change should be driven by local practices or national systems change.

The study suggested that rural residents are conscious of the costs of transitioning to a net zero society, and believe support will be needed both for residents of Scotland, but also for other countries globally. Although clearly present, financial difficulties were not necessarily widespread among the participants. The cost challenges were often projected rather than experienced firsthand.

The research identified the role of rural infrastructure as a barrier to sustainability. From a social practices approach, findings reinforce how individuals' behaviours and decisions are shaped by their relations to societal structures, and access to resources. Lack of affordable and accessible public transport was a strong theme in both areas regardless of the classification as 'accessible' or 'remote'.

The findings correlate with Zero Waste Scotland's national tracker

survey. For example, our study and the survey showed:

- people are often in favour of government and industry taking the lead (though desiring some form of involvement in decision making);

- financial considerations are often the main factor leading to action;

- although familiarity with the concept of circular economy may not be very high, when explained, people understand and support it.

Regarding rural residents' decision-making during economic crises, the research uncovered a wide range of practices driven by both environmental and cost considerations. The impact of the cost of living crisis varies among participants, with some experiencing significant changes. There are differences between accessible and remote rural areas, notably in the sense of connection to the land and the influence of local role models.

The study highlighted how economic conditions, including the cost of living crisis, can lead people to change their habits and behaviours inadvertently resulting in more sustainable practices. However, it emphasised the importance of recognising disparities in change impacts, particularly among income groups.

5.2 Future Research

There is a need for future research to build on the findings herein and address minor limitations in the sample who were engaged. For example, the absence of participants in full-time education, and the focus on two specific rural communities. It could be useful to further explore:

- **Younger Demographics:** Conduct further research on young people and those in less secure employment to understand how they are managing financially during the cost of living crisis, as they may possess distinct sustainability perspectives.

- **Rural Diversity:** Investigate experiences in various rural communities to account for differences in accessibility to urban centres and their implications for sustainability practices.

- **Community-Level Analysis:** Complement the individual perspectives gathered here with broader level analysis about community dynamics and specific infrastructural and contextual challenges as well as initiatives focused on improving resilience and self-sufficiency.

- **Identify Hotspots:** Explore production and consumption hotspots on a national scale to target interventions effectively and foster systemic change.

- **Larger-Scale Change:** Examine interventions and strategies for achieving larger-scale societal transformations, aligning with the views of participants who emphasize the need for

government and industry leadership.

- **Domain-Specific Research:** Delve deeper into specific domains such as food waste, transportation, and energy to gain a more comprehensive understanding of changing habits and motivations for sustainable decision-making.

5.3 Policy and Practice Insights

- **Collaborative methods and engagement events:** Use co-creation methods in research to develop locally relevant circular economy initiatives. This could include cross-community knowledge sharing events facilitated by Zero Waste Scotland and community partners.

- **Participatory and deliberative approaches:** bringing together rural residents and decision-makers to co-produce solutions for rural circular economies and just transitions. This approach can ensure policies align with rural needs and foster positive attitudes toward future changes.

- **Cross local authority collaborations:** Participants who have lived in different rural areas noted the inconsistent approaches taken by local authorities to waste management and desired more cohesion. Cross local authority policy collaborations on circular economy initiatives could therefore be warranted.

- **Share Good Practices:** Identify and share good practice examples that facilitate positive behaviour change and support the transition to a circular economy and net zero society.

- **Education on Sustainability:** increased support and policies around the provision of education for sustainability. Desire for practical community learning opportunities around repair/re-use as well as support for circular economy/sustainability in the national curriculum.

6 Conclusion

This research addressed gaps in existing studies and produced actionable insights on two key areas of interest to Zero Waste Scotland: rural residents' understanding of the circular economy and just transition concepts; and factors influencing rural residents' sustainability-related behaviours, particularly during the cost of living crisis. The study explored various domains such as food, textiles, transport, and energy to uncover barriers, opportunities, and motivational factors driving behaviours and decisions.

Findings presented Chapter 4 underscored the necessity for rural-specific research, policy and practices to implement a circular economy and achieve a just transition to net zero in Scotland. These areas have been relatively underexplored in research and our study has addressed some gaps in knowledge.

The study emphasised the importance of enhancing understanding and application of key concepts. Information campaigns can boost awareness and comprehension of circular economy principles. Tailored educational campaigns targeting specific domains, such as food and local initiatives, may have a more significant impact than broad national campaigns. However, further research is needed to identify the most effective information interventions. Simplifying the message about the just transition and providing practical examples could improve understanding.

The research revealed a collective optimism for transformative societal change among rural residents but also highlighted scepticism about national conditions, political will, and a perceived lack of consultation on targets and actions.

The findings regarding the cost of living crisis and the factors informing behaviours in rural communities showed a complex interplay of motivations and challenges. While some individuals adapt their habits with sustainability in mind, many changes are driven by economic constraints.

The research showed that the impacts of the cost of living crisis are not uniform across rural populations; some residents remain relatively unaffected, while others struggle to manage various aspects of their lives.

The study highlighted the role of rural infrastructure and the persistent challenges related to public transport and local product availability. It also showed how more sustainable practices can result from economic hardships and life course changes but that unequitable impacts must be accounted for, considering the disparities in how different individuals and households are affected.

To expand knowledge in these areas, future research should focus on differences within rural regions of Scotland, working with different demographic groups and the potential of employing participatory

methods to co-create circular economy solutions and policies.

In summary, the research reinforced the need for ongoing investigation into rural sustainability practices, considering regional variations and generational differences. Collaborative, participatory approaches, knowledge sharing, and targeted education campaigns can contribute to the successful implementation of circular economies and just transitions in rural communities, even amidst financial crises.

Appendix 1 – Focus Group Guide

1. How do you understand the idea of a circular economy?

2. How do you understand the idea of a just transition to net zero?

3. How do you understand the circular economy and the just transition to net zero after watching this video and hearing this definition?

4. How do you see these ideas as being relevant to your life and this rural community?

5. What changes do you think would be needed to create a more circular economy/create a just transition to net zero?

6. Are you aware of any circular economy initiatives in your area?

e.g. upcycling, recycling, reuse/redesign, clothes/food swapping

7. What do you see as the main challenges and opportunities for achieving a circular economy?

a. In your life

b. In your community

c. In Scotland

Just Transition Definition:

How we move about, use energy, make, and use things is currently being transformed so we can reduce the harmful emissions (also known as greenhouse gases) that are causing the climate emergency. We need to reduce the emissions caused by humans to as close to zero as possible – this is known as Net Zero. The way we achieve Net Zero must also be inclusive, just, and equitable; putting right past harms and, working together across society to holistically build a better, fairer, sustainable future for all – this is known as the just transition. The just transition to net zero describes both where we are going and the journey of how we will get there.

Appendix 2 – Interview Guide

1. Can you tell us about your experience in the last six months of living in this community?
2. Interviewer to use survey responses as aide when prompting for specifics.
3. What factors have informed decisions you have made about purchases in the last 6 months?
4. e.g. White goods, electrical appliances, furniture, clothes, food
5. Have there been any changes you've made in the last 6 months regarding what you purchase regularly/how to travel?
6. What motivated these changes?
7. What measures do you take, if any, to save energy use?
8. What has influenced this in the last six months?
9. Are there any practices in your life that you carry out for the purposes of being more environmentally friendly?
10. What motivates you to carry out these practices?
11. Are there any changes you would like to make that you are not currently?
12. What are the main barriers you face in relation to making different choices about your purchases/lifestyle?
13. How, if at all have you been affected by the cost of living crisis?
14. What has this meant for you and your household?
15. Have you taken any steps to cut costs?
16. Have you received any help from local or national sources to engage in more sustainable practices?

Appendix 3 – Survey

1. Gender: _____

a) Is this the same as the sex you were assigned at birth?

☐ Yes ☐ No ☐ Prefer not to say

2. Your religion: _____

3. Your age: _____

4. Do you consider yourself to have a disability?

☐ Yes ☐ No

5. Your level of qualification

☐ No formal qualification ☐ National 5/Standard Grade/GCSE

☐ Higher/A Level ☐ HNC/HND

☐ Degree or professional qualification

6. Household Income (including any benefits):

☐ £0 - £10,000 ☐ £10,001 - £20,000 ☐ £20,001 - £30,000 ☐ £30,001 - £40,000

☐ £40,001 - £50,000 ☐ £50,001 - £125,140 ☐ Above £125,140

7. Employment Status (tick all that apply):

☐ Unemployed ☐ Self-employed ☐ Full-time employed ☐ In education

☐ Retired ☐ Part-time employed ☐ Other (please specify)_____

b) Are you eligible for working tax credit?

☐ Yes ☐ No ☐ Don't know

8. Number of adults: _____ children: _____ in your household?

9. Housing tenure:

☐ Owned mortgage/loan ☐ Owned outright ☐ Private rented ☐ Social rented

☐ Other (please specify): _____

10. Having you purchased/accessed the following in the last 6 months (tick all that apply):

☐ New white goods ☐ Second hand white goods

☐ New furniture ☐ Second hand furniture

☐ New electrical appliances ☐ Second hand electrical appliances

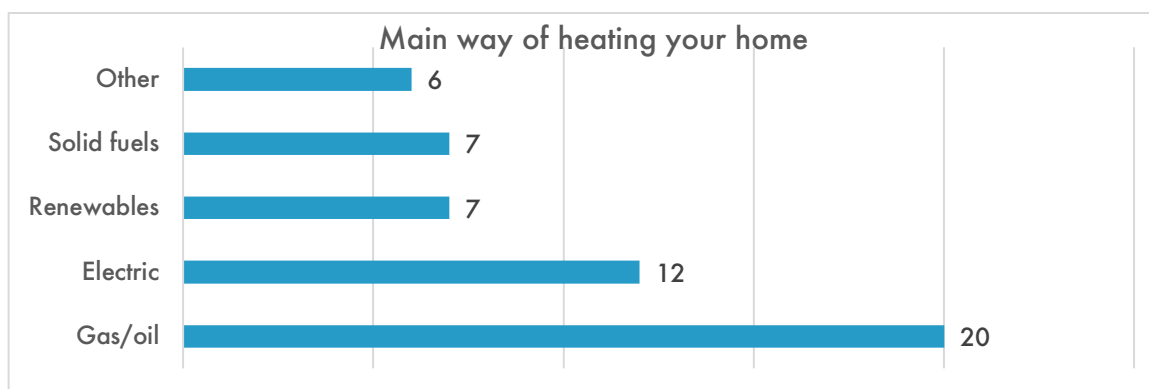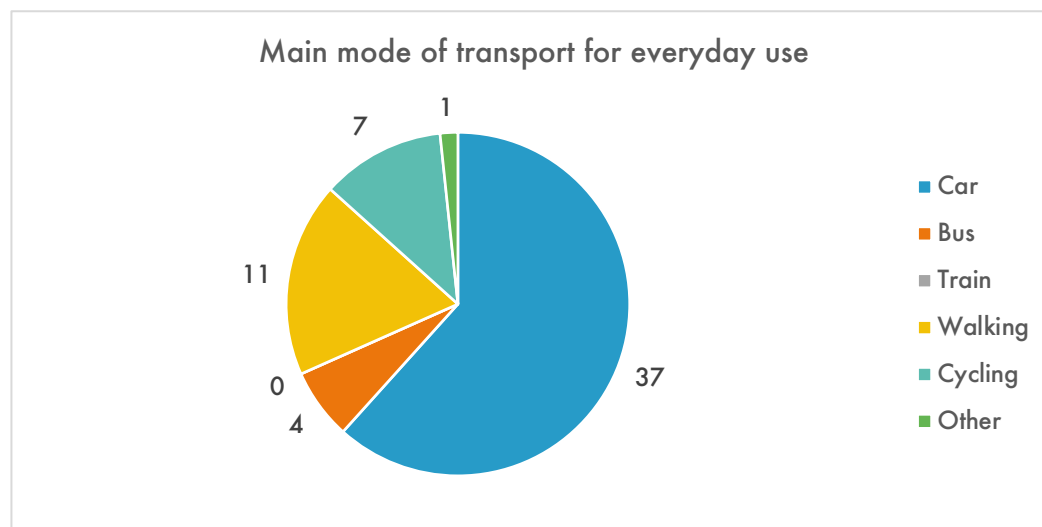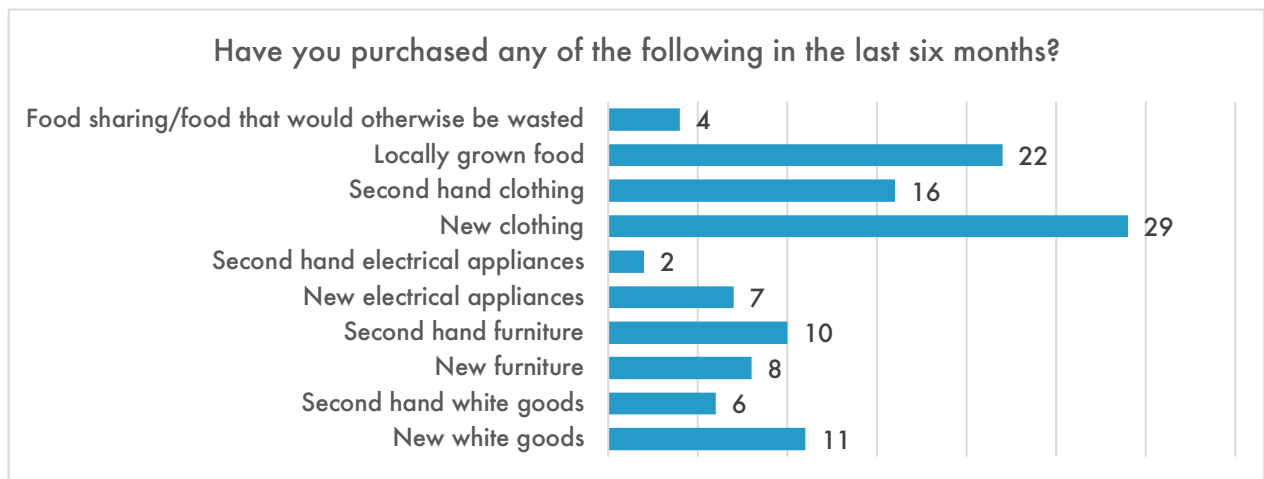☐ New clothing ☐ Second hand clothing

☐ Locally grown food ☐ Food sharing services/food otherwise wasted

11. What are your main methods of transport (e.g. used on a regular basis)?

☐ Car ☐ Bus ☐ Train ☐ Walking

☐ Cycle ☐ Other (please specify): _____

12. What is the main way you heat your home?

☐ Gas/oil ☐ Electric ☐ Renewable ☐ Solid fuels

☐ Other (please specify): _____

Have you purchased any of the following in the last six months?

Category	Value
Food sharing/food that would otherwise be wasted	4
Locally grown food	22
Second hand clothing	16
New clothing	29
Second hand electrical appliances	2
New electrical appliances	7
Second hand furniture	10
New furniture	8
Second hand white goods	6
New white goods	11

Main mode of transport for everyday use

Mode	Value
Car	37
Bus	4
Train	0
Walking	11
Cycling	7
Other	1

Main way of heating your home

Category	Value
Other	6
Solid fuels	7
Renewables	7
Electric	12
Gas/oil	20

Rural residents' sustainable decision-making

Appendix 4 – Sample Breakdown

Characteristic	Count				
Age	18-35	36-50	51-65	65+	Prefer not to say
	4	16	12	7	1
Household Tenure	Own home	Mortgage	Private rented	Social housing	Prefer not to say
	16	16	1	6	1
Household Income	£0-£20,000	£20,001-£30,000	£30,001-£50,000	£50,001-£125,140	Prefer not to say
	4	12	10	13	1
Employment Status	Unemployed	Employed	In education	Retired	Prefer not to say
	3	27	0	10	0

Zero Waste Scotland is Scotland's circular economy expert. We exist to lead our nation to use products and resources responsibly - focusing on where we can have the greatest impact on climate change.

A not-for-profit environmental organisation, funded by the Scottish Government and European Regional Development Fund, we have the ear of the government and the voice of the people. Because of this we can play a key role in connecting communities, businesses, and public bodies - using evidence and insight to inform, inspire, and enable them to embrace the environmental, economic, and social benefits of a circular economy.

More than ever, Zero Waste Scotland is in a unique position to encourage vital shifts in behaviours to accelerate progress towards zero waste and a global circular economy. Together, we can all move towards a circular economy, restore our natural systems, and regenerate our communities in a fair and equal way.

More information on all Zero Waste Scotland's programmes can be found at https://www.zerowastescotland.org.uk/. You can also keep up to date with the latest from Zero Waste Scotland via our social media channels - Twitter | Facebook | LinkedIn