Introduction

The BEIS Secretary of State commissioned an independent review, in September 2022, of the government's approach to delivering its net zero target "to ensure we are delivering net zero in a way that is pro-business and pro-growth." The review considered how the approach to net zero can:

- deliver maximum economic growth and investment, driving opportunities for private investment, jobs, innovation, exports, and growth right across the UK
- support UK energy security and affordability for consumers and business and the need to rapidly increase and strengthen UK energy production and supply
- minimise costs borne by businesses and consumers, particularly in the short-term.

The consultation was conducted online. There were 30 questions, but YHCC only responded to those which were pertinent to our remit. The responses we submitted on 27 October 2022 are replicated in this report.

YHCC Responses

How does net zero enable us to meet our economic growth target of 2.5% a year?

The Yorkshire and Humber region generates £142 billion a year in GDP and is home to 5.5 million people. The region is already being deeply affected by climate change – and the ways in which we respond to the challenges that climate change presents will play a vital role in defining the future security and prosperity of the region. Investment in climate resilience will protect investment and aid economic development. If we do not respond effectively, this will undermine our ability to realise our development priorities and opportunities – not only in the long term, but also in the here and now.

Achieving net zero is fundamental to the future of the economy. We have known since the Stern Report (2006)[1] that investing in climate action now protects against far greater future costs arising from not doing so. This finding is internationally endorsed and forms the basis of climate action policies across the world, including the UK. In this context meeting net zero, far from being a constraint on the economy as the question implies, is in fact a pre-requisite for a healthy economy. The UK Committee on Climate Change has forecast that the net costs of reaching net zero will be less than 1% of GDP each year through to 2050, but it must be remembered that 1% of GDP represents a significant amount of economic activity (roughly £1.5bn per year in Yorkshire & Humber), so this is about managing and stimulating economic activity which brings climate benefits.

In part, we must treat the need for climate action as the emergency it is. This provides an insurance policy against the risks of harm to the economy as a result of climate change – for example through increasingly common extreme weather events. An economy that is resilient and productive in our

[1] https://webarchive.nationalarchives.gov.uk/ukgwa/20100407172811/https:/www.hm-treasury.gov.uk/stern_review_report.htm

changing climate is clearly preferable for everyone, compared to one that is vulnerable to frequent shocks and setbacks.

But in part, investing in net zero is also a great investment in the future economy. The Yorkshire & Humber Climate Action Plan[2] is underpinned by seven principles, including the need to invest in our future. We forecast that investing 1% of our regional income to tackle climate change could cut our regional energy bill by £2.4bn per year, and create 33,000 years of new of employment. Our total regional energy bill is currently around £30bn per year, and we estimate that a saving of over £10bn per year can be made through initiatives that will also slash our carbon footprint and help to build business resilience. This will boost productivity, protect and create jobs and address important social concerns, especially relating to fuel poverty.

It is also clear that a broad base of economic development organisations is committed to harnessing the opportunities of net zero. York & North Yorkshire Local Enterprise Partnership's 'Routemap to Carbon Negative'[3] is an excellent example of this.

Climate resilience is also of crucial economic importance. With huge swathes of our region (especially around the Humber estuary) being exposed to significant climate-related risks, the sectors/companies and the people/communities in those areas and the infrastructures they depend on must adapt and become more resilient. There is significant potential to pursue net zero and climate resilience in a joined-up way, especially through nature-based solutions in both urban and rural settings. A powerful example is peatland restoration: Moors for the Future's work[4] on regrowth of sphagnum moss in the Peak District and the Yorkshire Dales shows huge potential to simultaneously absorb carbon, restore ecosystems and alleviate downstream flooding.

High quality and well-designed green infrastructure in urban settings provides essential respite from high temperatures, especially for people who live in high rise accommodation, can reduce flood risk from storm events, improve air quality and has multiple physical and mental health benefits at all times of year, helping to reduce the demand on already pressured health and social care services (which in turn reduces the health and social care service carbon footprints). The Environment Agency's State of the Environment: People & the Environment report[5] provides a compelling evidence base. For example, the NHS could save £2.1bn every year if everyone had access to high quality green spaces.

What challenges and obstacles have you identified to decarbonisation?

The principal challenges and obstacles are:

- Lack of consistency and stability in the regulatory and policy context needed to enable good decision-making and business confidence;

[2] https://yorksandhumberclimate.org.uk/sites/default/files/Climate Action Plan.pdf

[3] https://www.ynylep.com/Portals/0/adam/BlockText/5IOnFY0E7kiu3jLUPSDm5A/BodyText/York%20and%20North%20Yorkshire's%20Routemap%20to%20Carbon%20Negative%20191022.pdf

[4] https://www.moorsforthefuture.org.uk/the-latest/recent-news/moorlife-2020/superhero-sphagnum-moss-reduces-flood-risk

[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/915134/State_of_the_environment_health_people_and_the_environment.pdf

- Lack of powers and resources for delivery of climate action measures.

The ongoing fluctuations and uncertainties in the regulatory and policy framework are a real and direct obstacle to decarbonisation. For example, the scrapping, in 2015, of the requirement for all new homes to be zero-carbon by 2016, has since resulted in:

- around 800,000 additional homes[6] being built so far that will require retrofitting if we are to achieve net-zero targets;
- around 50TWh of gas being consumed so far that would have been saved by the requirement.

Policy stability and credibility is a pre-requisite for skills development and job creation. The transition to net zero depends on the availability of suitably skilled labour, which depends on a reliable pipeline of work available for those who invest in skills development. Clear, credible, long-term targets and standards (e.g. for housebuilders) would help to create demand for skills, and this in turn would help to boost the supply of those skills.

Achieving a low-carbon economy must be pursued in a way that simultaneously addresses inequalities. Climate change already impacts more on disadvantaged communities, and it is essential that climate action is combined with action both to reduce existing disadvantage and to avoid creating additional inequalities. The following three examples illustrate this.

- About 15% of all jobs in Yorkshire & Humber – or 360,000 people – are in industries with high carbon emissions. How we include, involve and support people in these industries to adapt and thrive as the region transitions to net zero is crucial.
- Whilst electric road vehicles are essential to phasing out combustion-engined vehicles, the gradual decline in car use during the 2000s needs to be accelerated if net zero is to be achieved: the West Yorkshire Emissions Reduction Pathway study[7] estimates that car mileage needs to be reduced by 21% by 2038. This is as well as, not instead of, the transition to electric vehicles. It is vital that this reduction is achieved equitably, with investments in public and active transport ensuring access to jobs, schools and services for people without cars.
- Although higher income households tend to consume more energy, there is a high risk that lower income households will face a double whammy: rising energy prices will have a greater impact on their living costs, and it may be harder for them to de-carbonise through retrofitting their homes. Recent research by the New Economics Foundation[8] showed that the proportion of household income spent on energy will rise three times more for the poorest 10% of households than for the richest 10%. Direct help for poorer households is therefore an immediate imperative, whilst energy reduction measures are needed for all housing types and income groups.

[6] The Energy & Climate Intelligence Unit Microsoft Word - ECIU_Zero_Carbon_Homes_.docx (edcdn.com) identifies over 700,000 homes built 2017-2020, and government live tables show 808,770 housing completions 2017-2021 Live tables on housing supply: indicators of new supply - GOV.UK (www.gov.uk).

[7] https://www.westyorks-ca.gov.uk/media/4277/west-yorkshire-carbon-emission-reduction-pathways-technical-report-draft-v7-1.pdf

[8] https://neweconomics.org/2021/06/preparing-for-a-just-transition-in-yorkshire-and-the-humber

We often hear that there is no shortage of money looking for suitable investment opportunities, and no shortage or projects looking for investment. The key capacity that we are often lacking relates to the ability to match the two together; aggregating and consolidating projects so that they become programmes at scale, and then to develop the business models to make them investable. This development capacity falls outside the remit of almost every actor – and supporting this capacity would unlock progress in multiple areas.

The prospect of a CCUS (carbon capture, usage and storage) network in the region is also important. Whilst CCUS is not a substitute or panacea for emissions reduction, it is evidently a technology with potential to greatly assist our high-carbon industries in decarbonising. There are concerns about the scalability of the carbon capture technologies, and about the prospects for the creation of a pipeline to transport the carbon and the integrity of different storage options. The only way to test and, hopefully, resolve these concerns is through end-to-end support for a CCUS network in the region - enabling businesses to collaborate, attracting net-zero industrial development zone in the region. As firms in those sectors relocate to gain access to a CCUS network, and providing the technology is proven, then a net-zero industrial zone development zone can become a reality. With Yorkshire & Humber's high-carbon industrial heritage, this would be an exciting and fitting transition to a 'beyond carbon' future.

What opportunities are there for new/amended measures to stimulate or facilitate the transition to net zero in a way that is pro-growth and/or pro-business?

The UK Net Zero Strategy (Executive Summary) states: "We are proud to lead the world in ending our own contribution to climate change, not just because it is the right thing to do, but because we are determined the seize the unprecedented opportunity this brings"[9]. This is unequivocal. Government has already established that stimulating the transition to net zero is inherently pro-business, and we welcome that.

Enabling this unprecedented opportunity requires both carrots and sticks: it is important to incentivise the green economy, and to encourage businesses to take decisions to decarbonise; whilst simultaneously making it less acceptable for businesses to ignore or avoid decarbonisation. This means a combination of:

- an unequivocal mission to achieve a net zero-carbon economy by 2050;
- a sound, consistent regulatory framework;
- ready access to finance that is attractive and is predicated on adopting net zero measures;
- good quality training and business/skills support.

In our view, access to finance, training and skills and other business support all strongly lend themselves to regional-scale delivery capacity. For example, one local authority area's housebuilding may not be sufficient to generate a viable supply chain for the building materials and suitably skilled labour for zero-carbon housing, but a whole region's housebuilding could be, so the viability of net zero measures and the success of businesses could go hand-in-hand.

We note that the UK government has recently accepted the High Court ruling that the Net Zero Strategy does not currently provide adequate evidence of how its policies will reduce emissions sufficiently to meet the 6th carbon budget. We trust that this problem will be addressed following

9 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1033990/net-zero-strategy-beis.pdf

this review. It is important to emphasise that people and businesses must be able to prosper within the carbon budgets, otherwise a just transition will not be achieved.

What more could government do to support businesses, consumers and other actors to decarbonise?

As we explained in answer to question 3, regional-scale delivery capacity for net-zero activities and associated support for supply chains offers huge potential. And it is absolutely vital that consistency of regulation, policy and investment programmes are guaranteed, so that businesses, householders and public bodies can make informed decisions about how to decarbonise.

This consistency has been sorely lacking for some time. For example, the Net Zero Strategy (Exec Summary)[10] states that "we will improve the energy efficiency of housing and non-domestic properties across the UK" but this intention is not reflected in the key policies that follow. Considering that greater energy efficiency is both a direct benefit to users through lower bills, and a pre-requisite for the effectiveness of heat pumps and other measures to replace gas heating, this is a crucial gap in the government's policies for decarbonisation, which must urgently be addressed.

Robust, consistent policy environments – for example, that demand higher building standards, support building retrofit or require enhanced environmental land management – will give sectors, companies, colleges, and individuals the confidence to invest in skills development. Greater skills availability will reduce costs and accelerate the rate of change. A level, predictable playing field is crucial and, in this context, it is alarming that the recently-introduced Investment Zones[11] are predicated on reduced planning and environmental policy requirements – perpetuating the misconception that relaxing standards is an appropriate way to stimulate economic activity, and potentially delaying overall progress towards decarbonisation.

Government should harness the power of public procurement to effect change. £1 of every £3 that is spent in the UK passes through the public sector, so adopting climate as a priority in all publicly funded activities would have huge potential for impact in supply chains, contracts and consumer decisions.

Yorkshire & Humber Climate Commission is also calling for the creation of a climate finance platform, to support the development of investable climate-facing projects and programmes across our region. Even if a finance platform enabled a small percentage of the £45bn that residents of Yorkshire & Humber have in their ISAs[12] to be invested in climate action, this could make a massive difference.

Where and in what areas of policy focus could net zero be achieved in a more economically efficient manner?

There is strong evidence that shows that place-based approaches that are tailored to the specific circumstances at the local level are considerably cheaper and more effective than one-size-fits all approaches handed down from national government. This is important because different places need the flexibility and capacity to pursue different solutions: nowhere could this be more apparent than in Humberside[13] where the largest industrial carbon emitters sit alongside some of Europe's

[10] https://www.gov.uk/government/publications/net-zero-strategy
[11] https://pcancities.org.uk/investment-zones-%E2%80%93-what-do-they-mean-climate-action%C2%A0
[12] https://www.gov.uk/government/collections/individual-savings-accounts-isa-statistics
[13] https://pcancities.org.uk/levelling-or-hollowing-out

most important ecological assets. More devolution of powers, more flexibility of approaches, more emphasis on building local and regional capacities for delivery of net zero are therefore needed.

Mainstreaming net zero into all policy areas (transport, housing, land use, agriculture, economic development etc) should lead to much more coherence and consistent approaches that are also much more cost effective. Having different policies pulling in different directions leads to sub-optimal decision making in so many ways.

Genuine, sustained financial support for retrofitting of homes and non-domestic buildings is the highest priority here. Done well, it should improve people's health and productivity, reduce cashflow stress both for households and businesses, and free up consumer spending power to boost the wider economy. The benefits are manifold[14]:

- energy efficient offices can increase worker productivity by approximately 12%;
- the Energy Efficient Scotland retrofitting programme is estimated to boost the Scottish economy by £7.8bn;
- in England it is estimated that about 160,000 jobs can be created by 2030 in the low carbon heat sector and a further 145,000 in energy efficient products.

Decarbonisation in the food and farming sector offers particular opportunities because agriculture remains the majority land use and because measures can go together with adapting rural economies and landscapes to a changing climate. This is a major reason why implementing the 25-Year Environment Plan, and enabling land use frameworks that align with carbon budgets, are so important.

How should we balance our priorities to maintaining energy security with our commitments to delivering net zero by 2050?

This balance requires the right mix of demand reduction through energy efficiency, accelerating zero-carbon generation capacity, and making good progress on storage solutions for renewable energy. We were pleased to hear Prime Minister Sunak reinstating the moratorium for shale gas extraction at Prime Minister's Questions on the 26 October 2022. The alternative recently promoted would have been a significant setback for decarbonisation.

At a macro level, there is an overarching priority to reduce gas demand. The independent climate think tank E3G stated in March 2022 that "reducing demand for gas has never been more essential to the UK's national, energy and climate security"[15].

There are three components to this:

- Transitional and short-term help for households and businesses facing an energy cost crisis;
- A major focus on retrofit to reduce overall energy demand in a lasting way;
- Accelerated delivery of renewable energy both on- and off-grid.

Both retrofitting and accelerating renewables provide great economic opportunities, though retrofitting is almost certainly the greater opportunity overall. The UK Green Building Council[16]

[14] https://www.buildingsandcities.org/insights/commentaries/retrofit-buildings-recovery.html
[15] https://www.e3g.org/publications/the-home-energy-security-plan-demand-side-measures-to-lower-bills-and-get-off-gas/
[16] https://www.ukgbc.org/news/towns-and-cities-to-work-together-on-home-retrofit-as-calls-for-green-recovery-mount/

observe that the UK needs to be retrofitting two homes every minute between now and 2050 to meet the net zero commitment, and the employment opportunities associated with this will manifest in every community across the country. A national strategy that enables the retrofit of homes, and planning standards that require new homes to not soon need retrofitting, are urgently needed to enable us to improve energy security and tackle fuel poverty in an effective and inclusive way that also reduces our carbon footprint.

What are the biggest barriers you face in decarbonising / enabling your communities and areas to decarbonise?

Our work at Yorkshire & Humber Climate Commission brings us into contact with every local authority and combined authority in the region, plus a wide range of other organisations. From this, we know that every organisation positively wants to decarbonise, but all are facing significant obstacles to doing so.

The biggest barrier is a lack of clarity, consistency of mission and leadership from government. In a political and regulatory context, public bodies want and need to be accountable to the public on their decarbonising progress, but they need to be empowered and resourced to do the necessary monitoring and reporting and to re-evaluate and adjust their activities accordingly. At present they do not have these powers or resources. (And the same applies with regards climate adaptation and resilience).

Another major barrier is that accessing public investment in decarbonisation programmes is heavily dependent on deal-based approaches, competitive bidding for discretionary funds, and a tendency for programmes to provide capital support but not operational support. Thus, funding tends to gravitate towards those places with most operational capacity to bid for and to deploy the funding – usually the major cities or larger institutions. This has obvious differential impacts on the ability of places, communities and businesses to decarbonise – in contrast to stronger baseline resourcing for local authorities or small business financing that could support cashflow barriers to action. Regional and sub-regional bodies, including Combined Authorities and Local Enterprise Partnerships, are attempting to redress this as best they can, but their powers and budgets are too limited.

What has worked well? Please share examples of any successful place-based net zero projects.

Yorkshire & Humber Climate Commission (YHCC) is a powerful coalition of organisations, businesses, NGOs and academics acting in concert in Yorkshire and Humber and taking the initiative. We work across the political spectrum and administrative and sector boundaries to build capacity for multi-sector, multi-disciplinary action. We have produced a Climate Action Plan[17] for the region and are now focusing on delivering it.

The importance of regional and sub-regional delivery capacity cannot be overstated. The presence of YHCC, and the opportunity it provides organisations across the region to work together, is a significant catalyst for action. Place-based initiatives for climate action currently risk falling through a policy and delivery gap, between the UK Net Zero Strategy – which lacks a place-based dimension, and the levelling-up agenda – which does not adequately address climate. Within this gap, place-based initiatives such as YHCC are operating to the best of their abilities, and would greatly benefit from more joined-up support from government departments.

[17] https://yorksandhumberclimate.org.uk/sites/default/files/Climate Action Plan.pdf

How does the planning system affect your efforts to decarbonise?

The planning system sets policies and regulates development decisions, principally in the housing, employment and infrastructure sectors. How these sectors evolve is fundamental to decarbonisation, and therefore it is essential that every development decision be assessed for its contribution to decarbonisation.

At present, the planning system is not well-equipped to fulfil this function. The National Planning Policy Framework (NPPF)[18] para 152 says the planning system should "shape places in ways that contribute to radical reductions in greenhouse gas emissions", but there is limited evidence of this being delivered.

Recent research by CPRE[19] showed that, of the 24 Local Plans across England adopted since the UK made its net zero 2050 commitment in 2019, only one contained a top-level, quantitative carbon reduction target (though, encouragingly, some other Local Plan reviews are seeking to follow suit). The research suggested that local authorities could pursue net zero policies if they wished, but that national planning policy was not robustly requiring them to do so.

However, it now appears that national planning policy is actively holding back local planning from being innovative: in the West Oxfordshire Area Action Plan, a policy to make a 2,200-home new settlement zero-carbon were removed by the Examination Inspector because they were not consistent with national policy. This policy was widely regarded as exemplary, and the case is of great concern to many other local authorities wishing to pursue best-practice planning for delivering zero-carbon housing and sustainable neighbourhoods. The Town & Country Planning Association's analysis[20] of this situation pulls no punches.

It is widely accepted that planning reforms are needed, and that making the planning system more supportive of climate action should be a key outcome of those reforms. Unfortunately, this outcome does not seem to be on the Department for Levelling Up, Housing & Communities' (DLUHC) radar. The Better Planning Coalition, which comprises 27 organisations across the housing, planning, environmental, transport and heritage sectors, has called for the Levelling Up & Regeneration Bill to include:

"requirements for national and local planning (including neighbourhood) plans, policies, and decisions to be subject to a 'Net Zero Test' (as recommended by the Climate Change Committee), to positively support and contribute to the government's own climate targets and commitments, (specifically carbon budgets mandated under the Climate Change Act 2008) and levelling up the country through green investments, green and sustainable developments and the creation of green jobs."[21].

The consultation period for this Net Zero Review has typified the uncertainty, inconsistency and sometimes conflicting policy context we face. The planning reforms have been in yet more flux, with uncertainty about the future of the Levelling Up & Regeneration Bill. There were recent government announcements that the planning regime should be more restrictive towards solar farms – an

[18] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf

[19] https://www.cpre.org.uk/wp-content/uploads/2022/03/climate-emergency-and-local-plans.pdf

[20] https://tcpa.org.uk/pins-assault-on-an-exemplary-net-zero-planning-policy/

[21] https://betterplanningcoalition.com/wp-content/uploads/2022/06/Better-Planning-Coalition-briefing-for-the-Commons-second-reading-of-the-Levelling-Up-and-Regeneration-Bill.pdf

inherently low-carbon energy source that enjoys widespread public popularity – but more permissive towards fracking and other hydrocarbon extraction. Such changes would not only be counter-intuitive and damaging in progressing towards net zero, but would also generate huge opposition from communities and from many local authorities. Further, this undermines confidence for businesses wishing to invest in renewable energy and in the green economy more widely. Following Mr Sunak's welcome reinstatement of the moratorium on fracking, we urge the government urgently to double down on net zero.

Successive governments over decades have tended to use de-regulation of planning to incentivise development, but this carries significant risks to the quality of development and to environmental and social outcomes. The recently introduced Investment Zones demonstrate this risk: they offer a 'relaxed' planning regime, but in practice the only relaxations that are available are to reduce statutory consultation requirements, developer contributions to community infrastructure, impact assessment requirements and design standards – removing crucial checks and balances. It is hard to see how Investment Zones are compatible with enabling climate action. Indeed, Oxfordshire County Council has just decided not to apply for Investment Zones for precisely this reason, stating:

"We consider that the de-regularisation of planning controls and reductions in environmental protection, which appear to be a condition of any investment zone, are incompatible with our net zero carbon aspirations and our commitment to protect and enhance biodiversity and environmental quality"[22].

In conclusion, it is vital to achieving net zero that the planning system provides a robust, consistent regulatory framework which enables local authorities both to refuse developments that do not contribute to climate action, and to give a sound basis for encouraging innovative developments.

How can the design of net zero policies, programmes, and funding schemes be improved to make it easier to deliver in your area?

The majority of local and combined authorities in Yorkshire & Humber (and elsewhere) have set more ambitious net zero targets than 2050 – commonly between 2030 and 2040. Collectively, through Yorkshire & Humber Climate Commission, our region has set a target to reach net zero by 2038. Our Climate Action Plan[23] recommends that we should build on the 44% reduction in direct emissions already achieved since 2000 by:

- Including aviation and shipping emissions;
- Achieving 68% reduction compared to 2000 by 2025, 84% by 2030, 92% by 2035, and 100% by 2038.

A major barrier to implementing these regional targets is that there is no national policy or regulatory basis on which to do so, and no clear sub-national delivery structure. Very simply, when the region has a 2038 net zero target, and has undertaken the necessary research to show that this is scientifically achievable and economically viable, then it is essential that local and combined authorities in the region are also empowered to put requirements into their planning policies, investment programmes and procurement regimes that synchronise with the regional target, not just the UK target.

[22] https://news.oxfordshire.gov.uk/investment-zones/
[23] https://yorksandhumberclimate.org.uk/sites/default/files/Climate%20Action%20Plan.pdf

It is also essential that aviation and shipping be included within regional monitoring, for two reasons. Firstly, they are high-emitting sectors which are significant to the region's economy, so they must be fully engaged partners in our just transition to net zero. Secondly, it is not possible to weigh up the balance between promoting innovation in these sectors and reducing the region's economic reliance on high-carbon transport, unless we can include their emissions within the overall trajectory.

All policy and financial support for business growth should be directly linked to decarbonisation. The UK's 'green economy' sector is growing by 7% per year, so it is already a major winner, although stability of regulation, incentives and skills programmes are all crucial if this success is to be sustained. But more broadly, there are two strands to decarbonising business: growing those businesses that have a specific low-carbon purpose, such as retrofit; and enabling all other businesses to decarbonise, such as food, healthcare and engineering. It is very difficult for businesses to effect these changes unless they are both required to do so – by policy and regulation - and supported in doing so, by relevant programmes and incentives.

It is important – and consistent with the government's levelling-up agenda, that place-based initiatives are enabled by devolved support structures. As mentioned earlier, Humberside is home to some of the UK's highest carbon emitter as well as to globally precious habitats, and is profoundly vulnerable to climate change impacts. Meanwhile, areas with major urban growth such as Leeds or Calderdale must address the challenges of decoupling housing and employment growth from carbon emissions; and in large parts of North Yorkshire a key concern is a just transition for the rural economy. So, each area needs to evolve locally relevant solutions for which it can develop policy and finance. Local Enterprise Partnerships and other bodies are working hard on these matters but, in general, more devolution of support and decision-making is needed.

How can we ensure that we seize the benefits from future innovation and technologies?

The UK has significant strengths in its research and development relating to net zero – but the recurrent challenges relate to the commercialisation of innovative approaches. As stated above, support for project and programme development to enable new approaches to be turned into investable propositions is needed. UKRI, the University sector, the Catapults and the UK Infrastructure Bank have important roles to play here – but there is still a significant need for more project and programme development capabilities especially at the local and regional scales.

Is there a policy idea that will help us reach net zero you think we should consider as part of the review?

Yorkshire & Humber Climate Commission has six key asks for national policy changes which we collectively agree are essential to achieving net zero, climate resilience and a just transition.

- Accelerate the delivery of the Government's 25-year Environment Plan, by:
    I. Strengthening and implementing the Environmental Land Management scheme (ELMs) as a top priority;
    II. Supporting a regional pilot that enables us as a Commission to develop a land use strategy in line with the Climate Change Committee's Sixth Carbon Budget and the UK's Third Climate Change Risk Assessment. Such a strategy should put climate resilience, food security and nature recovery at the heart of decision-making. It would also simplify the planning framework to increase investment and accelerate changes we need to see;

III. Clarify the regulatory framework for green private finance to ensure suppliers, investors and the public can be confident that investments will lead to genuine improvements in environmental goods and services.

- Actively support the development of 'green' jobs and skills. Strong, stable policy environments – for example, that demand higher building standards, support buildings retrofit (including adaptation measures) or require enhanced environmental land management – will give sectors, companies, colleges, and individuals the confidence to invest in skills development. Greater skills availability will reduce costs and accelerate the rate of change.

- Develop and implement a longer-term national strategy that enables the retrofit of homes that builds on your near-term response to the cost-of-living crisis - and adopt planning standards that require the building of new homes that will not soon need retrofitting. These measures are urgently needed to enable us to improve energy security and tackle fuel poverty in an effective and inclusive way that also reduces our carbon footprint.

- Review the Jet Zero Strategy and deliver a national aviation strategy that is consistent with the Sixth Carbon Budget. This is critical to manage both the supply and demand sides of the aviation sector in a joined-up way, whilst enabling a fair and regionally balanced approach that avoids costly and divisive planning disputes and creates the certainty needed for meaningful investment in sustainable aviation.

- Extend the national reporting framework under the current Adaptation Reporting Power to include local authorities. As a Commission we are working with local authorities across our region to develop adaptation plans. Our learning to date highlights that the absence of this national framework means that sub-national action is variable and vulnerable, impacting on the resilience of the country.

- Commission the Treasury to review the costs and benefits of climate resilience – and identify the appropriate balance between forms of public and private investment. Such a review would provide a foundation for a national ambition for climate resilience, as well as setting a clear direction for the National Adaptation Programme and creating a strong investment framework across all sectors.