LAND USE *for* NET ZERO HUB

Rural Communities, Land Use Change and Net Zero

RURAL COMMUNITIES TOPIC EXPERT PAPER 1

Jane Atterton and Carey Doyle (Rural Policy Centre, SRUC)[1] September 2025

1. Introduction

The UK's rural areas are critical to the country achieving its net zero ambitions, whether that is in terms of reducing greenhouse gas emissions from agriculture, as locations for renewable energy generation and transmission, or providing land for tree planting, natural flood management or peatland restoration for carbon storage. These areas are also used by a diverse range of rural residents and visitors, for whom there may be differing economic, social, and cultural implications from these land use changes.

The transformational land use change required across the UK in order to achieve net zero targets will impact on people living and working in, and visiting, the country's rural areas, potentially in complex and intersecting ways. There may be challenges, for example, in terms of the extent of retrofitting required to make (on average older and larger) rural housing more energy efficient, or providing adequate charging infrastructure for electric vehicles. Longer distances to travel to access services create negative environmental consequences – and potentially negative social consequences too if some demographic groups can no longer access the services they need – while budgetary pressures are leading to more centralised provision. The higher costs of living in rural areas can further exacerbate these challenges, contributing to increased poverty and exclusion in rural places. Rural communities also face the likelihood of having to deal with more frequent extreme weather events, including flooding, and the financial and other costs associated with these. Land use change will alter the physical appearance of the UK's rural areas, with new crops being grown for example, or large-scale renewable energy projects and carbon credit trading changing the country's rural landscapes. Rural land development pressure (such as renewable energy or carbon markets) can concentrate local impacts while delivering a non-local policy goal (e.g. carbon reduction), with attendant local opposition to development. Often policy-makers may lack the in-depth knowledge of rural areas and their characteristics to fully understand the (potential and actual) impacts of their policy decisions in these contexts.

However, there are also important opportunities for rural communities in the transition to net zero. Land use changes bring new and replacement (temporary and permanent) employment and business opportunities, for example in tree planting, peatland restoration and other nature-based activities. There is the potential for the transition to deliver infrastructure and provide financial support to rural areas, through community benefits and community wealth funds. Several decades of delivering community-led development through programmes such as LEADER[2], and through community ownership of a variety of assets, have resulted in a situation where many (but by no means all) rural communities have the expertise and capacity to take the lead in delivering a range of different activities relating to achieving net zero targets. Legislation such as the Well-being of Future Generations Act (2015) in Wales[3], and the Community Empowerment (Scotland) Act (2015)[4] and Land Reform (Scotland) Act (2003)[5] in Scotland, and the English Devolution and Community Empowerment Bill (2025)[6] currently in the UK Parliament. provide the legal underpinning for such community-led approaches.

[1] We are extremely grateful to Nick Millard, Associate Lecturer at the School of Real Estate and Planning in the Henley Business School at the University of Reading for providing insightful comments on an earlier draft of this paper.

[2] LEADER/CLLD | The European Network for Rural Development (ENRD)

[3] Well-being of Future Generations (Wales) Act 2015: the essentials [HTML] | GOV.WALES

[4] Community Empowerment (Scotland) Act: summary - gov.scot

[5] Land Reform (Scotland) Act 2003

[6] English Devolution and Community Empowerment Bill 2025 https://bills.parliament.uk/bills/4002/publications

At the same time, however, there are increasing concerns regarding the ability of communities to sustain the delivery of infrastructure, activities and services, in a context of public service withdrawal, cost of living increases, and reduced financial government support for community-led action[7]. Ongoing support, engagement and leadership requires input from volunteers, many of whom may be (pre)retirees and/or 'incomers', and there may be no succession plan in place. It is also the case that community engagement and activity relating to land use change and net zero may have different characteristics, challenges and opportunities, and require different skills, resources and capacities, from that relating to other issues, and so different forms of engagement and support for that engagement may be required. For example, land use changes may result in a mixed range of outputs and outcomes, including adverse landscape impacts at the local level but national and even international benefits. These trade-offs and complexities may be difficult for communities to negotiate and manage.

In order to fully explore these potential impacts for rural residents, we need to understand what we mean by rural communities across the UK. As one output from the Land Use for Net Zero, Nature and People (LUNZ) Hub[8], this briefing paper provides some important contextual information for discussing these challenges and opportunities. The paper contrasts the different definitional and policy approaches to rural communities across the UK and suggests some ways in which communities can be meaningfully engaged in land use related activities within the LUNZ Hub and beyond.

The paper is divided into a number of sections. First, the classifications used for rural communities across the different parts of the UK are summarised and compared, and then the different rural community policy contexts are briefly outlined. The paper then outlines some of the key challenges and opportunities for the UK's rural communities in relation to land use change for net zero and concludes by describing some of the ways in which rural communities may be engaged positively and appropriately in debates about how their net zero future may evolve.

2. Defining rural communities across the UK

Communities are not a single entity; rather, they are complex, overlapping, and performed through social action[9]. There are communities of place and communities of interest, with different boundaries over space and time. There are different power relations too, both within communities (between more and less active voices for example) and between communities and other involved organisations and individuals. Designing, delivering and evaluating policy for communities has to grapple this with these complexities. One example of this is the different definitions for rural communities across the UK devolved administrations.

Rural communities are classified differently across the four nations of the UK in order to take the different geographical and statistical elements for each country into account. While the methods used are similar, the different nations do not use the same methodology or data sources, and therefore the Office for National Statistics does not recommend directly comparing across the approaches. For example, in Scotland and Northern Ireland, lower population thresholds are used in defining settlements due to the smaller populations in many of their more rural areas. The terminology used is also different, for example the term 'settlement' used in the Rural Urban Classification in England, is also not the same as in Scotland[10]. While acknowledging these caveats, this section of the paper describes the different approaches used across the UK, drawing out similarities and differences where appropriate and then discusses the relevance to net zero debates.

[7] See for example Sharma, Kavita, Jon Hollingdale, Gretchen Walters, Marc J. Metzger, and Jaboury Ghazoul. 2023. "In Danger of Co-Option: Examining How Austerity and Central Control Shape Community Woodlands in Scotland." *Geoforum* 142 (June): 103771. https://doi.org/10.1016/j.geoforum.2023.103771.

[8] Home - LUNZ Hub

[9] Eddie Smyth & Frank Vanclay (2017) The Social Framework for Projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects, Impact Assessment and Project Appraisal, 35:1, 65-80, DOI: 10.1080/14615517.2016.1271539

In England, rural areas are defined by the Rural Urban Classification (updated in 2021 and produced by the Office for National Statistics with advice from the Department for the Environment, Food and Rural Affairs and the Welsh Government[11]) as communities with less than 10,000 people. Using this Classification, England's rural population was 9.5 million in 2021, representing 16.9% of the total population[12]. The 2021 Rural Urban Classification[13] can be applied to census output areas, which are then assigned to one of three urban and rural categories (representing a simplification from the six broad settlement types used in the 2011 Rural Urban Classification):

- Urban
- Larger rural settlement
- Smaller rural settlement

If a census output area is rural, it is determined as being a smaller or larger rural settlement based on dwelling densities. The Classification then uses estimated travel time to divide each of the categories into 'relative access' classes of 'nearer' or 'further' from a major town or city. Areas considered 'nearer' are those which could reach a built up area with over 75,000 people within 30 minutes by car, while areas considered 'further' are those which could not. The method takes actual, predicted, and historic average travel times and the road network into account.

A Rural Urban Local Authority classification with four categories is also available alongside the census output area-based classification. This is based on the same method as for output areas but has slightly different population thresholds to account for the increased area covered. The four categories are:

- Rural majority
- Intermediate rural
- Intermediate urban
- Urban.

The Office for National Statistics' Rural Urban Classification with its 10,000 population threshold is also used by the Welsh Government for analysis at below local authority level, resulting in approximately 20% of the Welsh population classified as rural, and 85% of the land area[14]. However, the settlement pattern in Wales means that the statistical tools are used differently. For example, using the Built Up Areas classification, the size bands (under 2,000; 2,000-9,999; 10,000-24,999; 25,000-99,000; at least 100,000) have roughly equal populations so make a good basis for analysis. This also demonstrates the significance of the under 2,000 classification in Wales, where these smallest settlements have a similar number of people as Cardiff, Swansea and Newport (at least 100,000 combined). Given the geography and context of Wales, a good basis for analysis is combining the built up areas size bands with access to a built up area of 30,000 (compared to the 75,000 threshold used in England – and much lower thresholds used in Northern Ireland and Scotland, described shortly). A four-way local authority classification tends to be used in Wales – rural, mixed, valleys and city.

[10] More information on this is available in Office for National Statistics (2025) Rural Urban Classification User Guide (2021) Rural-Urban Classification User Guide (2021) | Open Geography Portal

[11] 2021 Rural Urban Classification - Office for National Statistics

[12] Rural Urban Classification - GOV.UK

[13] 2021 Rural Urban Classification - Office for National Statistics

[14] What parts of Wales are rural? - Geographic FAQ Hub: Answers to Your Global Questions. With acknowledgements also to Stuart Neil (Agriculture and Rural Affairs Statistician at the Welsh Government until April 2025) for his helpful input to this section of the paper.

Scotland's approach defines rural communities as those settlements with less than 3,000 people (making up 17% of Scotland's population, and 98% of the landmass)[15]. Scotland's definition splits urban areas into two categories (large urban areas with populations of 125,000 or more, and other urban areas with 10,000-124,999 population) and defines small towns as having populations of 3,000 to 9,999. Rural settlements and small towns are then classified as accessible, remote or very remote according to their distance from settlements of 10,000 people or more (a drive time of less than 30 minutes, of 30-60 minutes, and of over 60 minutes respectively).

Northern Ireland's default classification is that settlements with below 5,000 people are rural along with open countryside[16]. Information on whether a rural settlement is inside a 20-minute or 30-minute drivetime from a service centre (a town centre of a settlement with 10,000 or more population, the same threshold as Scotland, but considerably lower than the threshold used in England and Wales) is also available.

The different approaches to classifying settlements of different sizes in different locations across countries within the UK are appropriate to their particular circumstances, but can mean that direct comparisons between them are difficult to make (and indeed may be advised against). However, the classifications are vital for policy-makers seeking to understand spatial differences in particular issues across the UK to inform the design and delivery of policy interventions, and the different definitions allow for refined approaches for the devolved nations of the UK.

It is however important to note that, while these formal classifications of rural are important for central and local governments and other stakeholders to ensure that they have a standard approach to data collection and analysis (at least at the level of countries within the UK), those living and working in and visiting rural communities may have different understandings, based on their own life experiences, and their perceptions of remoteness and the fundamental characteristics of rural locations. These more qualitative understandings are not captured in formal approaches to defining rural and urban, but they may have greater relevance to rural communities and may provide a more nuanced understanding of their experiences. For example, communities that are near to urban centres may be expected to have good access to physical services available in those centres, however other factors (including financial cost) may influence their wider service provision in terms of digital connectivity and energy sources for example, such that their accessibility is compromised and the picture in terms of service provision is more nuanced. These local understandings are critical, alongside official data analysis using formal classifications, to informing responses to net zero-related challenges to ensure they are appropriate for local circumstances. However, critically, there may be a disconnect between the definition needed by policy-makers to distribute resources for example, and the ways in which communities can engage with or even challenge change. In other words, there are likely to be significant differences between the community 'unit' that receives funding and the community 'unit' that can act in response to any changes (which may be a formal unit such as a parish or community council, or another community-based unit such as a development trust).

[15] Scottish Government Urban Rural Classification 2016 - gov.scot (www.gov.scot)

[16] Urban - Rural Classification | Northern Ireland Statistics and Research Agency (nisra.gov.uk) and Rural Development issues and challenges in Northern Ireland

3. Policy approaches for rural communities across the UK

Policy approaches to rural issues and communities also vary across the different parts of the UK. In England, mainstreaming is the approach for taking rural issues into account in general policy formulation[17]. As a result of mainstreaming, rural people should have the same access to policies and programmes as those in urban areas. This position is achieved through a commitment for policy-makers to undertake mandatory rural proofing which has been in place since 2000[18]. In practice this means that policy-makers are required to assess the rural impact of their policies at the design phase, and make changes to them and/or how they would be delivered to take account of rural circumstances and to ensure there are not different (negative) impacts in rural areas. As 'rural champion', the Department of the Environment, Food and Rural Affairs (Defra) in the Westminster Government publishes an annual rural proofing report which reviews rural proofing activities across Government[19].

Reviews of rural proofing in England have concluded, overall, that its success has been mixed[20] with policy-makers often not well informed enough about rural issues to fully understand the potential impacts of their policy on rural communities, rural proofing often undertaken too late in the policy-making process and treated only as a box ticking exercise, and too much focus being placed on the process and not enough clarity on the outcomes to be achieved. There have been various calls over the last two decades for rural proofing to be reinvigorated and strengthened, including from the House of Lords Inquiry on the Rural Economy which took place from 2017 to 2019[21].

In 2023, the former Conservative Government published 'Unleashing rural opportunity' which included package of measures to drive growth in the rural economy[22]. These ambitions for rural areas were set in the context of the wider 'levelling-up agenda' and associated Levelling Up Fund[23] and Shared Prosperity Fund[24] which replaced the European Union's Structural Funding and the funding associated with non-agricultural elements of the Common Agricultural Policy. Several other funding streams operated alongside the Shared Prosperity Fund, including the Community Ownership Fund[25] and the Rural England Shared Prosperity Fund[26] which served as a top-up to the Shared Prosperity Fund for eligible English local authorities (depending on the proportion of their population in rural areas).

[17] For more information, see OECD Rural Policy Reviews: England, United Kingdom - OECD

[18] For more discussion on this, see Atterton, J. (2008) Rural Proofing in England: A Formal Commitment in Need of Review, CRE Discussion Paper Series No. 20. Available online: Rural proofing in England: a formal commitment in need of review - ePrints - Newcastle University

[19] Defra's latest annual rural proofing report (from March 2024) is available online here: Delivering rural opportunity: third report on rural proofing - GOV.UK, while further information about the Government's approach to rural proofing was published in May 2025: The government's approach to rural proofing, 2025 - GOV.UK

[20] See for example: Atterton, J. (2008) Rural Proofing in England: A Formal Commitment in Need of Review, CRE Discussion Paper Series No. 20. Available online: Rural proofing in England: a formal commitment in need of review - ePrints - Newcastle University; House of Lords Select Committee on the Rural Economy (2019) Time for a strategy for the rural economy, Report of Session 2017-9. Available online: House of Lords Rural Economy Committee Report: Time for a Strategy for the Rural Economy - House of Lords Library

[21] Time for a strategy for the rural economy says Lords Committee - Committees - UK Parliament

[22] Unleashing rural opportunity - GOV.UK

[23] Levelling_Up_prospectus.pdf

[24] UKSPF

[25] Community Ownership Fund: prospectus - GOV.UK

[26] Rural England Prosperity Fund: prospectus - GOV.UK

The UK Labour Government elected in 2024 continued the Shared Prosperity Fund on a transitional and more limited basis in 2025-26. In March 2025, a new funding scheme was announced by the Government, making £1.5 billion available over the next decade for 75 selected communities across the UK through the Plan for Neighbourhoods[27]. This fund forms part of the UK Government's Plan for Change missions to grow the economy, launched in December 2024[28]. There are five missions, none of which is rural-specific, but it is acknowledged that rural areas will be impacted by each of the named missions[29]. To ensure the missions are rural proofed, and to assess how outcomes in rural areas may be different, Defra has established a Rural Taskforce, alongside the updated information on the rural proofing approach[30].

In Scotland, the policy approach for rural issues is also mainstreaming and has been since 2007 with the introduction of the National Performance Framework[31] by the Scottish Government. In contrast with England, however, up until recently that has not been accompanied by a formal rural proofing approach. In late 2022 this changed, when two Cabinet Secretaries committed to apply a rural lens to projects funded as part of the National Strategy for Economic Transformation[32]. In Summer 2023, the Cabinet Secretary for Rural Affairs, Land Reform and Islands Mairi Gougeon confirmed the Government's commitment to extend the rural lens to all areas of policy[33]. Rural lens guidance has been piloted with several Scottish Government policy teams and was formally launched (internally within the Scottish Government) in Spring 2025 as the 'Rural Assessment Toolkit' which aims to help policy teams across Scottish Government to understand how their policies affect rural areas, connect with stakeholders in the right way, review the impacts and make adjustments where needed.

The Scottish Government will also publish a Rural Delivery Plan before 2026 which will demonstrate how all areas of Government are delivering for rural areas[34]. The Plan will include strategic objectives, key performance indicators and accompanying data to measure progress on those indicators. In contrast to elsewhere in the UK, the Scottish Government has continued to provide annual funding for Community Led Local Development (CLLD) following the principles of LEADER since Scotland left the EU[35]. It has also supported the Scottish Rural Network[36] and the establishment and strengthening of a rural movement in Scotland (building on experiences elsewhere in Europe[37]), including through its support for Scottish Rural Action[38] and the biennial Scottish Rural and Islands Parliament[39].

In line with elsewhere in the UK, Northern Ireland benefited from European funding through Pillar 2 of the Common Agricultural Policy (including through the LEADER programme for bottom up, community led local development) up until the 2014-20 funding period[40]. Since then, again like other parts of the UK, Northern Ireland's rural communities have received funding through the schemes put in place by the UK Government to replace EU Structural Funds, including the Shared Prosperity Fund and the Levelling Up Fund.

---

[27] Plan for Neighbourhoods: prospectus - GOV.UK
[28] mission-led approach to leading the country and bringing about change
[29] Plan for Change - GOV.UK
[30] The government's approach to rural proofing, 2025 - GOV.UK
[31] National Performance Framework - gov.scot

[32] Scotland's National Strategy for Economic Transformation - Delivery Plans October 2022 - gov.scot (www.gov.scot)

[33] This confirmation came in a statement by Ms Gougeon commenting on the publication of SRUC's Rural and Islands Insights Report 2023: Report offers nuanced view of island and very remote regions | SRUC

[34] Equality, opportunity, community: New leadership - A fresh start - gov.scot (www.gov.scot) and Rural Delivery Plan: Ministerial Working Group - gov.scot

[35] Community Led Local Development - Scottish Rural Network
[36] Homepage - Scottish Rural Network
[37] https://srip.scot/scotlands-rural-movement/
[38] Scottish Rural Action | Scottish Rural Action
[39] Find out more about the Scottish Rural & Islands Parliament!
[40] Northern Ireland and the border counties of the Republic of Ireland have also received PEACE funding from the European Union with some sub-programmes of this initiative focusing specifically on rural areas and issues.

Work was undertaken in Northern Ireland in 2015 to devise a standard definition on rural areas (set at 5,000 population) as part of work to embed consideration of rural areas more clearly into policy-making[41]. One year later the Rural Needs Act (2016) was passed[42]. This established rural proofing as a legal obligation requiring all public authorities in Northern Ireland to have due regard to rural needs when carrying out certain actions. An investigation of how to implement more effective rural proofing in Northern Ireland in 2016-7 concluded that there were a number of challenges with implementation, including confusion and ambiguity concerning the requirements of the Act, how to apply the Act within different contexts and the usefulness of monitoring if there are no sanctions for non-compliance[43]. In 2021, the Department for Agriculture, the Environment and Rural Affairs (DAERA) published 'Sustainability for the Future – DAERA's Plan to 2050'[44] setting out its strategic priorities. With an emphasis on sustainability, the Plan sets out the plan to create a healthy environment to live in, which will underpin a healthy population and stimulate healthy economic rural communities.

Post-Brexit, a new Rural Policy Framework for Northern Ireland was launched in 2022[45]. Developed in partnership with a wide range of stakeholder organisations, this Framework redefined the role of DAERA as 'rural champion' and established policy outcomes and principles that will guide future policy development and implementation.

In 2024 DAERA undertook a public consultation to gather views on potential amendments to the list of public bodies required to report annually under the terms of the Rural Needs Act (2016)[46]. Conclusions from the review are still under consideration by DAERA. DAERA also published a Key Rural Issues publication in 2024[47] which aimed to underpin rural proofing activity in Northern Ireland by providing evidence to inform the future direction of rural policy, to underpin the Rural Needs Act (2016), and to support equitable treatment of rural communities in policies and programmes across government.

In Wales, the Wellbeing of Future Generations Act (2015) places a wellbeing duty on public bodies to pursue sustainable development, defined as improving the social, economic, cultural and environmental wellbeing of Wales in the present without compromising future generations' ability to meet their needs[48]. The Act has several national indicators including those relating to economic growth (or other understandings of growth), income poverty and employment levels. This Act provides the underpinning legislative context for all activities in Wales.

As in the rest of the UK, growth deals and city region deals are central to the current approaches to economic development in Wales, including the Ambition North Wales[49] Deal (signed in 2020) and the Mid Wales Growth Deal[50] (signed in 2022). 'Future Wales: The National Plan 2040'[51] sets out a range of key issues for rural communities and economies, including depopulation and demographic imbalance caused by inappropriate and insufficient access to jobs, housing and infrastructure. The plan has a strong focus on climate change adaptation and mitigation, and on promoting 'inclusive growth' through strong foundations, future industries and productive regions that would build community resilience.

[41] Urban - Rural Classification | Northern Ireland Statistics and Research Agency

[42] A guide to the Rural Needs Act (Northern Ireland) 2016 for Public Authorities (revised) | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk)

[43] Rural Proofing in Northern Ireland - Overview and Recommendations | Agri-Food and Biosciences Institute
[44] Sustainability for the Future - "DAERA's Plan to 2050" | Department of Agriculture, Environment and Rural Affairs
[45] Northern Ireland's Rural Policy Framework launched | The Northern Ireland Executive
[46] Review of the List of Bodies and Persons set out in the Schedule to the Rural Needs Act (NI) 2016 | Department of Agriculture, Environment and Rural Affairs
[47] DAERA Key Rural Issues, Northern Ireland 2024
[48] Well-being of Future Generations (Wales) Act 2015: the essentials [HTML] | GOV.WALES
[49] https://ambitionnorth.wales/
[50] Growing Mid Wales - English - Growing Mid Wales
[51] Future Wales: the national plan 2040 | GOV.WALES

In 2021, the evidence report entitled 'A Rural Vision for Wales: Thriving Communities For the Future'[52] written by academics and the Welsh Local Government Association,

set the seven wellbeing goals alongside aspirations for rural Wales and suggested a set of proposals aligned with the direction of travel for the Welsh Government in terms of agricultural support, land management and regional development, the plans of the Growth Deals in Wales, and other relevant policy developments, including the preparation of local wellbeing plans. Proposals included diversifying the economy with a circular economy approach, stemming the tide of youth out-migration from rural Wales, adding value to rural infrastructure, developing sustainable tourism projects in support of local communities, businesses and people, addressing rural housing needs and supporting thriving rural towns. Further adding to the evidence base on rural Wales, the Cymru Wledig LPIP Rural Wales Project running from 2024 to 2027[53] is designed to connect researchers, communities and policy-makers in support of sustainable inclusive development in rural Wales through encouraging innovation and new ways of working.

This section of the paper has provided information on some of the key policy documents and developments relating to rural communities in the different parts of the UK. There are similarities but also differences, both in terms of overarching national policy priorities, but also policy priorities and approaches specifically for rural communities. There are also differences in terms of the institutional set ups and roles for local government and other stakeholders in working towards these policy priorities.

Of particular relevance to debates over future land use and net zero aspirations is to note that these strategies relating to rural communities, focusing on their socio-economic development, are often not well linked to or integrated with other strategies applicable to rural communities, including on agriculture, the environment, biodiversity, etc., with these often seen as separate policy silos. The lack of coherence and integrated approaches in government policy-making is one of the key challenges to achieving net zero ambitions which require integrated systems-based approaches. There are examples of more place-based approaches from which learning could be drawn, including for example, Scotland's Regional Land Use Partnerships[54] which are one example of a community and collaborative land use project in Scotland, bringing together different partners at regional level, including communities, to optimise land use in a fair and equitable way[55,56]. Other examples include the place-based Just Transition Plans which have been published in Scotland for the Shetland Islands[57] and for Dumfries and Galloway[58], and the Community Climate Action Plans developed as part of the Carbon Neutral Islands project in Scotland[59].

4. The UK's rural communities and net zero

Rural areas have a vital role to play in delivering the UK's net zero transition, whether that be through providing land for carbon sequestration or renewable energy generation, or through exploring appropriate digital solutions to reduce distances travelled for accessing services or commuting purposes. They are also the communities that have experienced the brunt of climate change related extreme weather events such as flooding or periods of drought, but also the communities in which new opportunities may emerge in terms of new green jobs and associated business and employment growth – assuming that long-standing structural barriers can be addressed, including the lack of both market and affordable housing for new workers and transport and connectivity challenges. Underlying all of these issues, is the fundamental question of which is the most environmentally sustainable option, expanding existing settlements (perhaps the most sustainable in terms of use of resources), or local small scale development (perhaps the most sustainable in terms of communities).

[52] Rural Vision Evidence Report Final Eng.pdf
[53] Cymru Wledig LPIP Rural Wales (phase two) - Arsyllfa - Supporting the Welsh rural economy
[54] Land use - Landscape and outdoor access - gov.scot
[55] A report on learning from Scotland's RLUPs was published in January 2025. For more information, see: The future of Scotland's land use: Regional Land Use Partnerships - Scotlink
[56] It will be interesting to see how plans for England's Land Use Framework evolve following on from the consultation held in early 2025: Government launches "national conversation" on land use - GOV.UK
[57] A Just Transition for Shetland – Just Transition Commission
[58] A Just Transition for Dumfries and Galloway – Just Transition Commission
[59] Action Plans - Carbon Neutral Islands

Rural communities across the UK, and indeed within its nations, are hugely diverse (and the classifications explained earlier can be useful in exploring these differences) but there are common challenges experienced across these communities which impact on their ability to meet net zero targets. These include:

- The distances required for rural residents to travel to work and services, and the need to run private fossil-fuel transport due to limited public and active transport options,
- Slower and less reliable digital connectivity,
- Less access to local food, and food supply chains liable to disruption,
- Limitations in terms of the energy supply infrastructure, with areas with the potential to generate significant renewable energy limited by grid capacity and potentially also by additional development constraints in place on designated land,
- On average, older and larger housing stock, which is often off-grid (i.e. not using mains gas), less energy efficient, harder to heat, and expensive to retrofit, resulting in high levels of fuel poverty, and
- Policy approaches that tend to focus on urban areas, and/or be more suited to urban areas, as a result of the concentration of population in these locations (and thus a perception of greater political impact).

Another common challenge is that of resistance to development - including net zero related development, such as solar, battery or wind farms, but other forms of development too, including housing - which may be felt differently across different communities. This resistance or opposition may come from a sense that the local community is bearing the brunt of climate change-related challenges (such as increased extreme weather events) as well as having to take on the physical impacts of large-scale energy-related developments such as solar farms or large-scale additional cabling or pylons[60]. Questions of local community benefit from the development are increasingly of note, with the UK Government considering, and then ruling out, local zonal pricing schemes from major energy developments in 2025. The practice of offering compensatory community benefit payments is increasingly of interest across the UK, building on 20 years of offering these payments in Scotland. Others in Scotland point to more nuanced and meaningful benefits from energy development, building on community led approaches to capturing benefits from North Sea oil through the 1975 Zetland Act, as well as community ownership of energy infrastructure and the role of sovereign wealth funds[61].

[60] One project exploring these tensions is 'Solar Planning UK: Planning for a Sustainable Future', which is taking an inter-disciplinary approach to exploring public opinions towards solar farms and the policy planning processes for solar farms at local authority level.

[61] See for example Community Energy Scotland, at Scottish Community Coalition on Energy - Community Energy Scotland; VoaR. (2024). Shetland, Community Benefit, and the Energy Transition. A Report for the Just Transition Commission. https://www.justtransition.scot/publication/shetland-community-benefit-and-the-energy-transition/

Understanding these challenges and how they play out differently in different locations, forms the basis for shaping potential future policy approaches. While some challenges can be tackled by national level change (for example, ensuring the land use planning system supports the sustainability of different places, whether that be in terms of housing, renewable energy or other things, switching to biofuels or programmes to support the retrofitting of rural housing), the applicability and deliverability of national policy solutions will vary across different geographies so local tailoring is required. Key to achieving this tailoring for rural areas is to undertake rural proofing that recognises the diversity of rural communities. Involving relevant authorities (often, but not exclusively, local government) in devising practical solutions, whether that be related to land use and balancing multiple different land use demands (which will vary geographically, in terms of the amount of farmed versus unfarmed [natural] land for example) or any other aspects of achieving net zero – or better still, achieving multiple benefits simultaneously - is also important[62]. This will vary between devolved administrations of the UK, as land use planning systems, and land governance more generally, is increasingly divergent across the nations. Appreciation of the nuance in different approaches, but nevertheless sharing learning between areas of the UK is possibly a key priority going forward.

5. Engaging and empowering rural communities on land use and net zero

This paper has reviewed the formal classifications that exist across the UK for defining rural areas and carrying out consistent data analysis to provide up-to-date and accurate understandings of rural circumstances. It has also outlined the policy context for tackling rural issues in the different parts of the UK and some of the opportunities and challenges facing rural communities in meeting net zero obligations, including through transformational land use change.

This final section offers some reflections on the need to involve rural communities themselves in discussions and decisions about the future use of the land around them. This may include restoring degraded peat, woodland planting, re-wetting land, planting energy crops, or changing agricultural practices, all of which will have different implications for people living close to and visiting rural areas across the UK.

Statistical data is useful in highlighting the circumstances of rural communities, but it does not always give a full picture of how these circumstances are experienced by people visiting or those living and working in these communities; for this, researchers need to hear from individuals themselves about their lived experiences. Similarly, rural proofing by policy-makers needs to be informed in meaningful ways by stakeholder organisations and local communities. Listening to rural experiences also needs to include meaningful responses, or existing distrust in policy makers could amplify.

[62] Research commissioned by the Local Government Association in England, for example, found that local authorities hold approximately 170 statutory duties relating to land use, including directly through their local planning role and biodiversity duties, as well as in terms of driving economic plans. However, their ability to influence activities in this sector is perhaps more constrained, including because of their more limited role in land ownership and management, a lack of data on the impacts of different land uses, and limited skills in working in this sector amongst local authority staff (Quantum Strategy & Technology Ltd., 2021).

Legislation and policy which is spatially blind (i.e. applies everywhere across a country, rather than being rural- or urban-specific) supports rural communities, as it does urban communities, in land use transitions to net zero. However, such spatially-blind legislation would always benefit from rural proofing to ensure that it does not negatively impact on rural communities as a result of their specific characteristics. For example, the land use planning systems across the UK provide ways for communities to influence land use policy and development applications. This influence may range from engagement through to community-led policy making through tools such as Local Place Plans in Scotland[63], or Neighbourhood Plans in England[64]. In Scotland, there is now support for Community Wealth Building projects in National Planning Framework 4[65]. There is also a need to refine these systems to support rural net zero transition, such as to improve permitted development requirements to better accommodate rural retrofit. For many people in rural communities, the planning system will be a key way in which they interact with net zero transitions, through major renewable energy developments proposed in rural areas. However, this engagement with the planning systems often takes the form of consultation on pre-defined and often quite specific issues, through narrowly defined windows. A lack of clarity on outcomes and technicalities, as well as uneven power dynamics, can lead to distrust in land use planning systems, concerns over democratic oversight at the community level, and delays to major development proposals[66].

Ideally any work with communities needs to go beyond formal narrow consultation and be meaningful, accessible and ethically sound engagement, which empowers participants and fully respects the inputs they provide (which will require them to commit time, and potentially other resources, including financial). There needs to be full consideration of which methods of engagement are most appropriate too; 'traditional' workshops and focus groups for example may be vulnerable to local power dynamics, researcher bias, low turn out and apathy, attendance selection and variations in terms of how lay people will behave in such environments (in particular if stakeholder organisations are present). A range of other research and engagement methods exist, including the use of film, art and walking with participants.

Those harnessing peoples' knowledge, information and expertise need to ensure that they return to the communities to inform them as to how their knowledge has been used and the outcomes that have been achieved (or not achieved, with reasons why). Hearing the diversity of experiences and knowledge within and between communities needs to be a strength of the data collection, recognising the unequal power dynamics between all of the stakeholders involved, whether that be individuals and groups within communities (for example between farmers and other rural stakeholders), between communities, between communities and researchers, and between policy-makers, researchers and communities.

There may be useful practical learning for those seeking to engage with rural communities on net zero and land use related issues from existing community-led research and community-based organisations (both formal and informal), and from other related developments. For example, the Scottish Land Rights and Responsibilities Statement, published in 2022[67], articulates the Scottish Government's vision for the ownership, use and management of land, setting out the balance between the rights and responsibilities of landowners, and engagement with managers, local communities and society at large.

There are many organisations working closely with rural, and indeed urban, communities across the UK on a variety of relevant issues, including facilitating community ownership of assets (including land), such as the Scottish Land Commission, Community Land Scotland, Development Trusts Northern Ireland, Community Housing Trust (England), and the Plunkett Foundation (UK-wide). Although they sometimes take different approaches, these organisations are guided by a shared philosophy of community led approaches to development; and research that is shaped and driven by communities from the bottom up (often using innovative and creative methods and approaches) with their experiences and learning given as much value as other forms of evidence in the research process.

[63] Local Place Plans | Our Place
[64] Neighbourhood Planning - Locality Neighbourhood Planning
[65] National Planning Framework 4 - gov.scot
[66] Fox-Rogers, Linda. 2019. "The Dark Side of Community: Clientelism, Corruption and Legitimacy in Rural Planning." In *The Routledge Companion to Rural Planning*. Routledge.
[67] Scottish Land Rights and Responsibilities Statement 2022 - gov.scot

There is growing expertise, and interest in, collaborative and community-led approaches to land use change for net zero which build community wealth. This expertise is uneven across the UK, as is development pressure for net-zero developments. A key forthcoming challenge for net zero will be to build community licence, or support, for the land use transition needed to meet net zero. Existing expertise on community led approaches, including particularly community ownership and community wealth building in Scotland, could be leveraged to deliver more diffuse benefits from development which will support development consent challenges. Many rural communities have developed skills in community development, through a variety of different types of rural organisation, such as co-operatives, community development trusts, and other charities. These organisations, as community representatives, can be key to delivering wider outcomes from the land use transition to net zero. They can also play a central role in delivering land use change in ways which are supported by communities, rather than being imposed on them. Such organisations can deliver land use for net zero projects to a high standard, such as community owned wind farms or community owned land for emerging carbon markets[68]. Collaborative approaches such as the Regional Land Use Partnerships in Scotland[69], have brought together different landowners at a regional scale. Community benefits from wind farms are standard practice in Scotland, and there are calls for community wealth funds arising from land use change development in Scotland and Wales[70]; all of this demonstrates an increasingly supportive policy environment for net zero land use change which builds community wealth.

Building good relationships based on trust and breaking down traditional power imbalances is crucial to these kinds of approaches[71], aimed at results in action and change. There are newly emerging research structures too to support this positive engagement and empowerment of communities. CLAN, the Community Landownership Research Network[72], for example, provides a more formal network structure for research on community landownership. From its outset, CLAN has sought to integrate with community landowning organisations themselves, thereby helping to serve the sector through conducting relevant and necessary research, and communicating the findings in accessible ways. These research approaches seek to improve research rigour and address key data gaps, which should help more developed and critical research in the relatively young field of community ownership research.

6. Conclusion

This paper brings together information from across the UK on existing classifications of rural communities and the current policy context for these communities, drawing comparisons where appropriate. The purpose is to bring together this contextual information in one place to help inform current and future interventions to facilitate the land use change that is required to achieve ambitious net zero targets. The changes in land use will impact on these rural communities both positively and negatively; clarity on these classifications and on the policy framework for rural interventions is critical to fully understand the extent and nature of these changes.

It is also critical that those living in the UK's rural communities do not just have support to fully engage in the net zero transition, but are given the power to influence and benefit from this transition in different ways. In some cases, more benefits may accrue to urban communities than to the rural communities that are required to provide locations for large-scale renewable energy developments, for example. In these processes there is a risk that community opposition may delay land use change which is becoming increasingly important, and/or that any sense of mistrust and alienation already felt by rural communities is enhanced.

[68] See for example Point and Sandwick Trust wind farm https://www.pointandsandwick.co.uk/about-us/our-wind-farm/ or Knoydart Foundation forestry and carbon markets https://reforestingscotland.org/wp-content/uploads/2023/03/LS-Knoydart-p11.pdf.
[69] Land use - Landscape and outdoor access - gov.scot
[70] Scottish Community Coalition on Energy https://communityenergy.scot/policy/scce/, and Building Community Trust in Wales https://www.bct.wales/policy
[71] For example, SRUC is currently working with Science Ceilidh on a project to review the policy and support system for rural communities in Scotland. Science Ceilidh also runs Community Knowledge Matters, a network for community-based researchers across the Highlands and Islands.
[72] CLAN, the Community Landownership Research Network

There are examples emerging across the UK of how land use change that is as positive as possible for rural communities can be achieved, and a growing potential for shared learning about how this power can be enhanced in future. As is the case for other actors, including individual private, charitable and organisational owners, there are many opportunities emerging for the UK's rural communities in the land use transition required to reach net zero goals; these will be maximised, and the negative impacts of any challenges minimised, by using a better evidence base, combined with definitional clarity, about these communities and their key characteristics to deliver improved knowledge and policy on this transition. While there is much that can be learned from existing examples of community ownership, benefits from development, and engagement in various activities, it is important to note that the scale of land use change required to meet net zero targets, and the potential for inter-community tensions (both within rural areas and between rural and urban areas) may raise additional challenges in terms of acceptability for communities. This raises important questions for local democracy and representation, for the role of local authorities and particularly the planning regime in terms of how it can regulate decision-making and potentially resolve conflicts, and for improved evidence-gathering and awareness amongst communities of the potential benefits as well as the negative and adverse impacts involved. Integrating these processes of community involvement in land use planning, wider community empowerment and learning, and attendant democratic processes, are key opportunities as well as challenges in delivering net zero.

UK Research and Innovation
Department for Environment Food & Rural Affairs
Department for Energy Security & Net Zero
Scottish Government Riaghaltas na h-Alba gov.scot
Llywodraeth Cymru Welsh Government
Department of Agriculture, Environment and Rural Affairs