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The role of rural communities in the transition to a low-carbon Scotland: a review

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The Scottish Government is committed to carbon reduction targets which are the most ambitious across the devolved administrations of the UK. Whilst Scotland operates within broader international and UK policy contexts, it has developed particular programmes and approaches to engage communities in the transition towards low-carbon futures. Rural areas have a role in the transition to a low-carbon Scotland; however, beyond land use and agriculture contributions, little research has explored the "rural" dimension of "low-carbon" transitions. The paper presents a policy and literature review relating to the low-carbon agenda in Scotland. It reflects on Scottish low-carbon policy and governance, the positioning of "rural communities" within this, and the opportunities and challenges this might present. Based on this, we develop an understanding of how rural communities may contribute to a low-carbon Scotland and identify a future research agenda to explore in more detail the nature and relative effectiveness of diverse governance structures to support this.

Keywords: rural communities; low-carbon; transition; rural Scotland

Introduction

Transitions towards a lower carbon future – and the roles of communities of both place and interest within them – are gaining increasing attention (Middlemiss and Parrish 2010, Peters *et al*. 2010, Seyfang and Haxeltine 2012). However, analyses are often with regard to specific case study examples of such activity, or to one particular manifestation of "transition", such as Transition Towns (cf. Aitken 2012).

Further, as Scotland moves closer towards its referendum on independence from the rest of the UK (scheduled to take place in September 2014), there is increasing interest in the implications of a devolved policy environment across the UK's administrations – for example, in the fields of soial policy (Birrell 2009) and economics (cf. Danson *et al*. 2012). However, within an increasingly devolved UK "low-carbon" policy context which sees a mix of both reserved and non-reserved powers applying at multiple scales, how far these are resulting in distinct trajectories of transition across the UK remains under-researched.

There has also been a "more or less implicit" shift towards focusing on community (rather than individual) level action in achieving low-carbon transition framed as a

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transition which "will enable a more just response to climate change" (Bulkeley and Fuller 2012, p. 2). And whilst local circumstances have been an emerging focus of study (Bulkeley and Fuller 2012) with regard to housing stock or local populations, for example, far less attention has been paid to the role of broader socio-spatial characteristics in influencing the nature of low-carbon transition, such as rurality. The extent to which a geographically sensitive approach to low-carbon transition is justified requires further examination.

This paper therefore synthesises these gaps and explores the role of rural communities in low-carbon transition in Scotland. It explores the ways in which a devolving policy context is providing space for distinct policy for community transition towards a low-carbon future in Scotland. Further, in exploring the case of rural communities specifically it aims to move beyond individual case study examples towards a more holistic view.

This paper draws on in-depth review of academic, policy, and funding documents regarding the place of rural communities in low-carbon transition in Scotland. We begin with a brief review of academic and policy literature to examine in more detail: (i) the rationale for reviewing rural low-carbon transition; (ii) the rural community context more generally; and (iii) the "low-carbon" policy landscape in Scotland. We then examine in more detail the place of: (i) rural areas in Scottish low-carbon policy and (ii) the place of rural communities in particular. There follows a short case study policy and governance review to illustrate the multiple linkages between policy, practice, and diverse actors for a particular manifestation of low-carbon rural governance, before conclusions and future research agendas are highlighted.

Context

Rural Scotland: a distinct carbon emissions geography?

Recognising the geographically varying capacities and motivations for community participation, given the increased emphasis on a "localism" agenda both within Scotland and across the UK is increasingly important (cf. Skerratt 2013). Whilst the varying resources of individual actors and particular communities to engage with low-carbon transition agendas have been highlighted with reference to socio-economic characteristics (Seyfang and Haxeltine 2012), there has been less attention given to the ways such capacities might also vary geographically across urban and rural contexts.

This is somewhat surprising given the distinct characteristics of rural areas. The Scottish Government define rurality on the basis of population size and travel times to other, larger settlements ranging from "large urban areas" (settlements of over 125,000 people) to "remote rural" (with a population of less than 3000 people, and a drive time of over 30 minutes to a settlement of 10,000 people or more) (Scottish Government 2012a). Based on the six-fold categorisation, 94% of the landmass and 18% of the population of Scotland have been categorised as living in either "accessible" or "remote" rural Scotland.

The demographics of rural Scotland are distinct; rural areas have a much lower proportion of the population in the ages 16–34 but a higher proportion of people aged 45 and over (Scottish Government 2012b). Indeed, socio-economic characteristics vary markedly between accessible and remote rural areas of Scotland, with varying average incomes, employment patterns, demographic profiles, and rates of employment (Scottish Government 2012b, Thomson 2012).

Regarding community participation, it has been found that rates of formal volunteering increase with degree of rurality (Woolvin and Rutherford 2013) and there is a higher number of registered charities per head in more rural areas of Scotland compared to

more urban areas (Woolvin and Skerratt 2012, Keller *et al*. 2013). This suggests a landscape within which civil society activity (on which much low-carbon community activity rests) is high.

In addition to these distinctions, recent research has also identified a distinct carbon emissions geography. When defined at the Local Authority level using the Randall definition (see Granville *et al.* 2009), there are higher overall levels of carbon emissions per head of population. This is found to be true across multiple spheres including transport, energy use, and agriculture. With regard to transport, poor public transport, multiple car households, dispersed services, and commuting all contribute to higher carbon emissions. For home energy use, poor energy efficiency, low uptake of insulation and ageing houses influence carbon emissions (Hall and Woolvin 2012).

Therefore, there are distinct challenges associated with low-carbon living in rural areas, but also opportunities. For example, renewable energy is generally generated in rural areas; those in rural areas may tend to consider low-carbon technology ahead of urban dwellers, and lower carbon alternatives such as rural car clubs, rural community hubs, and Demand Responsive Transport are emerging (Allan and Hall 2012, Hall and Woolvin 2012). We now move on to explore the rationale for exploring the role of rural communities specifically in low-carbon transition.

Rural communities and low-carbon transition

Communities are increasingly participating in and engaging with community development projects (Walzer 2010), both reflecting and driving continued policy and academic interest. However, despite this growing interest, "community" remains a nebulous term due to the multifaceted ways in which communities are involved in various community projects (Walzer 2010).

There are myriad understandings of community, a term which has been the subject of both study and critique for many years within the field of community studies (cf. Crow 2002) and more widely (Theodori 2007, Matarrita-Cascante and Brennan 2012). Specifically with regard to the low-carbon context, a number of different but interconnected meanings of community can be identified: *Community as actor; Community as scale; Community as place; Community as network; Community as process; and Community as identity* (Walker 2011). This suggests the need to be open and aware of the diverse articulations of community when seeking to explore it's mobilisation in policy and practice.

Much is expected from communities. Transitions from high to low-carbon societies often rely on communities to take action and reduce emissions or motivate local inhabitants towards a "greener" future. Community mechanisms are often expected to be successful for achieving carbon reductions (Walker 2011), which some suggest are more "just" than when focusing on individual level behaviour change (Bulkeley and Fuller 2012). Such attempts need to capitalise on the unique nature and characteristics of communities, capitalising on their own capacities (Peters and Jackson 2008) whilst moving beyond the conceptualisation of "rural community" as homogenous and an "idyll", identifying instead the multiple layers and tensions inherent in the concept (Cloke 2003).

Policy context: low-carbon, devolution and rurality

Scotland has committed to reducing its Greenhouse Gas emissions by 42% by 2020 (Scottish Government 2009a), compared to Westminster's target of 34% (HM Government 2008). Compared with the UK average, Scotland has a colder climate, more housing in

rural locations without access to gas mains, and more households likely to be exposed to fuel poverty from rising energy costs (Stewart 2010). Scotland may therefore need to take specific and immediate actions if it wants to meets its commitments.

Specific targets include a "largely de-carbonised electricity generation sector" by 2030; a "largely de-carbonised heat sector" and "almost complete decarbonisation of road transport" by 2050; and a "comprehensive approach to ensure that carbon is fully factored into strategic and local decisions about rural land use" (Scottish Government 2009b).

Renewable energy production has been positioned as one of Scotland's most powerful areas of competitive advantage in achieving its goals. It is also claimed that Scotland possesses an estimated 25% of Europe's offshore wind and tidal potential and 10% of wave potential (Scottish Government 2009c). The ambitions of the Scottish Government to "green" its economy are also reflected in the recently announced target to generate by 2015 50% of Scotland's electricity needs from renewable sources. It has been claimed that this will open up new opportunities for investment and the generation of "green" jobs especially in rural locations (Scottish Government 2012c).

Community energy has received particularly pronounced attention in Scotland, both in terms of targets but also in terms of support. The Scottish Government have set a target of 500 megawatts (MW) of community-owned renewable energy projects by 2020, which they claim could be worth up to £2.4 billion to Scottish communities – and in particular rural businesses – (Scottish Government 2012d). Furthermore, the Economy Energy and Tourism Committee (EETC 2012, p. 7) of the Scottish Parliament concluded that they would want to "see communities empowered and equipped either to generate their own energy or to gain the maximum benefit from development in their local area". This has been echoed by the Energy Minister Fergus Ewing:

> The Scottish Government is determined to ensure communities all over Scotland reap the benefit from renewable energy. (Scottish Government 2012d)

Such rhetoric has also been articulated into various funding streams. These include the Community and Renewable Energy Scheme (CARES), Climate Challenge Fund (CCF), Community Powerdown, and the Community Empowerment Action Plan (Scottish Government 2009d). These initiatives and policies support a variety of projects and programmes to achieve a low-carbon future at various geographic scales and employing a variety of ownership models.

With regard to rural communities, the Scottish Government Economic Strategy recognises "… there are exciting opportunities for our rural communities with major new sources of investment and employment" (Scottish Government 2011a, p. 52). However, as will be shown, targets with reference to specific socio-spatial characteristics (e.g. urban/rural) are generally absent. This, we will suggest, is a significant gap in policy and governance given the "high carbon" picture earlier presented.

Examining the place of "rural communities" in Scottish low-carbon policy

At international and national scales, it appears that the wider role of rural areas and the wider social and economic benefits for rural communities in low-carbon policies are generally constrained to the primary sectors of the economy, with less attention given to the ways in which wider societal sectors (such as transport and energy use) might vary across urban and rural spaces.

Low-carbon rural policy in Scotland

Generally, low-carbon policy in Scotland has focused on the role of the land-based sector when referring to rural areas. This is apparent in primary as well as in secondary legislation.

In the Climate Change (Scotland) Act (2009), reference to rural areas is mainly related to the primary sectors of economy (e.g. land use, forestry, and water conservation) (Scottish Government 2009b). Further, the Scottish Rural Development Plan (2007–2013) which is designed to support rural Scotland in terms of environmental, social, and economic development refers to low-carbon rural actions mainly via agriculture and woodland management (Natural Scotland 2006). Although the Plan recognises that energy efficient measures in rural and island communities need to be taken into account it does not specifically outline actions required to support these measures in rural areas.

In contrast, there is some evidence suggesting that rural-specific actions are slowly emerging. For example, the report "Low-Carbon Scotland: Meeting the emissions reduction targets 2010–2022" includes measures referring to homes and communities, sustainable places for work (e.g. community hubs), and reducing emissions from transport (e.g. rural car clubs) (Scottish Government 2011a).

The transition to a low-carbon future became a strategic priority in the 2011 Economic Strategy of the Scottish Government. Three priorities are highlighted which can promote low-carbon development: (1) making Scotland a leading low-carbon investment destination; (2) maximising the social and economic opportunities of energy and resource efficiency; and (3) encouraging consumer and business demand for low-carbon products and services (Scottish Government 2011b). Within these priorities, rural areas clearly have a strong role to play in providing the sites and resources for renewable energy generation and to achieve the targets of economic growth cited by the Scottish Government. However, once again wider rural-specific targets and measures besides the primary economic sectors are absent.

The focus of low-carbon policy in Scotland is therefore mainly on the land-based sector, with little spatial differentiation. There appears, however, a nascent recognition that rural Scotland beyond this sector has the capacity and the resources to tackle climate change and to move towards a low-carbon future.

The place of rural communities in Scottish low-carbon policy

The term "community" has been articulated in various low-carbon policy documents in Scotland. As identified earlier, "community" is mobilised in diverse and multiple ways in low-carbon policy and governance, with community as actor; scale; place; network; process and identity often used in an interconnected way, and it being challenging to highlight one specific articulation within a policy (Walker 2011). It is similarly challenging to do so here; however, community as "actor"; "scale", and "place" appears to be particularly frequently applied. The low-carbon "community" commitment of the Government was identified relatively early in the SNP majority administration in 2009. In one of its earlier Energy Pledges, it aimed to promote "large scale, community based, decentralised and sustainable generation" (Scottish Government 2009c, p. 18). Furthermore, the Renewables Action Plan aims to "maximise the benefits for communities from renewable energy, not only in terms of access to locally produced low-carbon energy, but in terms of social cohesion and economic development" (Scottish Government 2009e, p. 48). It is therefore increasingly suggested that community projects are important for the sustainability of local communities and that low-carbon projects will operate successfully and efficiently at the community scale (Scottish Government 2010a), echoing the findings of Bulkeley and Fuller (2012).

In terms of the place of communities more generally in transition to a low-carbon Scotland, six key – and often overlapping – themes can be discerned by reviewing key policy documents (Table 1): (1) Low-carbon building designs for energy efficiency (Scottish Government 2010a, 2010b); (2) Reducing the need to travel via community hubs and car clubs (Scottish Government 2011a, 2010b); (3) Promoting community action (Scottish Government 2010c); (4) Encouraging behaviour change by engaging communities (Scottish Government 2010b); (5) Benefits for communities from nearby energy projects (Scottish

Table 1. Review of key references to "rural communities" in key policy documents in Scotland.

Policy document	Specific actions to be taken regarding rural communities
A Low Carbon Economic Strategy for Scotland (Scottish Government 2010a)	*Decarbonising Transport:* mixed use facilities and "community hubs" in *remote* or tele-working in *smaller communities.* Design and procurement for small ferries to serve *remote communities* off the Scottish and Irish Coastlines via the Scottish Government and Caledonian Maritime Assets Ltd (CMAL)
Climate Change Delivery Plan: Meeting Scotland's Statutory Climate Change Targets (Scottish Government 2009a)	New energy efficiency investment in Scotland's *rural and island communities* to ensure accurate, disaggregated and regular reporting of energy efficiency-related activity. Rural land management to provide a significant potential for the development of renewable energy for use by land-based enterprises and *rural communities*
Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010–2020 (Scottish Government 2011a)	These changes would help to guarantee that new energy efficiency investment includes *Scotland's rural and island communities* and to ensure the accurate, disaggregated and regular reporting of energy efficiency-related activity in Scotland. Reducing emissions from homes and communities: community and small-scale renewable, sustainable places *(community hubs).* Reducing emissions from transport: *rural car clubs*
Low Carbon Scotland: Public Engagement Strategy (Scottish Government 2010c)	Need to take account *of urban and rural communities.* Ensure that the regulatory framework for energy is supportive of new investment, particularly in *remote communities* Engage young generation (urban and *rural communities*)
Conserve and Save. The Energy Efficiency Action Plan for Scotland (Scottish Government 2010b)	*Reducing the need to travel: piloting community hubs in more rural areas* to reduce travel distances
Renewables Action Plan (Scottish Government 2009e)	There appears a contrast between rural and urban community renewables with differing solutions and target bodies. For example, in urban areas, bodies such as Local Authorities may be more of a target than in rural areas where the "scale" is less clear.

Government 2011a, 2009e); and (6) Increasing renewable energy capacity (Scottish Government 2009e). Although these actions are diverse, the fact that the main investment (£13.5 million) is allocated for community renewables and microgeneration schemes highlights the main area of focus.

When we examine the place of *rural* communities in the same key policy documents, we find that these focus on similarly overlapping themes, including: (1) Decarbonising transport via community hubs and rural car clubs; (2) Designing and procuring small ferries for remote communities; (3) Energy efficiency investments; (4) Renewable energy projects; and (5) Engaging younger generations in opportunities a low-carbon future can bring (e.g. jobs, skills).

The above shows the diversity of policy efforts to engage rural communities in particular in a low-carbon future in Scotland. Table 1 illustrates that the Scottish Government is beginning to take into account community action and engagement specifically in rural, remote, and island communities; however, the coherence and integration of low-carbon policy and governance for rural communities could be improved.

Whilst review of the policy context for low-carbon rural community activity is important, it is also fundamental to understand the ways in which this is articulated into practice through governance and funding arrangements at multiple scales.

Rural community aims in funding initiatives

In Scotland there is a variety of funds available to encourage communities, through top-down and grassroots initiatives, to reduce their carbon footprint, tackle climate change, reduce GHG emissions, address fuel poverty, and obtain advice and financial support for renewable energy projects. Communities in Scotland can choose to apply to a variety of schemes depending on their specific aims and needs. These involve initiatives at the Scottish Government level [e.g. CARES; CCF; Community Powerdown; Scottish Sustainable Communities Initiative (SSCI); and Transition Scotland Support (TSS)], at the UK level [e.g. Community Energy Saving Programme (CESP); and Energy Share Fund, Pure] and at the European level (e.g. Smallest). Table 2 gives a brief summary of the aims, the type of projects and the area in which these initiatives are taking place.

Reviewing the above key funding initiatives in Scotland we found that their aims are diverse, falling into five main categories: (1) Providing advice and financial support for renewables (CARES; Energy Share Fund; Pure; and Smallest); (2) Promoting measures for fuel and carbon savings (CCF; CESP; Energy Share Fund; and TSS) (3) Inspiring community action (CCF; Community Powerdown; Smallest; and TSS); (4) Strengthening local economies and improving community cohesion (CCF; Energy Share Fund; and TSS); and (5) Sustainable design of places (SSCI). There is – of course – a great degree of overlap between the aims of these programmes.

Table 2 shows that most community initiatives do not specifically focus on rural communities. Amongst them, only the Scottish "CARES" and the European project "Smallest" focus on rural (remote) locations and have specific objectives for rural areas. In the case of CARES, EETC (2012) argue that the programme contributes to empowering and equipping communities to generate their own energy and recommends that the Government need to devote more resources to CARES in future budgeting to support long-term community participation.

CARES Loans aim to support "rural businesses, typically farming businesses who want to start a renewable energy generation project on land they own or can lease" (Community Energy Scotland 2012a, p. 2), whereas Smallest aims to support rural communities to access

Table 2. Review of "rural communities" in key funded initiatives in Scotland.

Initiative	Aims for communities	Number of communities	Types of projects	Investment	Rural communities
CARES (Community Energy Scotland 2013)	Provide community groups with advice and financial support for renewable energy projects. Support the development of locally owned renewable energy projects which provide wider Community Benefits	420 communities (since 2009)	• Rural businesses • Communities/charities • Cluster developments • Infrastructure grant • Longer term funding (2012–2013)	*£13.7* million allocated for 2 years	*Urban and rural locations*
CCF (Keep Scotland Beautiful 2013)	Inspiring community-based action to tackle climate change. Help communities reduce their carbon emissions. To strengthen local economies, improve community cohesion and other social objectives.	345 communities (since 2009)	• Increase energy efficiency (homes and community buildings) • Help communities reduce, recycle, waste • Encourage low-carbon transport/active travel • Consumption/ production of local food	*£37.7* million (2008–12) *£10.3* million (2013–2015)	*Urban and rural locations*
Community Powerdown (2013)	Bring together communities who wish to tackle their carbon emissions by delivering carbon reduction projects both locally in their communities and also collectively through sharing knowledge and expertise	27 community groups (since 2009)	• Awareness raising • Community consultation • Local food production • Energy efficiency • Carbon counting • Recycling • Renewable energy • Schools and education • Sustainable transport	*£1,494,000* Funded by Climate Challenge Fund	*All rural locations*
SSCI (Scottish Government 2011c)	Encourage the creation of places, designed and built to last, where a high quality of life can be achieved	11 communities (since 2008)	• Architecture and sustainable development	*No budget* but in means of advice	*2 rural locations* (out of 11)

TSS (2011)	To show how communities can tackle climate change, rising fuel prices and economic instability. Help people use the Transition model in whatever way made most sense to them and their communities	60 communities	† Raise awareness of the transition model • Provide support to transition initiatives • Promote a resilient national network • Develop inter-organisational collaboration	*No budget* but in means of advice/support. Voluntarily driven	*Urban and rural locations*
CESP (DECC, 2011)	Promote measures to give households the biggest fuel bill and carbon savings. The homes which benefit, will gain reductions in energy demand, carbon dioxide emissions and running costs	22 Carbon saving schemes in Scotland (by 2011) *Communities:* areas of low income	• Insulation • Fuel switch (to gas) • Connection to a district heating scheme • Ground source heat pumps • Air source heat pumps • Microgeneration • Heating controls • Replacing old boilers • Installing gas central heating • Home energy audits	*£350* million across UK (2009–2012)	*Urban and rural locations*
Energy Share Fund (Energy Share 2013) UK Broader	Aims of the projects to: • Save or generate energy locally • Supported by the local community • Benefit the local community and have a tangible impact • Realistically achievable within one year and inspire more community renewable projects	Four community projects in 2012	• Renewable energy • Microgeneration • Renewable energy • Biomass • Hydroelectric • Wind turbines	Applications up to £100,000	*Urban and rural locations*

Table 2. Continued.

Initiative	Aims for communities	Number of communities	Types of projects	Investment	Rural communities
Pure Community Energy Fund (Pure Trust 2013) UK Broader	Provide cost effective financing for community renewable energy projects. Provide low interest loans for small-scale renewable technologies which can be repaid over a term that suits the cash flow for each individual project up to a maximum of five years	Over 30 small-scale renewable energy projects (schools, community centres and for charities)	• Anaerobic digestion • Hydro power • Photovoltaics • Wind turbines • Air, water and ground source heat pumps • Solar thermal • Biomass boilers	–	*Urban and rural locations*
Smallest (2007–2013) Puhakka-Tarvainen and Renvall (2012) Northern region	*Empowering the smallest communities renewably.* Encourage renewable energy amongst Europe's rural remote communities in the Northern region	Three rural communities in Scotland	• Convert traditional energy to renewable • Up skilling of workforces and communities • Community engagement skills • Mentoring service • Access to trained and qualified professional and practical support	*No budget* but in means of advice	Help *rural communities* increasing awareness of the potential benefits of microrenewable energy generation

micro-renewable energy generation technology, promote energy saving, and decrease of greenhouse gas emissions (Puhakka-Tarvainen and Renvall 2012, p. 5). Furthermore, CESP focuses on low-income communities but there is no spatial distinction between rural and urban locations.

Although most of the initiatives do not aim specifically to support rural communities, there *are* many rural communities applying for funds, seeking support and advice. A closer look at Community Powerdown website case study areas reveals that all the initiatives funded so far are taking place outwith large urban locations and are undertaking a variety of projects, i.e. carbon footprinting, awareness raising, education programmes, renewable energy activities, establishing recycling centres, undertaking community consultation, and supporting local food production (community gardens) (Community Powerdown 2013). Furthermore, the CCF has also funded many rural community projects related to transport, recycling, awareness rising, local food production, community gardens, and farmer's markets.

The extent to which such funding programmes can be said to be "inclusive" is unclear. A robust review of rural communities in terms for example of the amount of investment and types of projects supported is required, alongside longitudinal study of the processes of participation over time. These could help to explore how challenges and opportunities may vary across different rural parts of Scotland and which actors are involved within differing governance contexts.

The diversity of funding initiatives also suggests the need for a coordinated approach to funding low-carbon activity in "rural communities". There appears limited coherent and strategic linking across the varied funding bodies involved, rather there appears overlap and repetition of funding. Our review did not reveal a coherent or a strategic view as to what geographical scales or what type of "low-carbon" projects should be supported, nor a consistent explicit definition of "community". Indeed, the Scottish Government (2013, p. 46) recognise that in order to progress to a low-carbon Scotland one of the key strategic, cross-cutting issue is to ensure collective access to a range of different funding and financing mechanisms with projects requiring different types of funding depending on their nature, timing, and context. Walker *et al.* (2007) argue that limited strategic coordination both reflects the diversity of policy drivers involved and the diversity of ways in which the "community" label has been utilised.

Reviewing the complex governance landscape for low-carbon rural community transition in Scotland: Community Benefit case study

We now unpack the complex multi-level, multi-actor nature of the low-carbon rural governance often involved with such activity with a brief reference to the Community Benefit case study, through review of the available literature. Community Benefit is defined as a "goodwill" contribution voluntarily donated by a commercial developer for the benefit of the communities affected by development where this will have a long-term impact on the local environment (The Highland Council 2012a). According to Community Energy Scotland (2012b), the "community benefit gesture" relates to the installation of a large-scale renewable project near (rural) communities.

There are few guidelines regarding Community Benefit arising from renewables, and these have been voluntarily set up by negotiations between developers, Local Authorities and (rural) communities. Therefore, Community Benefit has been developed in a piecemeal manner with a diversity of models, ranging from low-level community involvement (e.g. grants) through to partnerships between communities and developers to set up a longer

term investment programme or community ownership of a project (Meacham 2012). Diverse actions have already been undertaken by the 32 Scottish LAs evidenced by Single Outcome Agreements to facilitate transition to a low-carbon economy (Scottish Government 2007).

Whilst Community Benefit has tended to be negotiated on an ad hoc basis, Highland Council is seeking to develop both a minimum level of Community Benefit payment, and also both centralised and redistributive elements at the LA level. By examining Community Benefit, we wish to: (1) contribute to the emerging body of work regarding the challenges and opportunities for its allocation in the UK relative to other European countries (Aitken 2010); (2) focus on this example as it is a *function* of the low-carbon agenda as well as a stream of funding that has the potential to further support low-carbon activity at a local level, and (3) examine the distinct approach emerging here, relative to other Scottish LAs, allowing us to move beyond individual case study communities, to a wider rural Local Authority low-carbon governance context.

Highland Council's approach seeks a minimum of £5000 per megawatt of installed capacity per year with the Council acting on behalf of communities to negotiate concordats with developers (The Highland Council 2012a). Similarly to the individual wind farm example highlighted by Aitken (2010), one of the defining features of this approach is the way areas other than the immediate community in which the development takes place are able to benefit. The eligibility of communities is based upon proximity to site; visual impact and number of residences. The funding allocation is proposed as follows:

All the first £100,000 goes to the immediate, proximal community ("Community Fund"). Above that level, 55% goes to local communities ("Local Fund"). Additionally:

- 30% goes to 33 specific Wards ("Area Fund" – see below).
- 15% goes to the Highland Council ("Highland Trust Fund").

Communities which do not have access to Community Benefit at the Local Fund level will also be able to bid into the Area or the Highland Trust Fund. These are communities which do not host renewable energy development but they are important for the development of the region as they may provide services; they may have grid lines carrying renewable energy; or they are on the route of the transporting equipment during the construction or maintenance of the installation. The ways this scalar differentiation of Community Benefit has been positively, and negatively perceived by communities has been highlighted elsewhere, with the importance of acknowledging pre-existing administrative boundaries such as Community Council areas, and the differential experiences of negative outcomes resulting from wind farm development also highlighted (Aitken 2010).

The policy also applies to offshore developments. These are regulated by the Crown Estate Commissioner and by Marine Scotland. The Highland Council seeks to negotiate in a similar way. They propose that if the development takes place in open waters, 20% of the benefit goes to the coastal communities and the remaining 80% goes to the Highland Trust Fund. Where offshore projects are concerned, the Scottish Government (2012a, 2012b, 2012c, 2012d, p. 24) argues that there is a "need to ensure that community benefits are considered at an early stage". Barriers for community participation in offshore development, however, have been identified as including high development costs, the role of the Crown Estate, limited community capacity and access to finance (The Highland Council 2012b).

Multiple actors are involved in this articulation of low-carbon rural governance. Figure 1 illustrates this: the Highland Council (on-going development and administration); private

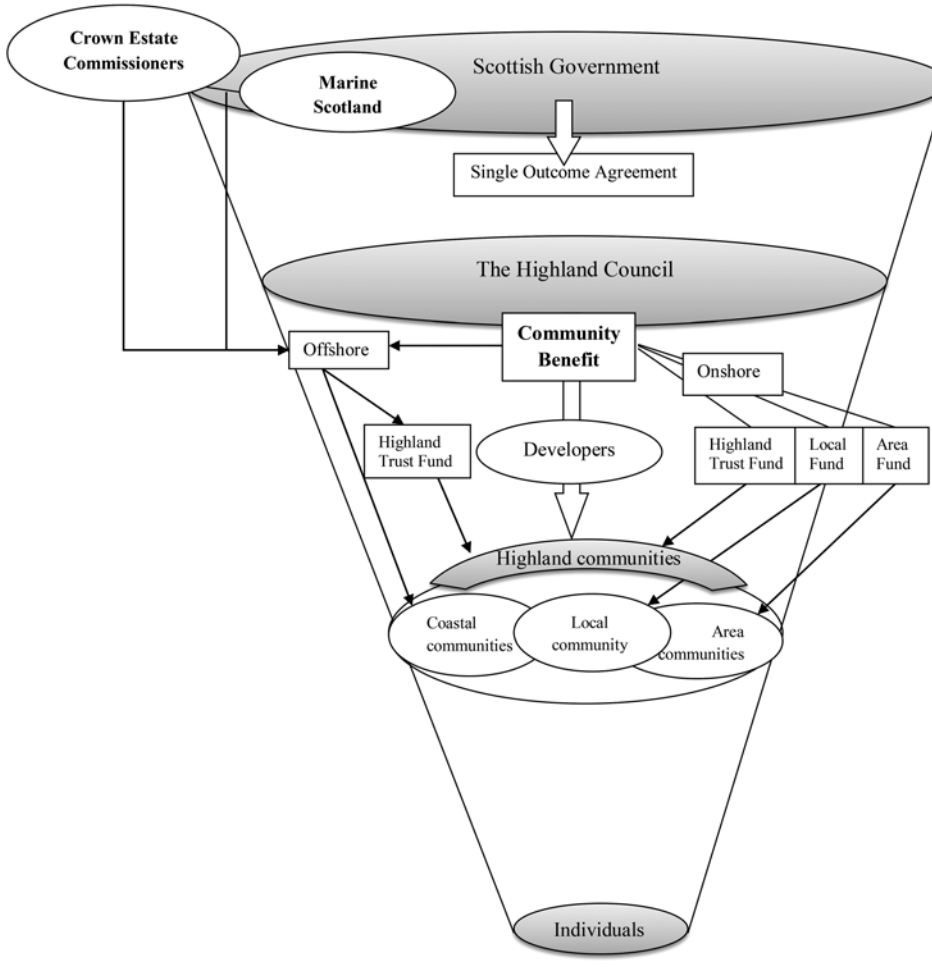

Figure 1. Highland council community benefit governance structures.

sector developers (making financial contributions), the local communities; wider areas and the wider Highland Council region (benefiting from these payments and undertaking subsequent community action) and in offshore developments, the Crown Estate and the Marine Scotland.

It is too early to identify how far this innovative approach to Community Benefit will be successful; however, given that "renewable developments, and communities understanding of it, is muddled", as frameworks at the local level are less well understood (Atterton *et al*. 2011) there may be challenges in engaging communities. Indeed, this governance scheme has received some criticism. The private sector has raised concerns that open consultation with industry was not undertaken and have argued that there appears to be a "contrast with both the spirit of Community Benefit and the ultimate aim of sharing the benefits of energy schemes with local people" (Scottish Renewables 2012a, p. 1) and that the Community Benefit needs to be flexible, and transparent. They stated that "community benefits from renewables projects need to be directed towards those who are in a position to use them, in the best possible way for the local area" (Scottish Renewables 2012a, p. 1). This

relates to the cumulative effect of wind farms when a community at some distance from a project but within the curtilage might benefit disproportionately than those closer to wind farms (Cowell *et al*. 2011).

Furthermore, Scottish Renewables (2012a) urge caution in having a central body acting as receiver and distributor of community payments, which they argue could break the lines of communication between the project and the community due to a lack of transparency of payment distribution. The importance of transparency was also acknowledged in the course of a recent consultation examining how Community Benefit from low-carbon projects could be maximised (Scottish Government 2010d).

A number of developers have suggested that there is a need to move away from the view that benefit payments are "compensation" payments, instead suggesting that benefit should be based on the specific needs of the local community, not on the impact of the project (Scottish Renewables 2012b, p. 5). Furthermore, Cowell *et al*. (2011) argue that Community Benefit is seen predominantly as compensation for impacts without implications that could impact social attitudes. This dominant rationale can shadow other important outcomes of Community Benefit, such as, environmental justice or serving the sustainability of wind farm developments (Cowell *et al*. 2011).

This example also raises questions of community capacity to receive these payments: how will effective, equitable, transparent, and inclusive governance mechanisms for the spending of these funds are identified within the recipient communities? And where no such organisation exists how will capacity be built and community buy-in ensured when community members have not necessarily sought the funding available to them?

The Community Benefit highlights the complex governance landscape, but also the importance of community consultation as a productive way to involve and engage local people in local projects. An approach that engages local people with stakeholders in the public, private, and third sectors at an early stage of the project appears important, as does communication between parties to identify concerns, solutions, and the design of a project that will benefit communities and developers. Indeed Highland Council suggests that participation of local communities and individuals in renewable energy developments helps to ensure that they are appropriate, supported locally, and that their benefits remain within the rural local community (The Highland Council 2006).

We acknowledge that this is a single example and seek to build up a collective picture of experiences from different layers in the governance diagram in our future work. This picture is likely to vary depending on who is involved and from what perspective the diagram is drawn.

Conclusions

There is a distinct rationale for seeking to engage specifically with Scottish rural communities in low-carbon transition given both their distinct carbon, social, and geographical contexts. In this paper, we have identified that the extent to which rurality is reflected in low-carbon policy in Scotland is limited. We suggest that policies supporting a transition towards a low-carbon Scotland are somewhat "spatially blind", failing to acknowledge the distinctions across urban and rural contexts.

This is reflected by our review of the place of "rural communities" in low-carbon policies and funding initiatives in Scotland. Although it is increasingly recognised that community projects (e.g. renewables) are crucial for rural community development, actions targeting rural communities of place specifically are challenging to identify in policy documents. Additionally, the diverse funding initiatives available to communities suggest the

need for a coordinated approach. Our review revealed limited coherence of funding across funding bodies, resulting in overlap and duplication of funding.

The example of Community Benefit in the Highland Council region highlights the complex low-carbon governance landscape at the local level, the importance of including multiple voices and of communicating effectively between parties to identify concerns, solutions, and to co-design a project that will benefit rural communities and developers. It appears important that the rationale for certain communities receiving Community Benefit whilst others do not; and for a proportion of Community Benefit being allocated to areas other than the most geographically proximal are clearly consulted on and well articulated. The ways in which these "functional geographies" map onto existing administrative boundaries and potential implications should also be reviewed (Aitken 2010). We conclude that, a spatially sensitive approach to low-carbon governance is fundamentally important if sustainable and inclusive transitions towards a low-carbon future are to be achieved, drawing on rurality as a case-in-point.

There has been little attention in research given to investigation of "rural communities" needs or opportunities for transition to a low-carbon future, and we acknowledge that in the limited space available here our examination has inevitably been partial. Indeed, it is possible that there are similar "high carbon" pictures in the more rural areas of other countries. We suggest that whilst the place of "rural communities" in European and international policy has been reviewed elsewhere (see Acknowledgements) examining the similarities and differences between countries in terms of their national and regional engagement with rural communities and the low-carbon agenda would be productive. An emerging agenda is identified by Aitken (2010, p. 6066), who suggests that whilst in the UK "the development of renewable energy projects is dominated by large commercial energy companies…" in other countries such as Germany and Denmark there is already a greater role for cooperatives and community ownership. However, we hope this paper provides a starting point from which we and others can depart, in order to examine the multiple manifestations of governance developed by, or involving communities, which may support transition towards a low-carbon (rural) future in Scotland and more widely. In particular, we see a vibrant research agenda which examines the varying degrees of inclusive activity at the community scale, and the institutional readiness of policy and governance at wider scales to also be inclusive and enabling with regard to diverse social and spatial characteristics.

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