RURAL LENS REVIEW

Net Zero Strategy

Build Back Greener

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RURAL SERVICES NETWORK

At a glance

Rural Services Network's thoughts on the **Net Zero Strategy**:

- Rural areas will want to ensure that they **benefit proportionately** from the expected growth of employment in green sectors and in business that transition to net zero.
- The big unknown is the extent to which Strategy measures will reach or **target rural transport** networks or infrastructure when implemented.
- A majority of onshore energy generation from renewable sources takes place in rural areas, so debate about the **pros (such as job opportunities) and cons (such as environmental impacts)** of its expansion will likely play out most often in rural areas.
- The Strategy says that the transition "must be affordable and achievable for all" and that the costs homeowners will incur should "fall fairly across society". This is helpful, but its implementation will need to ensure it is **affordable, achievable and fair in rural areas** with their particular characteristics.
- References to taking **a place-based approach** and working with local government are potentially a useful hook It will be important to ensure that this specifically includes rural places and their challenges. It would seem helpful if there was a **dedicated rural representative on the planned Local Net Zero Forum**.

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SUMMARY

In October 2021 the Government published its Net Zero Strategy, setting out (by sector) the policies and measures intended to keep the UK on its pathway to net zero by 2050. It outlines policies and measures for the period up to 2035. Sitting underneath it are other sectoral strategies which have been or will be published e.g. Heat & Buildings Strategy and Transport Decarbonisation Plan.

This analysis seeks to identify any rural considerations that arise from the Net Zero Strategy. The three sectors where rural considerations appear most important are: a) heat and buildings; b) transport; and c) natural resources.

Heat and buildings: the Strategy presents heat pumps as the main technology for reaching net zero and it seeks to scale up their installation in homes and other buildings. It also cites planned large-scale trials to test hydrogen technology for heating, to include a Hydrogen Village trial. There are legitimate question, however, whether heat pumps are the right solution in older and poorly insulated rural homes. Also noteworthy is that the Strategy prioritises decarbonising (mainly off-grid) homes which use coal, oil and LPG.

Transport: the Strategy seeks to accelerate consumer take up of low emission vehicles, with no new petrol or diesel cars sold by 2030. It also plans to invest in expanding electric vehicle (EV) charging infrastructure. There are some measures to encourage modal shift to public transport, walking and cycling. Despite a brief rural mention, this section of the Strategy feels urban-slanted. Much will depend how far policies for EV infrastructure, low emission buses, improved cycle networks and the like are delivered in rural areas.

Natural resources: the Strategy sets targets for farmers to engage with low carbon practices through the introduction of the ELMS (replacing the CAP). It also sets targets for restoring peatland, accelerating the creation of new woodland and eliminating nearly all biodegradable waste from landfill. By definition, such measures will mostly affect rural areas and will have rural landscape and biodiversity impacts. Farmers face a period of change and (for some) financial uncertainty.

The Strategy wants to see a fair transition to net zero and makes frequent links with the levelling up agenda. It is important that this ambition includes fairness towards rural households and communities, who are supported to make the transition.

It also places emphasis on the opportunities from green growth, especially from jobs this will support. Again, it is important that rural businesses and the rural workforce share in these opportunities. That will require access to training, finance and business advice.

The Strategy recognises a need for a place-based approach to net zero and, in this, sees a key role for local government (which includes the setting up of a Local Net Zero Forum). Alongside this, it cites certain rural challenges and refers to some rural areas lacking capability or capacity.

The Net Zero Strategy is, perhaps inevitably, a fairly high-level document. What therefore matters is how policies and measures are rural proofed by Whitehall departments and agencies as they are subsequently designed and implemented.

This Rural Lens has been produced by Brian Wilson, Rural England CIC on behalf of the Rural Services Network.

INTRODUCTION

In October 2021 the UK Government published its *Net Zero Strategy: Build Back Greener*. This developed an earlier document known as the Ten Point Plan for a Green Industrial Revolution. The Net Zero Strategy (henceforth the Strategy) was submitted to the United Nations Framework Convention on Climate Change in advance of the COP26 summit recently held in Glasgow.

The Strategy sets out:

- Decarbonisation pathways towards the UK's statutory target of being net zero by 2050 (and to have 68% fewer emissions by 2030[1]); and
- Supporting policies and programmes to reduce emissions for each sector plus some cross-cutting actions.

These are intended to keep the UK on track to deliver on its 2030 Nationally Determined Contribution i.e. the UK's contribution to global net zero goals.

This rural analysis has been commissioned from Rural England CIC by the Rural Services Network (RSN). It seeks to:

- Summarise the main policies and measures covered in the Net Zero Strategy;
- Identify rural considerations that arise from those policies or measures; and
- Flag any rural references (or the lack of them) within the Strategy document.

It draws upon findings from a report published by Rural England earlier in the year ('Opportunities and challenges for rural communities from net zero carbon legislation') and upon information in the RSN's Revitalising Rural campaign (on 'Decarbonising rural communities and economies'). Those documents identify some specific rural challenges in reaching net zero, for example due to the nature of the rural housing stock, the number of off (gas) grid rural properties and dependence on cars for rural travel. They also highlight that rural communities must be able to contribute fully if the UK is to meet its net zero target. Further, that rural communities should be able to benefit from opportunities that arise from green growth.

[1] That is, 68% fewer emissions than at the baseline year of 1990.

ABOUT THE STRATEGY

The Net Zero Strategy is described as a long term (29 year) plan to finish the job of getting to net zero by 2050, building upon the UK's record of emission reductions to-date. It divides that task into five year periods and sets out a delivery pathway up to 2035. This covers policies and measures across the different sectors (power, transport, heating, etc) that collectively add up to staying on that pathway.

Although long (300 pages), the Strategy pulls together net zero policies from across the various sectors. Perhaps inevitably, policies and measures underway or due to start soon are described more clearly than those proposed to start further down the track. More detail about many of these can be found in the Government's sector-specific documents, such as the Heat and Buildings Strategy (October 2021), the Transport Decarbonisation Plan (July 2021), the Energy White Paper (December 2020) and the Industrial Decarbonisation Strategy (March 2021). The Net Zero Strategy does not announce significant new policies.

A notable feature is the tone of the Strategy, emphasising that economic growth and reducing emissions can go hand-in hand. Indeed, that by reducing emissions quickly there is an economic dividend to win, if the UK gains competitive edge in the green industrial revolution. Significant lifestyle changes are played down. In the words of the Prime Minister's foreword, "In 2050 we will still be driving cars, flying planes and heating our homes, but our cars will be electric … our planes will be zero emission … and our homes will be heated by cheap reliable power …"

The Strategy acknowledges that there will be costs in achieving net zero, though also that the long-term costs of inaction would be greater. Its principles for managing these costs are: to work with the grain of consumer choice; to ensure the largest polluters pay the most; to protect the most vulnerable through Government support; and to work with business to drive down costs.

Also notable is how frequently the Strategy refers to aligning the net zero transition with the levelling up agenda. That is viewed as a key element of achieving a fair transition.

In outline the sectors covered and the headline measures for each are as follows.

Sector	Share of UK emissions (2019)	Planned reduction by 2035 (from 1990)	Key measures to achieve this
Transport	32%	47-59%	Use of zero emission vehicles. Ending sale of petrol and diesel vehicles. More journeys by public transport, foot or bicycle.
Natural resources	20%	39-51%	Afforestation and peat restoration. Energy crops grown for biofuels. Reductions in landfill waste. Improved farming practices.
Heat and buildings	17%	47-62%	Uptake of low carbon heating systems. Improved building insulation/efficiency. Heating use informed by smart meters.
Industry	15%	63-76%	Fuel switching and energy efficiency measures. Carbon capture deployment.
Power	11%	80-85%	All electricity from low carbon sources. Investment in grid network, electricity storage and grid management. Residual emissions offset by carbon capture, etc.
Fuel supply	5%	53-60%	Electrify oil and gas installations. Address fuel sector flaring and venting. Establish hydrogen production by late 2020s.

RURAL ASSESSMENT

This paper now looks in a little more detail at the Strategy proposals for each sector, in turn, providing a commentary on the rural dimension.

There are a few rural references in the Strategy. These are:

- In the executive summary it outlines plans for trialling hydrogen technology for home heating and says this will include a Hydrogen Village trial (p23);
- On a page summarising the UK's net zero future it says that a protected, enhanced and more diverse natural environment will support a sustainable rural economy (p61);
- In the transport section the 2050 vision refers to people everywhere feeling the benefit and it lists villages and the countryside alongside towns and cities (p154);
- In the cross-cutting section it says a place-based approach will be taken to net zero and, in doing so, it cites some specific rural challenges (p262). A little later it adds that rural areas may lack capacity and capability to address those challenges (p269).

It is worth adding that the Government predicts the policies and measures outlined in its Strategy will support up to 190,000 jobs by 2025 and up to 440,000 jobs by 2030[2]. Rural areas will want to ensure that they benefit proportionately from the expected growth of employment in green sectors and in business that transition to net zero.

[2] It is likely (though not clear from the Strategy) that these are gross figures, which include existing jobs that are retained or in some cases replaced when businesses adopt net zero practices and technologies.

Strategy vision: "Every place in the UK will have its own net zero transport network before 2050, serving the unique needs of its communities. Sustainability will be at the heart of levelling up. People everywhere will feel the benefits – villages, towns, cities and countryside will be cleaner, greener and more prosperous and pleasant environments in which to live, work and enjoy [sic]."	
Strategy policies: Continue to accelerate consumer uptake of low emission vehicles Accelerate the modal shift to public and active transport Invest in infrastructure, such as EV charge points and rail electrification Hydrogen trials for buses, HGVs, rail and shipping R&D into low emission aviation and shipping (for supply from 2025 onwards)	**Strategy measures:** End the sale of new petrol and diesel cars in 2030 and all new cars to be fully zero emissions capable by 2035 £620m for zero emission vehicle grants and to fund EV charging infrastructure, focused on residential street charging £350m to support the electrification of UK made vehicles and their supply chains Expanded trials of zero emission HGV technologies £2bn investment to improve foot and cycle routes in towns and cities by 2030 £3bn to create more integrated bus routes, more frequent services and bus lanes 4,000 new zero emission buses (plus supporting infrastructure), a net zero rail network by 2050 (with diesel only trains gone by 2040) Technology trials of clean maritime vessels and infrastructure Significant investment in rail electrification and city rapid transit systems Aim to become a world leader in zero emission flight and commercialise UK sustainable aviation fuel (with £180m support funding to become available)

Rural commentary:
The vision explicitly recognises that achieving net zero transport applies to rural areas. However, this point is not returned to elsewhere in the transport chapter, where any further references to area types are to towns and cities.

The big unknown is the extent to which Strategy measures will reach or target rural transport networks or infrastructure when implemented. This is key since rural residents have to travel further to reach jobs, services and other opportunities. Moreover, many are car dependent after a period of reducing support for rural bus networks.

To make a difference in rural areas, funding for bus networks (and the new Bus Service Improvement Plans), will need to improve frequency and reliability on routes connecting market towns with urban centres and will need to provide village residents with an alternative to the car, such as demand-responsive transport.

The EV charging network (available for public use) will need to be expanded so that drivers can travel in rural areas without worrying about distances to the next charge point. They may be particularly important in rural areas that depend on tourism.

On-street EV charging infrastructure, for those who do not have off-street parking, will need to be rolled out on relevant streets in rural settlements.

It is disappointing that the infrastructure funding to encourage walking and cycling is described as focussed on towns and cities. At the very least there will be opportunities around small rural towns and for linking up rural towns with nearby villages.

Trials of zero emission buses and zero emission HGVs should include rural areas where the infrastructure requirements may be more complex or costly.

It is unclear how far electrification of rural rail routes will be considered realistic or financially viable. Some clarity would be useful. Where not, there should be trials planned for hydrogen trains.

Notably, the Strategy states these measures will "transform our cities and towns" and will make "urban centres more enjoyable places to live". Those are well-intended sentiments. However, as the above transport measures are further planned and designed, they will also need to address the rural dimension if Government targets for reducing emissions and encouraging modal shift are to prove effective in rural areas.

POWER SUPPLY – emissions due to energy generation

Strategy vision: "Reliable and affordable power is a foundation of a modern industrial economy. It is also critical in decarbonising the economy and achieving our net zero goal cost effectively. Although ambitious decarbonisation is required in every sector, deep reductions in emissions from power could offset the need for relatively more expensive decarbonisation efforts elsewhere. Our exposure to volatile gas prices shows the importance of our plan for a strong home-grown renewable power sector to strengthen our energy security into the future."	
Strategy policies: Power the UK entirely by clean electricity by 2035 (subject to security of supply), bringing forward a 2050 target An investment decision for another new large nuclear plant within this Parliament Retain other options for nuclear power generation, such as Small Modular Reactors 40GW offshore wind power generation by 2030, with more from onshore wind, solar and other renewable sources Aim for 1GW from innovative floating offshore wind power generation by 2030 Deploy 'flexibility measures', such as storage, to smooth out future energy price fluctuations	**Strategy measures:** • Use the Contracts for Difference auction scheme to accelerate deployment of low-cost renewable generation • Implement the Dispatchable Power Agreement to support deployment of the first CCUS[3] power plant • Make progress towards investment decisions about other future large nuclear plants • £120m for the Future Nuclear Enabling Fund to retain options like Small Modular reactors • Deliver actions from the Smart Systems and Flexibility Plan and Energy Digitalisation Strategy • £380m for the offshore wind sector, to invest in supply chains, infrastructure and transmission networks • Publish a Biomass Strategy in 2022 setting out how it can be deployed for power generation alongside carbon capture • Reform governance of the energy system to align with net zero and consumer needs • Drive roll out of smart meters with a new four year policy framework starting in 2022 • Ensure consumers can engage with the retail energy market to make choices that support net zero • Ensure the planning system supports deployment of low carbon energy infrastructure, consistent with environment obligations and community interests • Explore the case for market intervention for long duration storage and hydrogen power •

[3] CCUS is Carbon Capture, Utilisation and Storage

Rural commentary:
A majority of onshore energy generation from renewable sources takes place in rural areas[4], so debate about the pros (such as job opportunities) and cons (such as environmental impacts) of its expansion will likely play out most often in rural areas. Rural communities will want to be properly engaged and consulted about deployment and planning decisions. As well as carefully planned site selection for new renewable developments, there may be ways to compensate affected rural communities (for example if they derive a share of the income generated).

Such local debate is likely to be especially intense where sites for new nuclear plants are being planned.

Estimates the low carbon energy sector could support 120,000 UK jobs by 2030 (including 60,000 connected with offshore wind) should bring economic benefits to some rural communities, especially those in the right locations or employment catchment areas e.g. parts of the east coast. There will doubtless be local winners and losers from the switchover to low carbon energy generation.

Electricity generation and its distribution will need to double to meet growing demand from electrification of heating and vehicles. This raises questions about the capacity and robustness of the electricity grid in rural areas, especially at a local level. It is possible significant investment will be needed to upgrade the grid. It is noted that BEIS and Ofgem intend to publish an Electricity Network Strategy. This will need to provide more clarity how the grid will be upgraded, as appropriate, in rural areas, including local networks.

The use of biomass is briefly referred to, along with the future possibility it could be linked with carbon capture to deliver negative emissions. Any growing demand for bioenergy crops or fuels would be of obvious relevance for land managers and would have some landscape impacts. It is noted that Government intends to publish a Biomass Strategy in 2022.

Some rural communities have planned or developed community-based energy generation schemes, which seek to retain income within their local area. Indeed, Defra has funded a £10m Rural Community Energy Fund. However, this approach does not appear to feature in the Strategy. Whilst the sector is small, this omission may be interpreted as indicating a lack of interest in its potential.

[4] See *Rural Analysis of the Renewable Energy Capacity Data Set*, Rural England CIC (2021) https://ruralengland.org/wp-content/uploads/2021/06/Renewable-Energy-Capacity-Analysis-published-version.pdf

FUEL SUPPLY & HYDROGEN – emissions due to extracting and transporting oil and gas

Strategy vision: "There is a need for widespread electrification across the economy, but we cannot rely on electricity alone. Many end use sectors require low carbon energy including those where electrification is not viable or cost-effective, making the supply of cleaner fuels essential to achieving net zero."	
Strategy policies: Establish a funding scheme to support new hydrogen and industrial carbon capture business models Introduce a new Climate Compatibility Checkpoint for future licensing on the UK continental shelf Regulate the oil and gas sector to minimise greenhouse gasses through a revised Oil and Gas Authority strategy	**Strategy measures:** • Up to £140m to establish an Industrial Decarbonisation and Hydrogen Revenue Support scheme • Aim for 5GW of low carbon hydrogen production capacity in the UK by 2030 • Implement the £240m Net Zero Hydrogen Fund and finalise the Hydrogen Business Model and Low Carbon Hydrogen Standard by 2022 • Work with the sector to develop a low carbon fuel for transport and deliver commitments on sustainable aviation fuels • Work with stakeholders to address barriers to electrification of oil and gas production by 2022 and to reduce routine flaring or venting • The Oil and Gas Authority empowered to assess operators' plans against (effectively) a net zero test
Rural commentary: The rural dimension to this aspect of the Net Zero Strategy appears limited. It is likely it will have implications for existing jobs of some rural residents who work in the oil and gas extraction and transportation sector, and for the future job prospects of some rural residents who live near to new employment opportunities that arise in the sector.	

INDUSTRY: emissions due to industrial processes

Strategy vision:
"To stay on track for net zero, industrial emissions will need to fall significantly, with residual emissions being compensated for by Greenhouse Gas Removal methods. All industrial sectors will need to act to meet this challenge and to ensure they are resilient to climate changes that are already inevitable. To do this, we need to transform how industry uses energy and makes products and rethink the type of industrial products consumers buy."

Strategy policies:	**Strategy measures:**
Teesside, the Humber, Merseyside and North Wales to become economic hubs (or SuperPlaces) for green jobs Future proof industrial sectors and the communities they employ with a new transformation fund Incentivise cost-effective abatement in industry by consulting on a net zero consistent Emissions Trading Scheme (ETS) cap	• Aim to deliver 6 MtCO2 of industrial carbon capture by 2030 and 9 MtCO2 by 2035, supported by a £1bn CCS Infrastructure Fund • £315m for an Industrial Energy Transformation Fund • Support fuel switching to low carbon alternatives by aiming to replace 50 TWh of fossil fuel per year by 2035 • Consider Climate Change Committee recommendation for ore-based steel-making to reach near-zero emissions by 2035 • Develop Resource & Energy Efficiency measures for saving 11 MtCO2e by 2035, including 3 MtCO2e in the iron and steel sector • Explore opportunities for faster abatement at dispersed industrial sites over the 2020s

Rural commentary:
Industrial businesses and plants based in rural areas tend to be relatively small scale. It will be important for them to be engaged in the initiatives cited above and to have access to the relevant support funds. Rural businesses would lose out if these initiatives simply targeted large plants in order to reach their targets more quickly. It is noted that one of the planned measures is to explore opportunities at dispersed industrial sites.

That said, some of the most carbon-emitting industries, such as cement making and paper making, are usually based away from settlements in rural locations. Policies seeking to reduce significantly their emissions will inevitably impact certain local rural areas and those industries may well need support for this transition.

More generally, rural communities will want to ensure that they have opportunities to benefit from the investment in green jobs that will be required in the industrial sector. Manufacturing employment plays an important part in rural economies, even if typically taking place at SMEs. The proportion of jobs in the sector is no lower in rural than in urban areas.

HEAT AND BUILDINGS – emissions due to the heating of and energy use in homes, workplaces and other buildings

Strategy vision: "Our approach to this transition must be affordable and achievable for all and, following successes in power and electric vehicles, we will utilise long-term signals alongside early investments to bring down costs and improve consumer offers. The benefits of more efficient, low carbon buildings for consumers are clear: smarter, better performing buildings, reduced energy bills and healthier, more comfortable environments. Households and businesses will need to play their part in decarbonising their buildings, but we need to ensure that the costs of doing so fall fairly across society."	
Strategy policies: Aim to phase out the sale and installation of all new and replacement gas boilers by 2035 600,000 heat pumps being installations per year by 2028 Support the scaling up of heat pump manufacture so their price falls by 25% to 50% by 2025 and to parity with gas boilers by 2030 Subject to consultation, an early phase out for new/replacement use of fossil fuels which produce most emissions (being coal, gas and LPG), replacing in homes by 2026 Deliver cheaper electricity by rebalancing policy costs from electricity bills to gas bills during this decade Provide extra funding for the Social Housing Decarbonisation Scheme, Home Upgrade	**Strategy measures:** • £450m for a three-year Boiler Upgrade Scheme offering households up to £5,000 capital grants to switch to low carbon heating systems • £60m for a Heat Pump Ready programme to support businesses pioneering improved heat pump technologies • £1.75bn investment for the Social Housing Decarbonisation Scheme and Home Upgrade Grants to improve less energy efficient housing • £1.42bn for public buildings under Public Sector Decarbonisation • Establish large scale trials of hydrogen for home heating to inform decisions in 2026 about its role in heating systems (these to include a Hydrogen Village trial) • Grow and decarbonise the UK Heat Network market with £338m for a Heat Network Transformation Programme (most for a Green Heat Network Fund) • Consult on phasing in higher minimum energy standards, so all homes are EPC band C or above by 2035 where practical • Set regulatory standards to upgrade private rental homes to EPC band C by 2028 and consult on regulatory standards for social housing • Use regulations and a performance-based measurement scheme to reduce energy consumption in commercial and industrial buildings • Set a minimum efficiency standard of band B by 2030 for privately rented commercial buildings

Grants and Public Sector Decarbonisation (reducing emissions from public buildings by 75% by 2037) Upgrade fuel poor homes to achieve energy standard (EPC) band C wherever practical by 2030	• Launch a new policy framework for energy-related household products to improve their energy efficiency

Rural commentary:

The rural housing stock is fairly challenging in terms of the transition to net zero. There are many old buildings that are poorly insulated or energy inefficient. There are also many off (mains gas) grid homes, some of which depend on high emissions fuels such as coal or oil. As a result of this and relatively low wages, fuel poverty is a key rural issue.

The Strategy says that the transition "must be affordable and achievable for all" and that the costs homeowners will incur should "fall fairly across society". This is helpful, but its implementation will need to ensure it is affordable, achievable and fair in rural areas with their particular characteristics.

By planning to deal with housing using coal, oil or LPG first, the Strategy effectively puts many off grid rural homes at the forefront of the net zero transition pathway. Viewed from a national policy level this has a certain logic, but it means the households involved will transition whilst technologies and supporting policies are less tested and mature.

For example, it is yet unclear whether heat pumps represent an effective or affordable solution for many such homes. Heat pumps are generally considered effective only in reasonably well-insulated homes, otherwise they may deliver insufficient heat and/or are costly to run. Significant work to improve insulation will sometimes be needed alongside heat pump installation and £5,000 grants may still not make this affordable.

The Strategy has little to say about bioLPG as an option. Whilst it is not net zero, it has the advantage of being available now and it very significantly reduces emissions. For those already using standard LPG (including many rural households) it is also a simple switchover. It could, therefore, be a useful option and future innovation may take it closer still to net zero.

Given varied circumstances in different homes and in differing locations, it would be useful if the grant schemes available to households were sufficiently flexible, so they can support low or no carbon heating technologies other than heat pumps, as appropriate. This could include local heat networks and bioLPG.

The private rented sector plays an important role in rural areas, not least given the shortage of social housing. This could prove a challenging sector, especially if rural landlords face significant costs to meet new minimum efficiency standards.

Support for local heat networks, whilst welcome, should allow for likely higher costs in rural areas where they may serve lower populations or more dispersed buildings. The Green Heat Network Fund could specifically seek out some rural good practice examples.

Finally, the inclusion of a Hydrogen Village amongst the large-scale trials of hydrogen for home heating can be welcomed. This should help to rural proof the technology. Interestingly, Rural England CIC was interviewed earlier in 2021 for its views about establishing a Hydrogen Village trial.

NATURAL RESOURCES, WASTE AND F-GASES - emissions due to agriculture, forestry and other land uses as well as waste, waste-water and fluorinated gases

Strategy vision: "A systemic transformation across the UK economy, including NRWF sectors, is required to achieve net zero by 2050. While we will significantly reduce emissions across the NRWF sectors, some residual emissions from agriculture, waste, and F-gases will remain. These will need to be compensated for by both nature-based and engineered greenhouse gas removals (GGRs) as a last resort. On our journey to net zero, we will maximise opportunities to adapt to climate change and the extreme weather it brings, and to maximise the co-benefits for other environmental objectives."	
Strategy policies: 75% of farmers will be engaged with low carbon practices by 2030 and 85% by 2035 Increase industry-led R&D into net zero solutions for agriculture and horticulture Provide more opportunities for farmers and landowners to support net zero through land use change Restore 280,000 hectares of English peatland by 2050 and treble the rate of woodland creation (to 30,000 hectares per year) by 2024 Explore options for the near elimination of biodegradable waste going to landfill from 2028	**Strategy measures:** • Introduce the Environmental Land Management Scheme, replacing the CAP • Support R&D with a Farming Investment Fund and Farming Innovation Programme • Expand the Nature for Climate Fund to reach £750m by 2025 for peat restoration, woodland creation and management • Consult on setting a statutory target for tree planting in England • Mobilise private investment for tree planting with the Woodland Carbon Code and for peatland restoration with reforms to the Peatland Code • Create a cross-government and industry working group to increase timber use in construction, identifying key actions • £295m of extra capital funding for local authorities in England to help them implement free separate food waste collection from all households by 2025 • Complete the review of the F-gas Regulation to assess whether the UK can go further than international commitments • Legislate for Local Nature Recovery Strategies to improve/create habitats and wider environmental benefits • £75m R&D funding for net zero related projects on natural resources, waste and F-gases

Maximise biodiversity co-benefits and other environmental objectives alongside decarbonisation	

Rural commentary:
Most of the planned measures listed above will, by definition, take effect in rural settings.

The operation of the ELMS and related funding streams will impact upon the viability of individual farm businesses, since it will determine the future allocation of subsidy payments (replacing the CAP system). Whilst the intention is to retain the overall size of the subsidy pot, there will be winners and losers from any reallocation. Many farmers will likely need access to advice about their options and adapting to the new system.

These measures will also impact on land use in the countryside around rural settlements. Peatland recovery, woodland planting and the like could mean a reduction in farmed land, at least in some areas. Different interests will hold differing views about the benefits or otherwise of this. There should, though, be biodiversity gains.

Indeed, from the wider perspective of the national debate about climate change, it is important that farmers and rural land managers are perceived as part of the solution to the net zero challenge and not as a problem. The uncertainties and pressures that many farmers face need to be widely understood.

GREENHOUSE GAS REMOVAL – engineered solutions to remove greenhouse gases to balance out residual emissions and thereby achieve net zero

Strategy vision: "We are clear that the purpose of greenhouse gas removals is to balance the residual emissions from sectors that are unlikely to achieve full decarbonisation by 2050, whilst not substituting for ambitious mitigation to achieve net zero. GGRs must not be pursued as a substitute for decisive action across the economy to reduce emissions, often referred to as mitigation deterrence."	
Strategy policies: Ambition to deploy at least 5 MtCO2 per year of engineered removals by 2030 Stimulate innovation in Greenhouse Gas Removal (GGR), leveraging private sector investment and transferring expertise from the oil and gas sector	**Strategy measures:** • £100m investment funding for Direct Air Carbon Capture and Storage (DACCS) and other GGRs • Consult in 2022 on the preferred business model to develop markets and incentives for investment in GGR methods • Launch a call for evidence to explore the role of an Emissions Trading Scheme as a potential market for GGRs • Explore options from the Monitoring, Reporting and Verification Task and Finish Group for regulatory oversight of GGR • Seek an amendment to the Climate Change Act to enable engineered removals to contribute to UK carbon budgets
Rural commentary: The rural dimension to this aspect of the Net Zero Strategy appears limited. It is possible that some future engineered GGR projects are located in largely rural settings. There could also be future job opportunities for rural residents in the engineered GGR sector, including some who live near to jobs in urban centres. It should be noted that nature-based solutions can also deliver GGR benefits, but these fall under section f above on 'Natural resources, waste and f-gases'.	

CROSS CUTTING ACTIONS – actions that support the UK's net zero transition, including international activity

Strategy vision: "We will maximise the opportunities of this transition, and make sure we are geared up to deliver these changes by also taking cross-cutting action."	
Strategy policies: Use the UK's global platform (including COP26 and G7 Presidencies) to urge countries to set 2050 targets to reach net zero and have more ambitious 2030 reduction targets Back innovation and the UK's world-leading green finance sector Make choosing green options significantly easier, cheaper and rewarding for consumers Back the retraining and upskilling of workers and build low carbon industries with strong UK supply chains Take a place-based approach to net zero, encouraging local government to ensure all areas have the capability and capacity for net zero delivery Embed climate into Government policy and spending decisions, with transparency about progress	**Strategy measures:** • Double the UK's International Climate Finance contribution for low income countries to £11.6bn from 2021 to 2026 • Publish a 2030 Strategic Framework to set UK priorities for its international action on climate and nature • Deliver at £1.5 billion of funding to support net zero innovation projects • Use the UK Infrastructure Bank to draw in private finance, attracting over £40bn of investment to bring low carbon technologies to maturity and to scale • Continue to offer green gilts and issue a National Savings & Investments green retail savings product • Introduce a Sustainability Disclosures Regime, including mandatory climate-related financial disclosures and a UK green taxonomy • Reform the skills system so training providers, employers and learners are equipped to play their part in the net zero transition • Bring in measures to ensure Government suppliers for major contracts have plans in place to achieve net zero • Continue the £475m per year Public Sector Decarbonisation Scheme to drive down emissions from schools, hospitals and other public buildings • Set up a Local Net Zero Forum with local government officials and continue the Local Net Zero Programme to support local areas with capability and capacity • Enhance the digital Simple Energy Advice service to help homeowners decarbonise their homes, with links to local accredited installers • Publish an annual progress update with key indicators for achieving climate goals • Publish a UK Net Zero Research and Innovation Framework

Rural commentary:
References to taking a place-based approach and working with local government are potentially a useful hook (see also the quotes from the Strategy, below, which appear under this sub-heading). It will be important to ensure that this specifically includes rural places and their challenges. It would seem helpful if there was a dedicated rural representative on the planned Local Net Zero Forum.

Relevant strategy quotes about a place-based approach are:
"*We also recognise that certain types of communities, such as rural and coastal communities, face significant and unique challenges. For example, the increased age of rural housing makes it both more difficult and expensive to introduce energy efficiency measures and rural communities also have greater reliance on cars*." (p262)
"*However different types of localities may also have opportunities available to them … rural areas may have access to sustainable biomass*." (p262)
"*The [Net Zero] programme will focus on all areas of England, including those lacking capacity and capability, or those facing unique challenges, such as rural and coastal communities*." (p269)

Investment for innovation and scaling-up of low or no carbon technologies, for example from the UK Investment Bank, needs to be made available to smaller businesses as well as larger or established businesses. This will help to ensure that rural communities can benefit equally from green growth opportunities.

Advice that is made available to homeowners about decarbonising their homes needs to include specific advice for those who are in off grid areas or in older properties about their options. Links that are provided to local accredited installers need to be sufficiently geographically spread to serve outlying rural areas.

Training providers which offer courses in the workforce skills that are needed to support the net zero transition will need to be geographically spread and accessible to rural business and their employees. It may be that some of this training could be made more accessible by delivery using an outreach option and (where appropriate) an online option.

The annual progress report, with key indicators for achieving climate goals, could usefully include a rural cut on those indicators. That would enable progress in rural areas to be monitored, checking that they are making progress as quickly as urban areas and flagging any issues where additional rural action may be required.

CONCLUDING COMMENTS & USEFUL LINKS

Whilst it is possible to take a high-level rural view about the policies and measures outlined in the Net Zero Strategy, much will depend on their detailed design and implementation. It will be important for **rural proofing** to take place at that stage in the relevant Whitehall departments or agencies.

The Strategy is clear about its wish to ensure there is **a fair transition to net zero**. This ambition should include making sure that rural communities and rural businesses are supported to make the transition and are not left behind or overlooked. Where there are specific rural challenges, these will need to be addressed and that may require some additional public policy support.

Equally, there will be **opportunities arising from net zero**. This includes jobs to (for example) manufacture, retail, install and maintain the low or no carbon technologies. Rural businesses and employees need to share in these opportunities, not least because some will replace current jobs that are unlikely to have a future. Access to appropriate training, investment finance and business advice is therefore going to be important.

From a local government perspective there is a chance to try and influence what is meant, in the Strategy, be taking **a place-based approach to net zero**. The Strategy specifically includes rural places in its list of place types, so this now needs to be turned into something meaningful, with local rural stakeholders or their representatives involved.

Arguably the two greatest rural challenges on the net zero transition pathway are those for **heat/buildings and transport**. This given features such as the nature of the rural housing stock, the number of off grid homes, the dependency on cars and the greater distances typically travelled by rural residents. Relevant net zero programmes and their funding need to recognise and reflect this, offering appropriate, targeted and sufficiently flexible support to rural communities.

There will, of course, also be very significant **implications for farmers and land managers**, their employees and supply chains, as well as for the rural landscape, as a result of policies to steer natural resources towards net zero. There seems likely to be a period of considerable adaptation and uncertainty for those in the land-based sector.

Finally, it seems odd that the Strategy all but overlooks **linked policy agendas** which will surely have a considerable bearing on net zero. The previous report published by Rural England CIC concluded that carbon emissions in rural areas will equally be impacted by things such as: retaining local services so people do not have to drive to larger settlements; improving digital connectivity so that online access is a reliable option; and the land use planning system to cluster development in or around existing villages and rural towns (thus making them more sustainable). By contrast, the Strategy does make the link with recent Government policy announcements to improve public transport.

Links to other documents mentioned:

Heat and Buildings Strategy, Department for Business, Energy & Industrial Strategy (2021):
https://www.gov.uk/government/publications/heat-and-buildings-strategy

Transport Decarbonisation Plan, Department for Transport (2021):
https://www.gov.uk/government/publications/transport-decarbonisation-plan

Energy White Paper: Powering Our Net Zero Future, Department for Business, Energy & Industrial Strategy (2020):
https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future

Industrial Decarbonisation Strategy, Department for Business, Energy & Industrial Strategy (2021):
https://www.gov.uk/government/publications/industrial-decarbonisation-strategy

Ten Point Plan for a Green Industrial Revolution, Department for Business, Energy & Industrial Strategy and Prime Minister's Office (2020):
https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution

Revitalising Rural: Realising the Vision, including a chapter on decarbonising rural communities and economies, Rural Services Network (2021):
https://www.rsnonline.org.uk/revitalising-rural

Opportunities and Challenges for Rural Communities from Net Zero Legislation, Rural England CIC (2021):
https://ruralengland.org/category/reports/