Summary for ACRE Network and the Rural Coalition

Carbon net-zero by 2050, a rural community perspective
The dispersed population of rural England can seem to be a prime example of a how we are hooked on unsustainable activities: car dependent, oil burning, intensive agriculture, low density housing etc.. The challenge, therefore, for rural communities in England starts with perceptions, along with the substantive challenge to become net-zero alongside our urban counterparts.

ACRE's values, along with that of other rural organisations, places those at most risk of disadvantage at the centre of our thinking. These are also the people in rural communities for whom urgent measures to reduce carbon emissions, eg banning use of solid fuels, replacing cars and travel requirements, and changing land management practice could create the greatest difficulty.

What are the sources of net increase in global atmospheric CO2?
There are several. Their interrelationships mean they are often conflated even though they have different origins and require different solutions. There are net gains, but also losses in capacity to fix CO_2 out of the atmosphere:

- Net additions of CO_2 coming into the atmosphere from the use of carbon deposits created over 66 million years ago eg coal, oil, gas, limestone (cement manufacture) etc
- Net additions of CO_2 coming into the atmosphere through release from more recently fixed carbon eg burning forests, draining wetlands, degraded soils etc.
- Decay of other greenhouse gases, eg Methane, to CO_2 (12 year half life)
- Reduced fixing of CO_2 from the atmosphere by natural systems eg forests and wetlands by replacement with agricultural systems that release captured greenhouse gases more quickly.

Why are rural areas central to tackling this issue?
Since relatively little CO_2 fixing activity happens in urban centres eg agriculture, forests, natural green space etc. it becomes clear that rural areas need to fix CO_2 on behalf of urban ones. It is highly desirable for people living in urban areas to minimise discretionary activities that generate net CO_2, however, they cannot, by doing so, reduce it. This is the intrinsic nature of urban areas, separated as they are from CO_2 fixing activity and dependent on substantial energy and other inputs. They are always going to be net CO_2 contributors, whereas rural people and the rural economy can be re-purposed and incentivised to achieve net reductions in atmospheric CO_2.

The UK's climate change targets
The UK's Climate Change Committee UKCCC has recommended targets to Government to be achieved by 2050, varied slightly for Scotland and Wales:

Sector	Measure	2017	2050 scenario	
			Core	Further Ambition
Power	Share of low-carbon generation	50%	97%	100%
	Low-carbon generation (TWh)	155	540	645
Buildings (Share of low-carbon heat*)	Low-carbon heat in existing homes	4.5%	80%	90%
	Low-carbon heat in non- residential buildings		100%	100%
Industry	CCS**	0%	50%	100%
	Low-carbon heat***	<5%	10%	85%
Surface transport (Share of fleet)	Battery electric cars and vans	0.2%	80%	100%
	Electric and hydrogen HGVs	0%	13%	91%
Aviation	g CO_2 per passenger-km	110	70	55
	Sustainable biofuel uptake	0%	5%	10%
Shipping	Ammonia uptake	0%	75%	~100%
Land use and forestry	Afforestation (% of UK land area)	13%	15%	17%
	Peatland restoration (% area in good condition)	25%	n/a	55%
Engineered removals (MtCO2)	BECCS	0	20	51
	Direct air capture	0	n/a	1

However, the UKCCC has made some counter-intuitive decisions that seem to be primarily designed to make the achievement of these targets more palatable to an urban and consumption dominated economy:

1. Current levels of consumption are not questioned other than in the field of diet and agriculture (See latest UKCCC: Land Use: Policies for a Net Zero UK). Indeed, emissions generated outside of the UK through 'unnecessary' over consumption of imported goods are ignored entirely.
2. The entire analysis appears to be rooted in changing, to an almost unrealistic extent, the GHG emissions of the **current** pattern of production and consumption.
3. The continued growth of air travel goes un-questioned.
4. The analysis is based on the current model of large-scale generation and distribution of electricity (a requirement of urban areas), without considering local or distributed generation.
5. Embedded GHG emissions in building materials are included under 'Industry' emission contributions, thereby hidden and heavily exported.

What changes in Government policy does the ACRE Network advocate?

- An objective and fair land-use planning system that goes beyond development management and directs land to be used in a way that achieves long term public benefit, including net-zero. Rural land use policy must ultimately be 'better than net-zero', not just zero!
- Incorporates a food strategy that can reduce reliance on unhealthy, over-processed, food; ensure local supply chains can be re-established, and ensure any public investment supports reduction in packaging, food miles etc
- Enables rural communities both to grow in size and become more internally sustainable through the retention of local services. Growth of local businesses that result from economic activity arising from changed land use eg greater use of timber in construction. Affordable housing, to meet local needs, is an essential component of this growth.
- Support afforestation and other carbon sequestration. Development of energy crops in a consistent long-term way that does not create perverse incentives for land managers and enables local jobs and businesses to develop
- Value all rural areas for their contribution to water management, biodiversity, food production and GHG sequestration, and does not put undue resource or value on just attractive, designated landscapes (NPs and AONBs)
- Avoids economic over-reliance on the visitor economy, instead seeking a balance between this and creation of resilient local economies

What can rural communities do and how can the ACRE Network and other rural organisations help?

1. Reaching isolated and vulnerable rural people with pro-active and trusted initiatives to improve the thermal insulation of their homes and installation of alternative heating
2. Building on existing community assets, such as Village Halls and their car parks, to put in place charging points for electric vehicles
3. Exemplar zero-carbon initiatives in community owned buildings (Village Halls) to demonstrate what is possible through PVs, improved insulation, wind power, heat pumps etc..
4. Extending current models of community ownership in rural areas to encompass renewable power generation on a whole community scale. Scottish practice would suggest this is both achievable and financially viable in the medium term.
5. Electrification of vehicles used by community transport schemes
6. Local growing, green space management, distribution and recycling initiatives that will reduce both food miles and waste miles.
7. Local tree planning initiatives and green 'whole parish plans' that work with local land owners/managers to understand the community's whole carbon cycle and net contribution to carbon zero.
8. Re-purposing of existing support to communities that are addressing local housing need to also ensure maximum use is made of local materials, especially timber.
9. Community-wide collective initiatives to 'save money and save the planet' enabling everyone to remain motivated and informed through collective effort.
10. Linking rural communities together through Citizen Science initiatives to monitor progress and retain motivation

Jeremy Leggett, February 2020