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A Mayoral Devolution Deal for York and North Yorkshire

July 2020

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Executive Summary

The scale of our ambition

Our vision:

For York and North Yorkshire (YNY) to become England's first carbon negative economy, where people with the skills and aspiration to reach their full potential, earn higher wages and live healthy lives in thriving communities.

With two National Parks, the Yorkshire Coast and City of York, our world renowned historic and cultural assets shape our urban spaces, whilst the scenic beauty of our vast rural landscape and northern coastline define York and North Yorkshire as one of world's most recognised regions.

This is a place where the city, land and seascapes have shaped the people who live, work, research and create here.

City of York, pioneering with purpose – as a global knowledge leader, York will drive a regional productivity transformation. One of Uk's most connected cities York provides the science and innovation to unlock the true value of our precious natural resources.

Rural Powerhouse – brings together market towns alongside world class agriculture and landscapes. It will experience a significant shift in the coming years as we leave the Common Agricultural Policy and rise to the climate change challenge. We will grasp the opportunity to make best use of our natural assets to generate new income streams and revitalise our 21st century market towns. This will redefine and rebalance the relationship between urban and rural economies and bring significant benefit to rural businesses and communities.

Opportunity Coast - Industry led investment in Scarborough including, a new university campus, investments in further education, community led development and housing and road networks, combine to create opportunity for all on our stunning North Yorkshire coast. By investing in places and enabling business inspired growth we have helped to ignite powerful social change that will address longstanding coastal deprivation.

Growth Connectors – the growth potential of our economy lies in a number of places that have a significant role to play in the economic future of the North. Harrogate, Selby, Skipton and Northallerton are our Growth Connectors. They have extensive infrastructure capacity, opportunities for employment and settlement growth and good connections beyond York and North Yorkshire. Their position and connectivity within the Northern Powerhouse brings out the strength of York and North Yorkshire in joining up scaled growth across the North.

Benefits of Devolution

At the moment, the Government in London makes the majority of decisions about what happens here in Yorkshire. Some decisions, such as about foreign policy and defence, need to be made by central Government alone. This proposition reflects that many others, including running and investing in our public transport, education and skills and providing support for our businesses, would deliver better outcomes, increased returns to government and would involve local people more - if they were made here in our own county.

Devolution will give us the powers and resources to become England's first carbon negative economy, to better connect the capability within and around our distinctive places. We will shape a better destiny and make a bigger contribution to the UK economy by:

1. **Delivering 100% digital connectivity for everyone everywhere** vital for the long-term prosperity of our region. This means both addressing the last 5% whilst ensuring our towns and cities are as connected as core cities delivering a connected, smart region.
2. **Innovating in our unique capabilities in bio-economy and low carbon technologies, underpin our ambition to become England's first carbon negative region** creating new industry opportunities in higher productivity sectors.
3. **Leveraging our skills base -** our greatest asset is our highly skilled workforce. Capitalising on this and retaining our young talent by creating high value jobs will drive our growth.
4. **Investing in good businesses with great leadership** that prosper from our distinct assets and contribute to a carbon negative region
5. **Developing healthy, thriving places** that are resilient to climate change and provide energy efficient, affordable housing for our residents.

Our proposals across each of policy area have put forward on the basis they pass five 'tests' – they must:

i. Accelerate recovery from COVID-19;
ii. Support the levelling up of our national economy and economic prosperity for all;
iii. Deliver on national and local climate change commitments;
iv. Support the priorities and principles of the YNY Local Industrial Strategy (LIS); and
v. Enable delivery that is more efficient and effective through a place-based, locally tailored approach.

These devolution proposals have been developed with, and are supported by, all Local Authorities within York and North Yorkshire and by the York and North Yorkshire Local Enterprise Partnership (LEP).

A Mayoral Combined Authority (MCA)

We are committed to securing the strongest possible devolution deal for York and North Yorkshire and propose a MCA with all YNY Local Authorities as constituent members. We will ensure governance arrangements enable strategic leadership at a Mayoral level alongside robust democratic accountability.

YNY has a history of strong partnership and through the YNY LEP, where we are successfully delivering our Growth Deal which is leveraging £8 for every £1 invested.

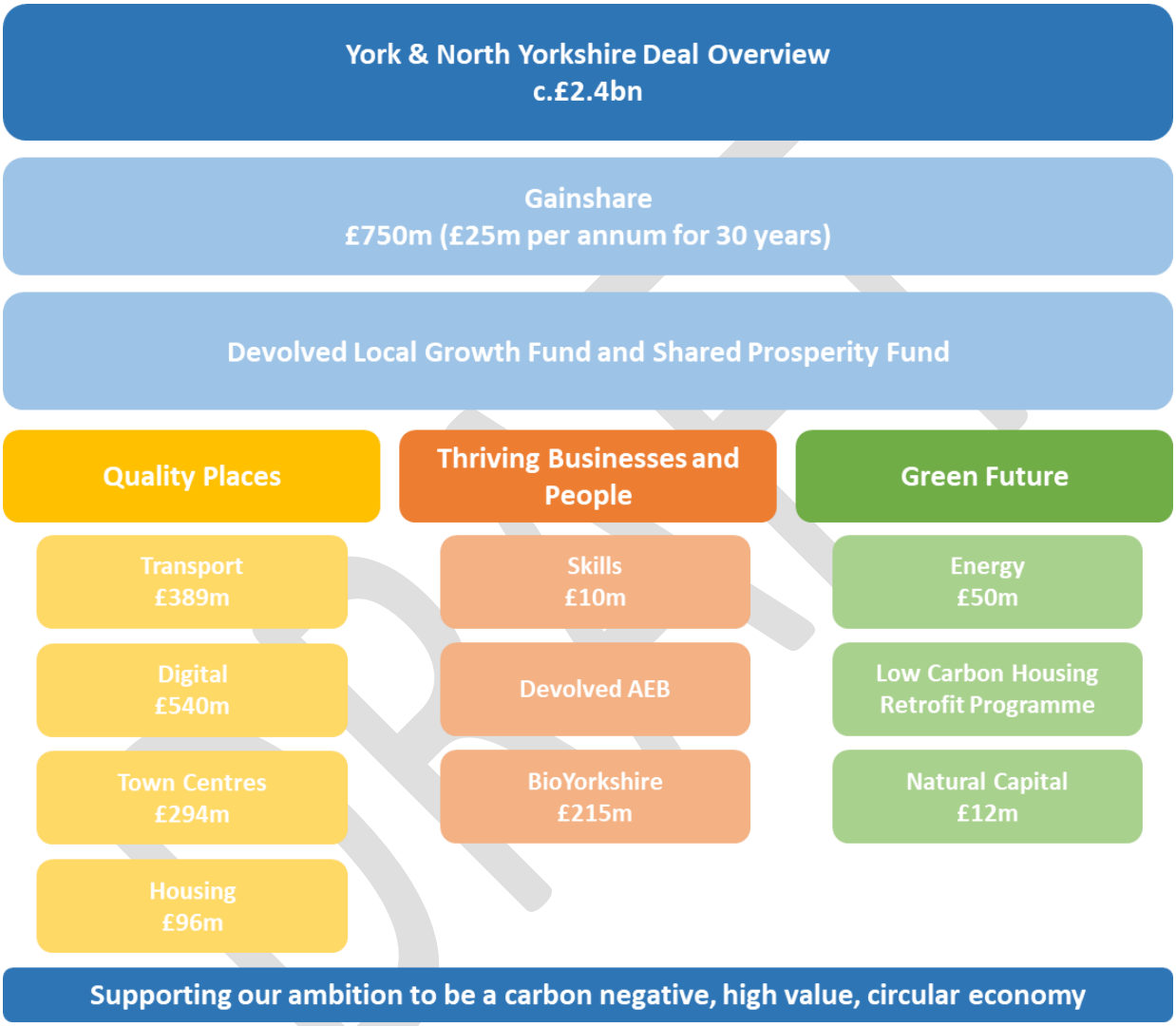
Our devolution proposals will empower the YNY region by equipping us with funding and decision-making powers which will allow us to better shape our destiny and make a bigger contribution to the UK economy by:

- Ensuring that the decisions which affect YNY are made by local stakeholders;
- Rapidly directing investment which makes the biggest difference to our economy, people and places; and
- Supporting an economic recovery from COVID-19 by accelerating positive economic, social and environmental change.

Our Devolution Deal proposals

Our deal is structured to deliver the short-term stimulus needed to maximise our economic recovery from COVID-19 alongside long term strategic investment to ensure future growth is sustainable (see Figure 1).

Figure 1. Devolution Deal Summary



ANNEX 2

York and North Yorkshire Devolution Deal – Summary of Proposals

- £750m (£25m p.a. over 30 years) Mayoral Gainshare Allocation
- Devolved Local Growth Fund
- Devolved Shared Prosperity Fund

Transport	Digital	Towns and Cities	Housing & Planning	Skills	Business and Innovation	Energy	Natural Capital
Funding Proposals							
• **£250m** devolved 5-Yearly Integrated Transport Settlement for the YNY region, as well as revenue funding for pipeline development activity • **£52.5m** funding to deploy ultra-low emission public transport across our region • **£50m** funding to roll out publicly available EV charging facilities across our region • **£36m** funding settlement for bus services to support COVID-19 recovery • Devolved and consolidated mayoral transport settlement	• Devolve **£520m** DCMS funding for fibre connectivity across the region • **£20m** Mayoral Smart Investment Fund	• **£230m** devolved Mayoral Towns Fund • **£64m** York Place Fund	• **£96m** Strategic Housing Investment Package: - **£1m** matched funding to scale up YNY's strategic planning and delivery capacity - **£45m** funding to establish a revolving credit fund to accelerate the delivery of Off Site Manufactured affordable homes - Commitment to a **higher grant rate per to plot** for rural affordable homes - **£50m** funding to address viability challenges driven by infrastructure and enabling costs	• **£10m** of revenue, as well as capital funding, for a Low Carbon Skills Programme • Devolved AEB	• **£215m** for Phase 1 BioYorkshire Programme: - **£175m** BioYorkshire Innovation Central - **£25m** BioYorkshire District Incubator Hubs - **£15m** BioYorkshire Innovation Accelerator	• Funding for a 5-year place-based Low Carbon Housing Retrofit Programme • **£8m** of development funding for strategic low carbon energy generation projects • **£42m** Low Carbon Energy Generation Demonstrator	• **£2m** funding for the development of a Natural Capital Investment Plan and work with national partners • **£10m** Natural Capital Innovation Challenge Fund
Wider Proposals							
• Local flexibility over English National Concessionary Travel Scheme statutory requirements • Statutory transport plan powers • Bus franchising powers • Enhanced joint working with Highways England and Network Rail	• Co-design of the roll-out of the Shared Rural Network in the YNY region		• Spatial plan powers • Land assembly and CPO powers • Mayoral Development Corporation powers • Strategic Partnership with the MoD	• Joint working with Government to establish a Centre of Excellence for Low Carbon Technology Skills • Enhanced joint working with Government: - Joint working with the Careers Enterprise Company and National Careers Service - Influence spend on unutilised apprenticeship levy funding - Stronger links with DWP - Joint working with Government to align local and national programmes	• Co-development of a Yorkshire Tourism Plan between YNY and Visit Britain to increase high value tourism • Support for the redevelopment of Harrogate Convention Centre • Support for AMRC Scarborough • Enhanced joint working with UKRI and DIT	• Joint working with Government to: - Develop and deliver YNY's Roadmap to become a carbon negative region - Develop and implement a pan-Northern Regional Green Bond - Accelerate the roll-out of CCUS technology in our region	• Tier 2 and Tier 3 ELMs trials and joint working with DEFRA to co-design how ELMs will operate locally

1 Introduction and context for our proposals

The York and North Yorkshire economy

Our region has a highly resilient and diverse economy with a GVA in of over £19bn and a driving ambition for transformation. It covers 8,300 sq. km with a population of 825,000 and covers one quarter of the Northern Powerhouse.

COVID-19 has had a major impact on economies across the world with no place untouched. Ensuring our recovery is fast, sustainable and creates increased resilience in our communities and for our planet is at the heart of our proposals.

YNY's economy is underpinned by its places, landscapes and natural assets.

With two National Parks, the Yorkshire Coast and City of York, our world renowned historic and cultural assets shape our urban spaces, whilst the scenic beauty of our vast rural landscape and northern coastline define YNY as one of world's most recognised regions (see **Error! Reference s ource not found.**). Strengthening all of these assets is the passion and pride of our people, making YNY a truly distinctive place.

We match our global identity with unrivalled connectivity to three, urban giants within the Northern Powerhouse. Strong connections with West Yorkshire, the Humber and Tees Valley, fast rail links to London and two ports, mean our position, scale and connectivity unlocks potential for the whole of the North.

We have unique innovation and industrial capabilities, including world leading bioeconomy and agri-tech innovation assets alongside industrial innovation including carbon capture and storage. World class agriculture accompanied by world class food companies, with 40% of our manufacturing base being food and drink related creates an opportunity to increase agricultural and food productivity whilst delivering natural carbon reduction opportunities. YNY is also at the heart of UK food and energy security.

Alongside this, our transport links to London, Edinburgh and the financial centre of Leeds has led to a growing financial and digital sector, with YNY home to young, growing tech companies, offering a quality of life alongside unrivalled connectivity.

Whilst YNY's great places provide a major opportunity, the region retains some structural economic challenges which must be addressed through devolution if we are to truly level up the UK economy.

Whilst job growth has broadly matched the rest of the UK, much of this growth has been in lower productivity sectors, particularly the visitor economy. These are also sectors which have been severely hit by the COVID-19 lockdown.

This growth in low productivity sectors is important both because productivity is crucial to the long term growth rate of an economy, and because it feeds through into wages and standards of living. UK productivity has been relatively static since the economic crisis of 2008, and is below key international competitors. Levels in the North are lower still, including in the our region, where

productivity has moved from being the same as UK average in 2003 to significantly below UK levels in 2017.

Addressing these structural issues requires vision and ambition and this is reflected in our devolution proposals, which are underpinned by three key themes:

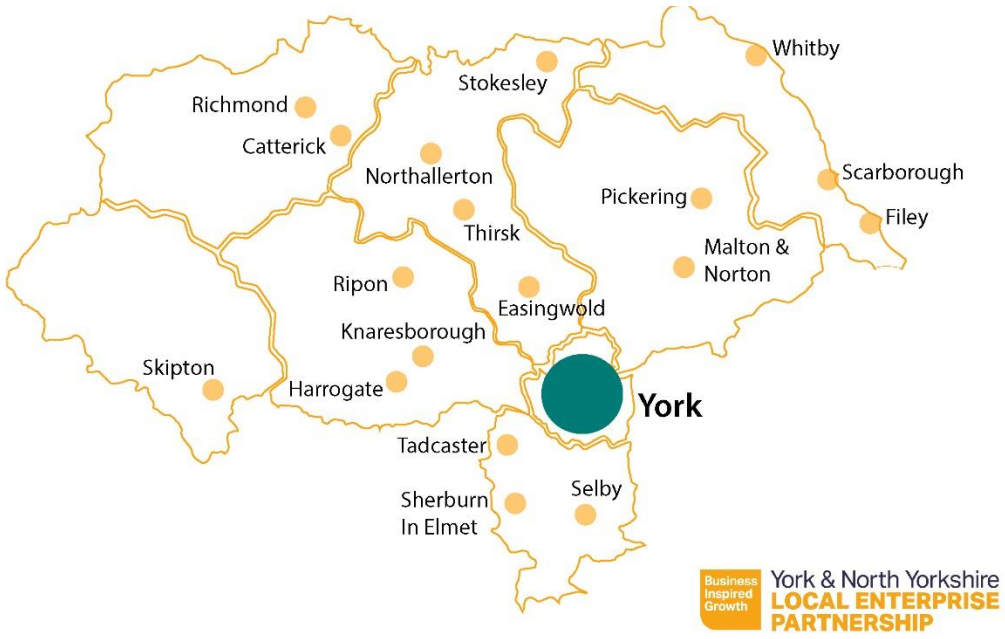
6. **100% digital connectivity for everyone everywhere** is a prerequisite to the long-term prosperity of our region. This means both addressing the last 5% whilst ensuring our towns and cities are as connected as core cities delivering a connected, smart region.

7. **Our unique capabilities in bioeconomy and low carbon technologies, which underpin our ambition to become England's first carbon negative region**. Delivering this will underpin our decision making whilst creating new industry opportunities in higher productivity sectors.

8. **Leveraging our skills base.** Skills are one of our greatest assets, with a highly skilled workforce. Capitalising on this and retaining our young talent by creating high value jobs will drive our growth.

   Individually these are important, collectively they are transformational and underpin our vision and ambitions.

Figure 2.York and North Yorkshire – population centres of 5000+



The Mayor and Governance

These proposals have been developed on the basis of a York and North Yorkshire Combined Mayoral Combined Authority with all Local Authorities becoming constituent members. This includes:

City of York Council
North Yorkshire County Council
Harrogate Borough Council
Scarborough Borough Council
Craven District Council
Hambleton District Council
Richmondhsire District Council
Ryedale District Council
Selby District Council

Ongoing discussions are being held with North York Moors National Park and Yorkshire Dales National Parks to reflects their role as planning authorities and in the economic development of our rural areas

Police, Fire and Crime Commissioner

It would be the desire of council Leaders to place the responsibilities currently held by a separate Police, Fire and Crime Commissioner with the elected mayor and would wish to engage with Government to implement this as part of the devolution arrangements.

Economic Response to COVID-19

The COVID – 19 pandemic has hit our region hard. The scale of economic impact across the region is unprecedented and has landed hardest on those who already had the least. It's been tough, with people's lives and their livelihoods turned upside down

Greener, Fairer, Stronger.

Working together, making the most of our great place and growing from our strengths, we can shift to a greener, fairer and stronger economy, accelerating opportunities for innovation and change in York and North Yorkshire.

We are at a moment in time where we must come together to create change. Building on the shared values and collective efforts that have brought us together during the pandemic, we can shift to a better life for everyone.

Out of the challenges we must recognise the opportunity we have before us, to work the grain of our place and grow our economy as greener, fairer and stronger, capturing opportunities for innovation and change – in how we live, work and visit in York and North Yorkshire.

Making bold, agile and principled decisions in the short-term, we can bring our economy to life in a way that will underpin longer term growth and position our region to be greener, fairer and stronger – for places, for people, for businesses and for our natural environment.

To grow our economy and emerge from the COVID 19 pandemic greener, fairer and stronger we need to…

- *Support businesses to survive Covid-19 and thrive through resilience and innovation, delivering a greener, fairer, stronger economy.*
- *Help people into back into employment, to maintain or improve their quality of life.*
- *Rapidly reconfigure skills delivery to respond to changing demand and new ways of learning.*
- *Rejuvenate public spaces and town centres as places that work better, making them safe, greener and fairer for those who live work and visit in them.*
- *Bring an end to digital disadvantage, ensuring that we are better connected and digital technologies are accessible to everyone*
- *Stimulate job creation and business growth, by accelerating the transition to a greener, carbon negative region.*

By working together, in our communities, across the region, with our northern neighbours and telling our story nationally and internally – we can shift to an economy in York and North Yorkshire that is greener, fairer and stronger, forever.

Role of the Recovery Plan

As businesses and organisations across York and North Yorkshire adapt to and recover from the pandemic and lockdown, the Recovery Plan establishes shared vision to jointly work towards.

Our Recovery Plan will:

- Set a positive vision of the future
- Enable collaboration, learning and economies of scale
- Facilitate clear communications around recovery in York and North Yorkshire
- Develop significant economic stimulus projects for investment
- Accelerate change to deliver LIS Good Growth vision

The Plan has been developed by consulting with businesses, institutions and local authorities about their proposals for recovery, drawing these suggestions together into common themes and ambitions. This is a collaborative approach which enables parallel progress towards a shared goal, in an agile and responsive manner.

Each of our Local Authorities will establish their own chapter of the Plan, highlighting local priorities, challenges and opportunities that can contribute to the overall vision. The Plan will also facilitate coordination with other public bodies supporting recovery, such as Job Centre Plus, and institutions such as Colleges Universities and Housing Associations with a reach which extends beyond individual local authority areas.

By understanding what actions individual organisations are proposing, we can identify collaboration opportunities enabling us to impact on recovery at scale, and to share ideas and insights.

This coordinated approach to achieving impact at scale will improve our opportunity to access Government funds for economic stimulus. The LEP and partners have an established track record of developing and investing in projects, providing an established delivery mechanism to bring funds into the region to support recovery.

Coordinating recovery efforts also allows shared communication and messaging, particularly vital in a region like York and North Yorkshire with such a significant tourism industry which needs to provide consumers with confidence and clarity.

Ultimately, the proposals set out in the Recovery Plan will accelerate the change required to achieve the vision for York and North Yorkshire established in our Local Industrial Strategy. Whilst clearly recovery is a once in a generation challenge, it also provides an opportunity to restructure our approach to growing and supporting the economy. The Recovery Plan sets out how we will work together to make the most of that opportunity.

Our Economic Recovery Plan will be ready in July 2020 and we propose that Government invest in our plans providing an ambitious, positive vision for recovery across YNY.

2 Devolved Place-Based Funding

Strategic context

The development of an effective recovery strategy from COVID-19 requires investment and interventions which not only stimulate local economies in the short-term, but seizes the opportunity to address long-standing structural challenges of raising productivity, levelling up the country and supporting the transition to a high-value, low-carbon economy wherein all communities can benefit from, and contribute to, future growth.

Local areas' exposure to the impacts of COVID-19 will vary according to a range of factors, including reliance on high impact sectors, business composition and demographics, among others. This requires a place-based approach to economic recovery; allowing interventions to be tailored and prioritised according to local circumstances in the short-term and Local Industrial Strategy (LIS) ambitions in the longer term. Delivering this requires a flexible and responsive funding approach to investing in local growth.

As a region, we are strongly placed to spearhead such an approach. We have an established track record over the last ten years in joint working between our nine constituent local authorities to plan, prioritise, deliver and manage investment in our economy via the Local Enterprise Partnership (LEP).

Public-Private working sits at the heart of how York and North Yorkshire (YNY) operates. We are committed to working in partnership with our LEP, which has implemented the LEP review 'Strengthening Local Enterprise Partnership' recommendations. Our LIS has been developed with partners across the region and Government, and we are committed to jointly investing with Government and the private sector to deliver its bold ambitions.

Alongside a devolved, 30-year Gainshare investment funding settlement, we are seeking a devolved allocation from the future Local Growth Fund (LGF) (or its successor) and the Government's planned Shared Prosperity Fund (replacing European Structural and Investment Funds (ESIF)).

This devolved funding will enable to us to plan and invest on a more strategic, long-term and integrated basis across our priorities for Ideas, People, Infrastructure, Business Environment and Places. This flexibility will enable us to maximise the impact of investment against our Good Growth objectives and economic recovery from COVID-19, and ultimately deliver better Value for Money (VfM) for the UK taxpayer from these funding programmes.

1. Gainshare investment funding settlement

We are seeking £750m of funding in the form of a Gain Share/Investment Fund settlement, comprising £25m per annum over a 30-year period. Providing this settlement as revenue funding would provide us with maximum flexibility to invest on an integrated basis and drive economic growth. However, we accept Government's resource constraints, and as such we are seeking **a funding split of 25% capital, 75% revenue**.

This funding would be devolved to the Mayoral Combined Authority (MCA) and, alongside other devolved funding proposed elsewhere, enable us to deliver a long-term, transformational investment programme. This settlement would be subject to the development of a robust Single Pot

Assurance Framework, in line with HMT Green Book guidance, which we would agree upfront with Government. We would also expect the 30-year settlement to be subject five-yearly gateway reviews, as is the case for other MCA settlements. In line with other Deals, we are also seeking to draw down the Gainshare funding prior to Mayoral Elections, once the Single Assurance Framework has been agreed with Government and the MCA Order has been made.

2. Devolved settlements from future Local Growth Fund and the Shared Prosperity Fund

Now is an opportunity to learn the lessons of the LGF and ESIF funding processes and, benefitting from the UK exit from EU, implement a roust, flexible approach to funding local growth and securing economic recovery from COVID-19.

Following the co-production of our LIS with Government, the improved accountability and transparency of our LEP, and establishment of an MCA, we want **to make rapid progress against our LIS ambitions with:**

1. **An extended LGF fully devolved as a multi-year, "Single Pot" funding settlement**
2. **A fully devolved allocation from the UK Shared Prosperity Fund**

The policy landscape has changed significantly since LEPs were introduced and charged with spearheading local growth. Progress in recent years provides an opportunity for funding reform, in particular:

- **Strengthened governance**. Government's review of LEP's identified a number of areas where inconsistent approaches were being taken to governance, accountability and representation. The establishment of an MCA, alongside a strong LEP, provides a robust governance model for investing public money with clear transparency and accountability for decisions and impact.
- **A robust economic strategy:** Strategic Economic Plans (SEPs) were developed locally and in effect 'a bidding document' for Government funding. The alignment between national and local priorities was not as co-ordinated as could have been. However, a LIS provides an evidence-based plan with a clear line into the Government's national Industrial Strategy priorities. Our LIS has been developed through strong collaboration across local partners and importantly, with Government departments. This provides an evidence-based framework of priorities against which to invest, with a sharp focus on raising productivity, and thus maximum potential for driving national as well as local growth.

I Local Growth Fund

LGF funding whilst largely successful was constrained by the fact SEPs were 'local documents'. Consequently, there was not the clear alignment with national priorities and Government departments were not party to their development. Therefore, when funding was allocated there was a need to closer national management to ensure local areas were consistent with national policy. Additionally, the funding allocation was driven by economies of scale and unit costs, which incentivised delivery in larger, denser urban areas and areas where productivity levels are already high.

Whilst the LGF has been a success across much of England, and in YNY we have successfully delivered a return of over £8 for every £1 invested, national allocations were also imbalanced, with large urban areas receiving disproportionate investment.

We are seeking a "Single Pot" approach to LGF funding for our region and indeed other MCA areas, which would involve:

- **A devolved, multi-year settlement**, replacing the need for competitive processes which are time consuming and costly. This would accelerate the delivery of public investment and leverage more sustained private sector investment in our region – both of which are critical issues for post-COVID-19 recovery.
- **Un-ringfenced funding**, which would enable investment to be made on a more integrated basis across policy areas, and thus allow us to prioritise a programme of interventions which have maximum impact on productivity and Good Growth.
- **Alignment of with other funding sources,** such as the Gainshare and Shared Prosperity Fund settlements, as well as policy area-specific devolved funds (proposed later) such as the Integrated Transport Settlement, Mayoral Towns Fund, Strategic Housing Investment Package, and Mayoral Smart Investment Fund. This would maximise the buying power of these funds and ultimately deliver better VfM.
- **A robust Single Pot Assurance Framework,** building on local best practice and developed in line with HMT Green Book guidance, which we would agree upfront with Government.

II EU Structural Investment Funds

The exit from EU presents an opportunity for the UK to learn lessons from delivery of constrained EU funding mechanisms and create an agile funding system that maximises Good Growth and economic prosperity for all of our communities.

Whilst the current ESIF has delivered across YNY, Yorkshire and Humber allocations were reduced from the 2008-2014 programmes when compared to rest of UK.

Furthermore, the EISF model of delivering through national managing authorities has resulted in disparate contracts targeting similar businesses. This makes business support complicated for businesses to understand and access, and inefficient in delivery.

The current restrictions within ESIF specifically exclude support for some of the sectors most affected by the COVID-19 lockdown. European Regional Development Fund (ERDF) specifically excludes tourism and retail businesses whilst the European Agricultural Fund for Rural Development (EAFRD), the rurally focused funding stream, equally excludes business support for these key sectors.

A real time case study is support for farming. Reflecting the importance to the local economy, we wanted to work with our agricultural industry to prepare it for post Common Agricultural policy by providing leadership and management to increase innovation and diversification. ERDF advised that agriculture was not eligible, EAFRD advised that the programme should be supported through ERDF and ESF advised that whilst the sector was eligible, they were the wrong type of outputs. This process took three years.

Restrictive definitions around outputs fail to reflect the reality of local economies or delivery, particularly in rural areas. Definitions should be driven by delivery of desired outcomes, and not notional sectors or 'hours spent' with a business. Technology and new innovative delivery models provide the opportunity to realise a step-change in how support is delivered and how businesses are connected to opportunity.

Management through a national decision-making framework also creates capacity issues as is demonstrated within existing ESIF programmes which take between 1 ½ - 2 ½ years from 'call for project' through to contracting. When compared with LEP decision-making within the LGF which is typically 3-12 months from 'calls for projects' through to decision making, the opportunity for improvement becomes clear.

We are therefore seeking a devolved Shared Prosperity Fund, which would be deployed against our LIS priorities alongside other devolved funds administered by the MCA.

MCA's and LEPs are the right delivery vehicle, bringing together private sector and public sector leaders to lead investments aimed at delivering a step-change in business productivity and skill levels. Our LEP and our northern partners have already demonstrated a keen appetite for collaboration, and increased flexibility would strengthen the ability for cross-LEP working to deliver the optimum solution. Examples of this collaboration include:

- NP11 LEPs collaborating to support the Northern Powerhouse Investment Fund
- Our LEP's collaboration with the Humber LEP on innovation and supply chains.
- Our LEP's collaboration with Leeds City Region on low carbon and resource efficiency.

As a large geography with a city, coastal deprivation and diverse towns alongside some of the most deeply rural areas in country, we are offering to work with Government to develop a fair funding allocation which both addresses the levelling up agenda for the North and works at a national level.

We would expect the allocation of funding to be designed in such a way that it reflects a range of policy challenges and competing pressures, including:

- Productivity levels
- Urban density Vs rural sparsity
- Levels of deprivation
- Social Mobility
- UK climate targets
- Innovation levels

3 Transport

Strategic context

Our transport network is essential to the health of our economy and the economic prosperity of our communities. We need a transport network that is reliable and efficient to facilitate future economic growth and achieve a successful post COVID-19 economic recovery. It needs to be inclusive and support our ambitions to be a carbon negative region. However, given the expansive nature of our region; our mix of urban and rural communities; and level of car dependency, we face several challenges in the transition to an inclusive, low carbon economy:

1. **Reliance on petrol and diesel vehicles,** both for private transport as well as public transport and the movement of goods leading to local air quality problems and high carbon emissions.
2. **Urban congestion**, which exacerbates our air quality and Greenhouse Gas (GHG) emission challenges, as well as posing a cost to businesses, commuters and our economy**.** In York, in addition to normal 'internal' traffic, the lack of capacity on the A1237 York Outer Ring Road hinders east-west connectivity which together result in significant traffic in the urban area and poor air quality. Both Harrogate and Scarborough also suffer from significant urban congestion issues which constrain the economy and lead to air quality issues. Lower, but still significant levels of congestion are also experienced in some of our smaller towns including four declared Air Quality Management Areas;
3. **Poor interurban connectivity (especially east-west)** both within the region and into neighbouring regions and the rest of the country. This results from a combination of journey distance – with some of our towns being nearly 50 miles from the core strategic transport network (East Coast Mainline/A1(M) – and sub-standard highway infrastructure which leads to long and unreliable journey times. Relatively minor incidents on the network (road and rail) can exacerbate these issues;
4. **Poor rural connectivity and lack of alternatives to the private car,** due to the very sparse population in these areas, which prevents many of our rural areas from fully contributing towards and benefitting from the economic prosperity of our region;
5. **Poor resilience of our road network** due to flooding and landslips at a relatively small number of key locations where there are very limited alternative routes; and
6. **Poor access to the rail network**, which means we are not making best use of the good rail connectivity enjoyed by much of the region.

As a result of these challenges, we have notable rural and urban deprivation and economic underperformance. Even in the relatively affluent central ECML/A1(M) corridor of our region there are pockets of hidden deprivation and in the more remote rural areas and especially the coastal towns, deprivation indices indicate much more significant economic underperformance and social deprivation and isolation problems.

It is our baseline assumption that the following existing funding agreements go ahead separately from the Devolution Deal:

- £25m for Phase 1 of the A1237 improvements through the Major Roads Network (MRN) fund. This was awarded to Transport for the North (TfN) on behalf of City of York Council in October 2019.

- Rail service improvements agreed with Network Rail. Under existing franchise agreements Network Rail have committed to deliver two trains per hour from Harrogate to York by May 2021, and two trains per hour from York to Scarborough by 2021.
- Continuation of all Leeds City Region Transforming Cities Fund (TCF) allocations to YNY authorities until the end of the programme (anticipated to be 31st March 2023).
- Development of the A64 Hopgrove (Hopgrove to Barton) Scheme will be completed by 2025 as set out in the DfT Route Investment Strategy 2 (RIS2) for potential funding in RIS3.

Against this background, our proposals to Government are:

1. **A devolved 5-yearly Integrated Transport Settlement for the YNY region to invest on a more strategic and longer-term basis in our transport priorities and support our region's economic and spatial plans for growth.**
2. **Funding to deploy ultra-low emission public transport across our region**
3. **Funding for the roll out of publicly available EV charging facilities across our region**
4. **Revenue funding settlement for bus services to support COVID-19 economic recovery**
5. **Enhanced joint working and transport powers, covering:**
    i. Statutory Transport Plan Powers
    ii. Bus Franchising Powers
    iii. A Devolved Mayoral Transport Settlement
    iv. Enhanced joint Working with Highways England and Network Rail

The details of each of these proposals are outlined below. Appendix 1 outlines how our proposals address the six key transport challenges discussed above.

Our proposals for transport

1. Devolved 5-yearly Integrated Transport Settlement for the YNY region

Summary:

We are seeking a 5-yearly integrated transport settlement of £250m (£50m per annum) over the period of FY22 to FY26 which can be deployed flexibly against our transport priorities and support our region's economic and spatial plans for growth. We are also seeking revenue funding to provide increased local capacity to develop and oversee the delivering of the 5-year investment programme. This builds on Government's commitment early this year to provide other MCA areas with a 5-yearly local transport funding settlement (from a £4.2bn national pot).

The case for change

The current short-term and fragmented nature of funding for strategic local transport limits our ability to properly plan and invest on a long-term basis and achieve best Value for Money from this

public funding. This is compounded by the current dominance of competition-based funding, which is resource intensive locally with no guarantee of success.

A long-term, devolved transport settlement would enable us to co-ordinate economic, spatial and transport planning and invest on a more joined up, strategic and long-term basis, across administrative boundaries. This is a widely accepted principal of devolution as evidenced by the provision of Gain Share funding via all other Mayoral Devolution Deals, and in Government's shift to more devolved funding arrangements for local transport in MCA areas – notably via the Department for Transport's (DfT) Transforming Cities Fund and the announced £4.2bn 5-yearly integrated transport capital settlements for the 8 existing MCA areas with transport functions from FY23.

Our offer and proposals to Government

We are seeking a 5-yearly integrated transport settlement of £250m (£50m per annum) over the period of FY22 to FY26 which can be deployed flexibly against our agreed regional transport priorities and support our economic and spatial plans for growth. We are also seeking resource funding to expand and accelerate our existing pipeline development work and prepare for the delivery of the investment programme. The scale of our funding proposal is commensurate with the size of our regional economy relative to other MCA areas which are eligible for Government's recently announced £4.2bn local transport funding.

The Local Transport Plans (LTPs) developed by City of York Council and North Yorkshire County Council, amongst other aims, both identify the need to boost the economy, and protect the environment. The development of a transport investment pipeline to achieve these aims is already well underway by addressing the transport objectives of:

1. Tackling congestion in urban areas and on key radial routes;
2. Developing a more resilient transport network;
3. Enhancing rail access and infrastructure;
4. Improved Road Connectivity (especially E-W); and
5. Low Carbon Sustainable Travel.

Both LTP's set out the longer term aims for transport in the region and, in preparing for a Devolution Deal, a key element of our investment pipeline work has been an assessment of deliverability of each of the interventions in the first 5 years of the establishment of the MCA. This has identified an initial £250m programme of schemes which are deliverable between FY22 to FY26 alongside a series of longer-term, transformational interventions. Appendix 1 provides an indicative list of schemes as well as well as some of our key longer-term proposals.

The initial programme of schemes identified at this stage is primarily highway-based, as this is the element of the transport network over which the MCA and existing LTA's have a direct control and can therefore ensure delivery in the first five-year period. Ultimately, however, the MCA will also seek to invest in more rail infrastructure, primarily but not limited to new and improved stations. Whilst highway based, the interventions identified for the five-year period are multi-modal and are considered critical to our ambitions to decarbonise our economy. The 5-year programme includes:

- Bus network and infrastructure improvements e.g. key network corridors for York, Harrogate and Scarborough;

- Large scale mode shift (to active and passenger transport) and traffic management interventions, including congestion management/reduction packages, for Harrogate and Scarborough;
- Smarter Travel improvements in York, such as innovative approaches to traffic signal management;
- Highway resilience (climate change impacts) schemes alongside a small number of significant but very targeted journey time reliability and highway capacity improvements, such as phase 3 of the A1237 York Outer Ring Road dualling;
- Infrastructure to encourage and facilitate active travel (cycling and walking), including cycle route enhancements especially but not exclusively in our largest towns of York, Harrogate and Scarborough;
- The creation of a York Station Masterplan to maximise investment in the railway network (HS2, NPR, ECML and Transpennine Route upgrades) and existing major regeneration projects (York Central and York Station Frontage);
- The development of a new station at Haxby - a long-standing ambition for City of York Council (with a bid recently submitted to the DfT's New Station Fund 3); and
- Roll-out of an EV charging network across the region for private vehicles, taxis, Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs) (alongside our separate proposal to roll-out electric and ultra-low emission vehicles (ULEV) buses across the region).

Our pipeline development work will be further refined and prioritised as the MCA is established and a pan-regional statutory Strategic Transport Plan is developed. The development and adoption of the MCA Strategic Transport Plan will be jointly developed with our economic and spatial plans. It will both set the policy background and identify a prioritised programme of short-term and long-term interventions for addressing the region's economic, social and environmental challenges and ambitions.

2. Funding to deploy ultra-low emission public transport across our region

Summary:

Bus vehicle emissions are a significant contributor to our local air quality issues and GHG emissions. Our three major settlements of York, Harrogate, and Scarborough all have a number of declared Air Quality Management Areas or locations close to declaration limits. In addition, the largely rural characteristics of our bus market mean we face unique challenges in the transition from diesel-engine road vehicle (DERV) buses to ULEVs in our region, specifically:

- Our small, independent bus operators face commercial viability challenges due to the incremental capital costs of ULEV vehicles and supporting infrastructure; and
- Our dispersed population requires longer-distance bus services in areas that are poorly served by traditional charging infrastructure.

We have begun to deliver electric buses in our area where possible, including in York and Harrogate. However, we need a step-up in funding to support a more strategic approach that will support the take-up of ULEVs across our region at the pace and scale required to meet local and national decarbonisation objectives. **We are initially seeking £52.5m funding to deliver a three-phase programme for the roll-out of ULEV buses across our region over the next five years:**

- **Phase 1 – FY21 to FY23 (£27.5m):** Deployment of electric vehicles (EV) in York as part of an 'All Electric Bus Town' by [FY23] and undertaking business case work in [FY22] for Phases 2 and 3 to identify preferred solutions for the roll out of ULEVs across North Yorkshire, including engagement with local bus operators.
- **Phase 2 – FY23 to FY24 (£25m):** Deployment of ULEVs in larger North Yorkshire settlements, such as Harrogate and Scarborough, having completed the business case work and engagement with operators in Phase 1.
- **Phase 3 – FY24 to FY25:** Deployment of ULEVs in the region's more rural areas –. This will require further funding to deliver, once detailed work has been completed to identify suitable ULEV solutions for use in rural context and a business case has been established. We are seeking a commitment from Government to consider the business case once it has been developed (anticipated by FY24/25).

The case for change

As our primary mode of public transport, the bus network is critical to the economic performance of our region and the prosperity of our communities, but also presents a key challenge in decarbonising our economy and achieving our ambitions to be carbon negative. Our three major settlements of York, Harrogate, and Scarborough all have a number of declared Air Quality Management Areas or locations close to declaration limits, with bus vehicle emissions being a significant contributor to our air quality issues.

We welcome Government's increased focus on improving and decarbonising bus services through the recently announced £5bn fund for local transport, which includes initiatives such as the All-Electric Bus Town scheme, and the upcoming National Bus Strategy.

The scale of change required to decarbonise our bus network, especially in our rural areas, requires a strategic and co-ordinated approach to funding and delivering the transition to ULEV buses in our region. Such a programme could also provide an exemplar approach to decarbonising rural passenger transport in other parts of the country.

We are in a strong position to build on recent progress in the roll-out of EVs. City of York Council (CYC) has already implemented a range of measures over the last c5 years. including introducing a Clean Air Zone for buses (effective from January 2021) and the transition of the Park and Ride fleet to electric double decker buses, which will be completed this year, along with 5 of the 6 Park and Ride sites served by 'top-up' charging points (alongside charging infrastructure at the bus depot). This activity has been supported by funding from a number of the Government's Green Bus and ULEV funding schemes. CYC also has an aim to transition all of its council vehicle fleet to green /EVs by 2024. North Yorkshire County Council (NYCC) has also commenced a range of initiatives, such as introducing LED street lighting over the past four years, resulting in its total carbon footprint falling by almost a third, from 19,574 tonnes of CO2 equivalent to 13,492 tonnes.

Currently c20% of the bus network mileage operated in York is operated by electric buses. Meanwhile the implementation of the city's Clean Air Zone in January 2021 will mean that all buses entering York more than five times per day will be expected to meet ULEV/EuroVI standards, meaning 90% of the bus network mileage will be operated to this standard.

By contrast, in North Yorkshire only c10% of one operators bus network mileage is operated by EVs which equates to just 1% the county's total bus network mileage. Given North Yorkshire is the largest county in England and is one of the most rural (being one of only a handful of areas in the UK eligible for the Rural Fuel Duty Relief Scheme), the county faces significant barriers to the full transition to ULEV vehicles, particularly electric, across the region. These barriers include:

1. **Operator mix:** The county's bus market predominately comprises smaller, independent operators who lack the ability to fund the increased capital costs of buying ULEV vehicles over standard DERV vehicles, as well as the relatively higher costs of infrastructure necessary to operate ULEV buses.

2. **Dispersed, longer-distance services:** As a large, rural area, long distances are involved in accessing essential services. As such the existing EV range (c180-190 miles) limits deployment across the rural passenger transport network where service mileage can be up to 250 miles. This requires smaller, but more widely dispersed charging facilities to support the uptake of ULEV buses, rather than traditional charging infrastructure alone (e.g. in bus stations and depots within towns). The issue is likely to be exacerbated by the low capacity of the electrical grid in the more rural areas which may require upgrading to accommodate electric bus charging.

Some electric buses have already commenced operation in North Yorkshire, such as in Harrogate via support from the Government's Low Emission Bus Scheme in 2018 and funding from the local operator, with supporting infrastructure available in the town's bus station. However, further work is required to assess the range of technologies available to ensure the right vehicle and charging infrastructure mix is deployed across the wider North Yorkshire area, particularly in the county's more rural areas.

Our offer and proposals to Government

We are initially seeking £52.5m funding to deliver a three-phase programme for the roll-out of ULEV buses across our region over the next five years:

- **Phase 1 – FY21 to FY23 (£27.5m):** Deployment of EVs in York as part of an 'All Electric Bus Town' by FY23 and undertaking business case work in FY22 for Phases 2 and 3 to identify preferred solutions for the roll out of ULEVs across North Yorkshire, including engagement with local bus operators. Delivery of this Phase will mean c80% of the bus network mileage operated in York will be operated by electric buses (up from 20% currently) and leverage recent investments in EV charging infrastructure across the city.

- **Phase 2 – FY23 to FY24 (£25m):** Deployment of ULEVs in larger North Yorkshire settlements, such as Harrogate and Scarborough, having completed the business case work and engagement with operators in Phase 1.

- **Phase 3 – FY24 to FY25:** Deployment of ULEVs in the region's more rural areas. This will require further funding to deliver, once detailed work has been completed to identify suitable ULEV solutions for use in rural context and a business case has been established. We are seeking a commitment from Government to consider the business case once it has been developed (anticipated by FY24/25).

All three phases will include a financial support pack to operators of services in the areas to assist with bridging the additional capital purchase cost of a ULEV vehicle over a standard DERV vehicle.

This would be supplemented by the installation of supporting infrastructure such as vehicle charging equipment. The financial package will follow the same model as DfT's recent schemes, whereby operators are assisted with the additional capital costs.

In Phase 1 the majority of funding (£27m of the £27.5m) will be capital spend to purchase approximately 150 electric buses and charging infrastructure at seven bus operators in York. It was anticipated that the project would be delivered over a four-year timescale, with the bulk of spend in years 2 and 3 of the programme. Operators have committed to make match funding investments of their own of a further £24m, and CYC has identified a complementary programme of bus priority measures and improved passenger interchanges costing over £10m, much of which is already committed spend supporting major projects in York (York Central, York Station Frontage, York Castle Gateway). These complementary projects will be delivered over the same four-year period as the investment in electric buses.

There are clear synergies between this proposal and our plans to roll-out an EV charging network for private vehicles, taxis, LGV's and HGV's through the funding made available by a 'Devolved 5-yearly Integrated Transport Settlement' (discussed in the previous section). The Mayor will ensure that these two projects are coordinated especially with respect to the ability of the electrical grid infrastructure to support EV charging of both private vehicles and buses. Investigations into this issue are already underway by NYCC and CYC.

3. Funding for a roll out of publicly available EV charging facilities across our region

Summary:

YNY is the largest MCA in terms of both geographical area and road length. The resultant long journey distances alongside the relatively sparse population and limited nature of the electrical grid infrastructure make delivering the necessary step change in EV charging infrastructure to meet our carbon negative region ambition expensive and difficult to deliver.

We are seeking up to £50m funding over the next five years to deliver a programme for the roll-out of public EV charging in our cities, towns and rural areas across our region. This will allow us to provide for visitors and workers in our town, our resident population and people undertaking longer distance trips, especially to our remoter areas. This will increase the uptake of electric vehicles in our region, reducing carbon emissions and support a green economic recovery from COVID-19.

The case for change

The YNY region is the largest MCA by both geographical area (over 8500 km2) and length of road network (almost 10,000 km). With three major towns/cities (York, Harrogate and Scarborough) and over 25 smaller communities, the population of our region is widely spread and relatively sparse. The YNY region is approximately 100 miles north to south and 100 miles east to west; therefore journey distances are often very long. In addition, our coastal towns and resorts can be up to 60 miles from core strategic transport networks. As a result of this and despite the improved range of electric vehicles 'range anxiety' is often quoted in correspondence and on on-line forums as a major disincentive to the use of electric vehicles in our region

The sparse population and associated relatively low traffic flows mean that commercial provision of EV changing facilities in YNY is near negligible and unlikely to change significantly in the near future. Similarly, the large number of small communities in our region means that public sector provision of EV charging facilities is difficult and costly with a large number of dispersed sites required. In addition, our initial research suggests that even in our largest towns (e.g. Harrogate) the electrical grid network has insufficient capacity to accommodate the necessary numbers of the latest 'fast chargers' (up to 25kW) and 'rapid chargers' (up to 50kW). The electric grid challenge is often even worse in some of our smaller rural communities. Significant electric grid infrastructure costs are therefore also a major constraint on the provision of EV chargers in YNY. Indeed, initial indications are that electric grid costs could be in the region of £100k to £300k per location.

As a result of the above the uptake of electric vehicles in YNY is low with only 2,221 ULEV vehicles registered in YNY at the end of 2019[1] of which only 1,011 were battery only ULEV's (less than 0.18% of the total registered vehicles in YNY compared to the national average of 0.28%). Evidence from direct correspondence and online forums also suggests that the lack of EV charging infrastructure is a major disincentive to ULEV owners visiting the region for tourism; particularly for our east coast resort towns. Given the reliance on the visitor economy, these towns have also been some of the hardest hit by the COVID-19 lockdown.

Government funding to date has largely focused on large urban areas and more recently on encouraging private EV car ownership (e.g. Electric Vehicle Homecharge Scheme for domestic properties and Plug in Vehicle Grant) and investment in car park areas such as residential streets and employer car parks (e.g. On-Street Residential Chargepoint Scheme and Workplace Charging Scheme). These do not address our challenges of rurality, significant electric grid infrastructure costs, and large geographic area that discourage use of EV vehicles in our region. Because of the lack of available and suitable funding, across our region individual local authorities have made limited EV charging provision in their areas. This has hindered the step change in provision that is needed to allow the widespread take up of electric vehicles and contribute towards our ambition to be a carbon negative region.

We welcome DfT's (March 2020) paper "Decarbonising Transport: Setting Challenge", particularly its commitment to a holistic approach to encouraging the usage of ULEV through a "strong consumer base, the right market conditions, and a fit for purpose infrastructure network". In this paper we are encouraged by Government's commitment to spend £500m over the next five years to ensure drivers will never be further than 30 miles from a rapid charging station.

However, we believe our unique challenges require a devolved approach to achieve a roll out of publicly available EV charging facilities across our region. This could provide an exemplar model for Government to roll-out more widely to rural areas of the country and enable Government to meet its national commitments.

In April 2020 North Yorkshire County Council on behalf of the York and North Yorkshire LEP and working with the District and Borough councils, commissioned a comprehensive study to identify the gaps in EV charging provision across the whole of North Yorkshire, forecast future demand and identify detailed proposals for the number and type of EV charging points necessary in North Yorkshire. Alongside the City of York Electric Vehicle Charging Strategy (approved March 2020) this will provide a comprehensive plan for the necessary step change in EV charging facilities needed across our region This will include:

[1] Source DfT – Table VEH0132a

- Hyper hubs serving the city of York and potentially Harrogate and Scarborough
- Evidence based suitable types and numbers of EV charging facilities in every city/town centre in YNY
- Evidence based suitable provision of publicly available on and off street EV charging facilities for residents without a private drive
- A commitment to ensure a suitable and convenient publicly available EV charging point every 20 miles on our regions local A class road network matching the Governments and Highways England's ambition for the Strategic Road Network

Study outputs are expected to be available by the end of 2020 with a full business case to follow in 2021.

The City of York has extensive experience of provision of public EV charging points with almost 50 located across the city including 5 rapid chargers and they are currently in the latter stages of planning for two ultra-rapid charger hyper hubs. Other authorities in the region are less well advanced with delivery of public EV charging however all have delivered or are in the latter stages of planning to deliver a small number in the key towns in the region.

Our offer and ask of Government

We are seeking to devolve up to £50m capital funding to deliver a programme for the roll-out of public EV charging across our region over the next five years. This is based the initial findings of our CYC Electric Vehicle Charging Strategy and NYCC gap analysis in EV charging provision which is indicating that the costs of upgrading the electric grid infrastructure in our numerous large and small towns is likely to be the greatest constraint on a wide scale roll out in YNY. Government funding will be used to deliver a 3 to 5-year programme providing the necessary electric grid infrastructure upgrades as well as a suitable mix of fast, rapid and ultra-rapid chargers as appropriate to their target market.

We intend to build on our local EV charging infrastructure reviews, as well as our experience to date in rolling out local charging stations across the region. Through a devolved approach YNY can address private sector/commercial market failures by targeting investment towards the places that need it most and make strategic, holistic investments to encourage EV usage in our region.

This will play a key role in our economic recovery from COVID-19; allowing us to provide for visitors and workers in our towns, our resident population and people undertaking longer distance trips especially to our remoter areas. Upgrades to the electric grid infrastructure will also where possible consider the provision of any necessary capacity to allow future private sector provided but publicly available EV charging facilities at places such as supermarkets and shopping centres.

This EV programme would be fully integrated with our proposals for funding the deployment of ULEV public transport in our region (outlined in the previous section).

4. Revenue funding settlement for bus services to support COVID-19 recovery

Summary:

The impact of COVID-19 on the bus market will be more keenly felt in our region given the significant areas of sparse rurality; potentially leading to a permanent loss of services and smaller operators (which make up a significant proportion of our market). This will hamper the post COVID-19 recovery of our visitor economy, stall housing development and growth, and risk social isolation of our deprived and vulnerable communities. As part of our COVID-19 Economic Recovery Plan, our asks of Government are twofold:

i. **£36m of funding over the 5-year period of FY21 to FY25 to help secure the recovery of our bus market to pre pandemic levels.** £2m funding would be used to pump-prime services in response to COVID-19; £33m would be used to develop existing areas of under bus provision in North Yorkshire; and £1m would be used to develop and implement technology-based solutions, based on the principles of Mobility as a Service (MaaS)

ii. **Local flexibility over ENTS statutory requirements,** such as enabling the use of technology (e.g. smartphones), to be used instead of the statutorily required pass, as well as the ability to accept a contribution from passengers for concessionary travel will provide an critical source of additional funding to aid the recovery of our bus market.

The case for change

North Yorkshire is characterised by a dispersed settlement network comprising small market towns and a large number of surrounding areas of sparse rurality. There are large areas where the commercial bus market is not satisfying local demand and services are provided by a limited fixed timetable supported bus network, some of which are previously withdrawn commercial services. As such our public transport network, either commercial or supported, does not sufficiently meet the current and future needs of our residents. This reinforces dependency on the private car resulting in congestion issues, as well as placing pressure on wider services, such as health budgets, and limiting the economic prosperity of our communities.

Currently in excess of £13m per year is spent across the region by CYC and NYCC financially supporting bus operators. The support includes reimbursement of fares for journeys made by concessionary travel pass holders and financial support for bus services that are not deemed by operators to be commercially viable.

The poor commercial viability of our rural bus network will be exacerbated by the COVID-19 pandemic, which has significantly impacted passenger usage, dropping at its lowest to 7% of pre COVID-19 levels, increasing to just 12% by early June 2020. Recovery is not anticipated nationally in the short term (current estimates suggest 80% of pre- pandemic levels) and work to ensure recovery is achieved in the medium term will require commitment and investment from a both the public and private sector.

The impact of COVID-19 on the bus market will be more keenly felt in our region given the significant areas of sparse rurality, potentially leading to a permanent loss of services and smaller operators (which make up a significant proportion of our market). Constrained local authority resources mean it will not be possible to step-in and fund withdrawn commercial services. This will hamper the post COVID-19 recovery of our visitor economy, stall housing development and growth, and risk social

isolation of our deprived and vulnerable communities. It is therefore critical that we have a funding approach which puts services back on a sustainable footing and secures the recovery of our bus market.

The scope of the English National Concessionary Travel Scheme (ENCTS) is also key dimension in such an economic recovery approach. CYC and NYCC already work proactively and in partnership to both deliver the statutory requirements and some discretionary enhancements, which has helped to achieve economies of scale. However, the scheme is expensive to deliver, and involves rigid statutory requirements. Providing flexibilities around the ENCTS could provide a critical source of additional funding to aid the recovery of our bus market.

Our offer and proposals to Government

As part of our COVID-19 Economic Recovery Plan, our proposals to Government are twofold:

I £36m of funding over the 5-year period of FY21 to FY25 to help secure the recovery of our bus market to pre pandemic levels

Whilst the development and adoption of a bus strategy within the Mayoral Combined Authority's (MCA) joint LTP for the region will shape and inform the development of medium- and long-term solutions to sustaining and growing our public transport network, we need a short-term funding approach to address the impacts of COVID-19 on bus patronage and avoid the loss of services and small operators.

The funding will support two areas of intervention:

1. **£2m of revenue funding to pump-prime services in response to COVID-19.** The intention is to provide seed funding to operators; with support in earlier years (FY21 and FY22) tapering as passenger numbers increase and return to pre pandemic levels (i.e. FY23-25). The specific details on the support provided will be determined by the bus operator response to the crisis, but given only 80% patronage levels are anticipated in comparison to pre-pandemic patronage nationally, some commercial services that were only marginally profitable will become unprofitable and will therefore be terminated or curtailed in some way, with our LTAs required to backfill the lost services. The position is likely to be much worse in rural areas where such services only operate once per day or week, risking entire loss of services in comparison to urban areas where service retrenchment is likely to form frequency reductions. Without intervention, we face many of our communities becoming isolated, with damaging consequences for economic prosperity and our decarbonisation agenda (given the resulting increases in car use where residents do have a car available).
2. **£33m to develop existing areas of under bus provision in North Yorkshire** through investment in the start-up and operation of area-based/zonal services, focusing on community-centric transport which connects residents to key services. Initiatives will operate earlier in the morning and later in the evening on request throughout a defined area/zone, encompassing a number of rural and dispersed settlements and market towns. This new type of area based/zonal service combined with strategically delivered fixed route and timetable services will ensure rural locations are linked to employment site and key services. Other areas, such as York and Harrogate, have good commercial coverage, sometimes with over provision. Areas such as coastal areas have good patronage during high season but are vulnerable during the off-peak season. Investment to develop the bus network in these areas to increase usage by existing non-users and users from outside the area such as tourists is required to ensure services remain sustainable and continue to be provided on a commercial basis.

3. **£1m to develop and implement technology-based solutions, based on the principles of Mobility as a Service (MaaS).** Across our region users and non-users can be deterred from using the network by the complexity and inconvenience of finding information on and paying for the service. There are examples of good joint ticketing initiatives across the region but there are also areas which require improvement. This funding would support one-off capital investment in MaaS technology with modest revenue funding to cover operational costs.

II Local flexibility over English National Concessionary Travel Scheme statutory requirements

The introduction of local freedoms on ENCTS would enable the use of technology, such as smartphones, to be used instead of the statutorily required pass. In addition, the freedom to consider the ability to accept a contribution from passengers for concessionary travel will provide an additional source of funding, which could be implemented as discreet pilots to develop a proof-of-concept which could inform future national policy and potential roll-out in other areas.

The specific freedoms we are seeking from the ENCTS legislation include:

- Section 145A of the Transport Act 2000 to enable a small charge to be made to passengers. "Any person to whom a current statutory travel concession permit has been issued and who travels on an eligible journey on production of the permit, to a concession consisting of a waiver of the fare for the journey by the operator of the service."
- Variations to The Concessionary Bus Travel (Permits)(England) Regulations 2008 to enable the use of technology, such as smartphones, to be used instead of the statutorily required pass.

5. Enhanced joint working and transport powers

In line with other Mayoral Devolution Deals, through a Devolution Deal for YNY we are seeking a range of enhanced local transport powers, as well as joint working with central government and Government companies (e.g. Highways England and Network Rail) to better align local and national transport investment plans. This includes:

I Statutory Transport Plan Powers

The Mayor is to receive transport planning powers and, working with the two Local Highway Authorities (LHAs), jointly prepare and approve a transport strategy and LTP for the region. This plan will act as the framework for coordinating strategic transport decisions and investments across YNY. The Combined Authority will be able to amend the joint Mayoral-LHA transport strategy if a majority of members and the two statutory LHAs agree to do so. Included in the LTP will be a Strategic Highway Asset Management Plan which will set the strategic context for highway maintenance across the region, which will continue to be delivered locally by the two statutory LHAs.

In terms of the local road network, the MCA will cover the largest network in the country in terms of road length – comprising almost 10,000km in total with almost 1,000km of A road (excluding trunk roads). Unlike most other MCAs, this network is managed by just two existing LHAs (North Yorkshire County Council and City of York Council). Over 92% of the network (all roads and A roads) is within North Yorkshire with the City of York Council's local highway network being almost entirely enclosed by North Yorkshire, with just a short boundary with the East Riding of Yorkshire which is crossed by just two roads (the A1079 and the B1228).

This, together with the economic importance of the city of York to North Yorkshire, has resulted in long term co-operative working between the two LHAs on transport matters with some provision for shared services (bridges), co-funding of transport officers (Rail and TfN co-ordination) and shared representation at some TfN meetings

The creation of an MCA for YNY, and preparation of a joint LTP and Strategic Highway Asset Management Plan will formalise these arrangements and ensure the continued alignment of our priorities for the management, maintenance and improvement of the local highway network, including the most economically crucial roads as identified in the Government's Major Road Network.

The joint drafting and approval of the MCA's LTP also provides an enhanced opportunity to better align economic and spatial planning with transport planning; provide greater local accountability and decision-making power over transport-related issues; and provide the opportunity to scrutinise local transport decisions and priorities. It will help the region to coordinate and implement an integrated transport investment strategy over the next 30 years. Through a robust assurance framework, it will also ensure any transport spending decisions taken by the Mayor maximise Value for Money (VfM) and deliver the best economic, social and environmental outcomes for the region.

II Bus Franchising Powers

The Mayor will have access to franchising powers in the Bus Services Act 2017. This will provide the opportunity to develop high quality bus services as part of an integrated local transport system. YNY will continue to work with relevant partners – TfN, bus and rail operators and the DfT – to realise this ambition.

Whilst our proposals include Bus Franchising powers, our preferred approach is to work in partnership with bus operators with a shared ambition to delivering an optimised network which minimises bus congestion and pollution, integrates with other public transport modes and is designed around people's travel patterns and provides users and potential new users of the relevant bus related information. It must be sustainable in the longer term both to the MCA and bus operators.

We also propose that Government considers making the relevant regulations to facilitate the transfer of bus functions to the Mayor, should these regulations be sought in future, subject to approval of a business case.

III Devolved Mayoral Transport Settlement

The Mayor will be responsible for a devolved and consolidated local transport budget for the area of the YNY Combined Authority, including all relevant devolved highways funding, whilst recognising that the statutory responsibilities for highway maintenance remain with the two Local Highway Authorities.

IV Enhanced Joint Working with Highways England and Network Rail

Government to support the YNY Combined Authority, Highways England and Network Rail in establishing enhanced joint working arrangements, including determining shared priorities for the region's strategic road and rail networks. Strategic and key local road networks in particular serve a crucial role connecting places in a mostly rural region. An enhanced joint-working arrangement ensures an improved coordination among stakeholders and will make the most efficient and effective use of the region's critical local highway and railway assets. Of high priority for our region through this enhanced joint working would be:

- Upgrades to the A64 east of York which is currently a major constraint on connectivity to and the economic prosperity of the east coast.
- Bringing forward identified infrastructure upgrade work such as improved track layout at York Station and additional track between York and Skelton Junction – improving both capacity and reliability on the rail network in and out of York.

V Exploration of further Transport for London powers for devolution to YNY

YNY are seeking to open discussions with government exploring wider powers currently devolved to Transport for London and to explore the potential benefits of devolving these powers to YNY.

4 Digital

Strategic context

High quality and widespread digital infrastructure are essential to the growth of the York and North Yorkshire (YNY) economy, both because of the general trend towards digital business and service delivery, and our rural geography and relatively dispersed population, which can make physical access between settlements or to major centres slow and difficult.

Superfast and ultrafast broadband[2] provides the bandwidth necessary for many people to work from home – for example by receiving and sending emails and using the internet. In some cases, it allows users to access teleconferencing and cloud computing. This is particularly important given rapid growth in home working, with Ofcom reporting in 2018 that 50% of 25-34-year olds and 58% of 35-44-year olds now work from home at least once a week.[3.]

While superfast and ultrafast broadband is fast enough for most current individual/household needs, even prior to COVID-19, the availability of, and demand for, data-intensive services such as online video streaming and video calls has been increasing.[4] The importance of this connectivity in supporting future economic growth has also been recognised by Government in its ambition to deliver nationwide gigabit broadband (defined as download speeds of at least 1000 mbps) by 2025.

High capacity internet connections that can support fast download speeds, large amounts of data, and many users at one time is increasingly important for households and businesses and will be critical to a successful economic recovery from COVID-19. Under a "new normal" the importance of gigabit broadband is amplified as industry implements new business models, attitudes shift toward even more home-working, and demand for digitised services (public and private) increases significantly.

Against this background, the rapid completion of 100% Superfast broadband coverage, and working to meet the Government's national target of 100% Gigabit broadband by 2025, is crucial to the economic prosperity of our region. In addition, strong 4G and 5G networks will play an important role in future mobility solutions across our region, particularly given our rural characteristics, including supporting autonomous vehicles, demand responsive transport, smart ticketing and on-the-go journey planning.

However, despite the economic opportunities and indeed necessity of digital connectivity, at present the coverage of our region's fibre and mobile broadband significantly lags behind the rest of the country. This is because the low population density of our region means that telecoms operators are unable to take advantage of economies of scale and have a smaller than typical addressable market by geographic size, making private investment commercially unviable. Without public intervention, and a step-change in the way this is delivered, there is a significant risk that our economy is 'left behind' and the Government's levelling up agenda is undermined.

We have demonstrated a commitment to digitising the region and invested in local capacity to successfully design and implement the procurement of public investment in digital infrastructure

[2] Superfast broadband is defined as download speeds of 30-300 megabits per second (mbps), while ultrafast broadband is defined as download speeds of 300-1000 mbps

[3] ONS Internet Access – Households & Individuals 2018

[4] Full-fibre broadband in the UK, House of Commons Briefing Paper no. CBP 8392, 2020

and ensure successful roll out through stakeholder and contract management. A prime example is North Yorkshire County Council's (NYCC) Superfast North Yorkshire (SFNY) project, which has successfully delivered superfast broadband to more than half (56%) of business and residential premises in the county that would not otherwise be served by the private sector. Another example can be seen in the City of York where we took the initiative to work with CityFibre to become the first "gigabit city" in the UK; offering internet speeds of 1000Mbps to our residents, businesses and services via ultra-fast fibre optic broadband.

We are seeking to build on this successful track record in delivering digital projects, and through a step-change in delivery arrangements, address the remaining parts of our region that are not realising the benefits of a digitised economy. We are proposing to be the pioneer of a devolved approach to digital investment, as well as work with Government in its future digital plans involving our region.

Specifically, our proposals to Government are threefold:

1. **Devolution of national Department for Digital, Culture, Media and Sport (DCMS) funding for fibre connectivity**
2. **Co-design of the roll-out of the Shared Rural Network (SRN) in the YNY region**
3. **£20m for the establishment of a new Mayoral Smart Infrastructure Investment Fund**

Our proposals for digital

1. Devolution of national DCMS funding for fibre connectivity

Summary:

Whilst levels of fixed coverage and accessibility via superfast and ultrafast broadband are improving in the region, coverage remains significantly below the rest of the country and is considerably variable across the YNY area due to our rural characteristics. Under our existing programmes/initiatives we expect 93% of all homes and businesses in the YNY region to have access to superfast broadband by 2023, compared to 95% nationally. Given significant funding has been spent within North Yorkshire to achieve this target, this demonstrates the challenge that a rural county brings.

We welcome Government's ambition to deliver nationwide gigabit broadband by 2025, alongside a £5bn commitment to roll out gigabit broadband to difficult to reach areas of country. However, the scale of the challenge to delivering 100% gigabit broadband in our region is estimated to be c£740m. This is based on information available through the existing Superfast North Yorkshire project including the cost of Gigabit broadband and the varying scale of cost across different parts of the County. Assuming a 30% contribution from the private sector, we estimate £520m is required through public sector grant funding.

Given the scale of the challenge, and the limitations of a 'one-size fits all' centralised gap-funding approach, **we are seeking to devolve DCMS/Building Digital UK's (BDUK) delivery programme, supported by £520m in capital funding over the period of 2023/24 – 2035/36** to deliver the rapid completion of 100% Superfast broadband coverage, and working to meet the Government's national target of 100% Gigabit broadband across all of YNY by 2025

Through the SFNY project we have demonstrated a capacity and capability to deliver broadband infrastructure - to residents and businesses in our region that would that would otherwise not be served by the private sector. Through a devolved approach we will leverage our local knowledge to nurture local providers, stimulate demand within communities and ensure a targeted programme designed for the challenging rural landscape, resulting in an efficient programme delivering gigabit broadband to some of the most rural areas of England which will reduce the Urban/Rural divide and increase productivity of the region. A devolved approach will lead to a programme delivered faster, harnessing the various providers already actively working in the region and ensuring that we do not have clusters focused on the few urban areas. Good broadband is also essential to the tourist industry which is key in a region such as YNY with two national parks, four AONBs and a historically important city.

The case for change

In line with Government's ambition, YNY has the ambition to deliver 100% Superfast broadband coverage, and work to meet the Government's national target of 100% Gigabit broadband by 2025

Whilst levels of fixed coverage and accessibility via superfast and ultrafast broadband are improving in the region, coverage remains low relative to the rest of the country and is considerably variable across the YNY area, as evidenced in Table 1 below. In some urban areas within YNY's local authorities, superfast broadband access is close to or matches the country average of 96%. However, access is considerably lower (c87%) within urban areas in Selby, Ryedale and Richmondshire. This access falls even further in our rural areas – at or below 75% in five of the eight YNY districts. In addition, our broadband is slower than the national average, with download speeds of 30.2 mbit per second, compared to 45 mbit per second nationally.[5]

Table 1. ***North Yorkshire Coverage Data by Rural Identifier Code (number of premises, % share of total premises)***

	No Coverage	Premises with Superfast Broadband Availability (30 Mbits/s)	Premises with Ultrafast Broadband Availability (330 Mbits/s)	Total
Urban (A-C)	10,467 (7%)	99,964 (66%)	41,155 (27%)	151,586 (100%)
Rural (D-F)	38,444 (21%)	130,236 (70%)	17,905 (10%)	186,585 (100%)
TOTAL	48,911 (14%)	230,200 (68%)	59,060 (17%)	338,171 (100%)

We have demonstrated a pro-active commitment to digitising the region in so far as possible, given the challenge of having a low population density limited commercial viability from the private sector alone. In 2007, NYCC launched NYnet, with the aim to improve connectivity and broadband services across county. Using pre-procured products and services under Public Contracts Regulations, NYnet has been able to design, build, deliver and operate superfast or ultrafast broadband across c290,000 or (85%) of premises in the county. Of this amount c190,000 (65%) of these have been provided

[5] https://labs.thinkbroadband.com/local/E10000023

through the gap funded Superfast North Yorkshire Programme over three phases; targeting residences and businesses in the county that would that would otherwise not be served by the private sector. NYCC is currently procuring the fourth phase of SFNY project and is financed by a mixture of funds from Central Government, Europe and the County Council. On completion of the fourth and likely final Superfast phase there will be approximately 93% access to Superfast Broadband.

The City of York Council (CYC) also demonstrated a pro-active commitment in 2010 when it secured access to an initial 95km dark fibre network from CityFibre to deliver gigabit speeds across the city. This has been significantly expanded through private sector investment to locations that had previously struggled with connectivity as low as sub 2mbps. As a result of this initiative 59% of homes are currently connected to a full-fibre network across the city with an active and future build phases to extend this coverage to above 70% (compared to the UK average of 14% full fibre coverage coverage).

Despite the successes within the City, there are still many parts of the CYC area that are commercially unviable to deliver superfast broadband.

In DCMS' 2018 Future Telecoms Infrastructure Review (FTIR), Government articulated the strategic case for full access to superfast broadband, and the importance particularly in rural areas. This was backed up by the Government's commitment to deliver nationwide gigabit broadband by 2025,[6] alongside an announcement in the March 2020 Budget of £5bn in new investment to roll out gigabit broadband to the 20% most difficult to reach areas of country.

Whilst this ambition and funding commitment from Government is welcome, we are aware of the scale of the challenge to deliver 100% superfast broadband, let alone full gigabit broadband. Based on how much of the region there is still to connect, and an approximate cost per premise (from later phases of SFNY project), we estimate the scale of the challenge to delivering 100% gigabit broadband in our region is estimated to be c£740m.

As a rural region in England, we are aware of the limitations of a 'one-size fits all' centralised gap-funding approach; as evidenced in the coverage we have achieved to date, and additional funding that has been needed to get to 100% superfast broadband coverage. Based on historical private sector contributions from the SFNY project we assume a 30% contribution from the private sector, resulting in £520m required through public sector grant funding.

We believe the unique, rural characteristics of our economy require a devolved approach to achieve broadband coverage at the scale and pace required in our region, and in turn enable Government to meet its national commitments. Our devolved approach would build on our experience from delivering the SFNY Project and understanding of our local geography, by:

- Basing the definition of 'hard to reach' on our local knowledge, resulting in different priority areas of intervention;
- Understanding where the final 10-20% is going to be, and which of those are unlikely to ever be good Value for Money (VfM);
- Using local knowledge to understand where some existing providers can be nurtured to deliver towards the 100% target with less funding by targeting the areas around these smaller providers; and
- Tailoring the grouping premises to reflect the YNY market – for example, the national approach of bundling 3,000 premises to provide connectivity to individual villages or small towns amounts

[6] Full-fibre broadband in the UK, House of Commons Briefing Paper no. CBP 8392, 2020

to multiple villages for most of the North Yorkshire geography. We believe an approach based on geographical area rather than premises numbers will offer the better outcome as these can be targeted against infrastructure build as well as the final 7% still without superfast.

We believe that a de-centralised approach will deliver coverage to the region sooner and with less state funds than if this was delivered with a one size fits all approach. In addition, through previous demand stimulation and understanding of complaints, YNY can target the build towards the places that need it most. Many of these are white islands i.e. Premises which cannot receive superfast within big areas of coverage due to the distance from the cabinet.

We expect this will deliver a number of benefits to the Region which will ultimately drive up our productivity, and thus support UK economic growth as well as help to level up our national economy:

- Fostering growth and retention of businesses in the Region, particularly rural Small and Medium Enterprises (SMEs). Superfast internet will allow businesses in the region to access to a wider customer base; better match skills though a wider labour market pool; and generate agglomeration benefits from businesses being virtually closer together. This not only raises productivity and living standards in YNY but delivers net national growth.
- Supporting more home working and online meetings which reduces the need to travel and in turn reduces emissions, particularly in YNY's most rural locations which are highly car dependent. This will contribute to Government's aim to reach net zero by 2050, and YNY's aim to become a carbon negative region by 2050.
- Supporting the economic changes in our region under a "new normal" post-COVID-19, such shifting attitudes toward even more home-working, and increased demand for digitised services from the private and public sector.
- Improved well-being from increased social inclusion from virtual access public services, such as telehealth and online learning, as well as reduced loneliness from enabling residents in YNY's rural communities to connect virtually with distant friends and family.

Our offer and proposals to Government

Based on this evidence, YNY is seeking devolution of £520m from DCMS funds which will be dedicated to delivering 100% Superfast broadband coverage in the YNY region and working to meet the Government's national target of 100% Gigabit broadband by 2025. Our proposal is for 100% capital funding over the period of 2023/24 – 2035/36. Through market engagement YNY is aware that the market believes it will not have 100% coverage within the region until 2035. However, YNY will work with the market to deliver this as soon as possible in order to drive towards the Government's 2025 target.

With this funding, YNY will build on the success of the NYnet delivery model for the SFNY project and expand this to cover the entire YNY region. The devolved funds would be under the direct stewardship of the MCA and ring-fenced for delivering superfast and gigabit broadband connectivity to YNY's most difficult to reach areas of the region.

2. Co-design of the rollout of the Shared Rural Network in our region

Summary:

Whilst YNY is supportive of Government's response to the rural digital divide via the SRN, we believe local input is required to inform roll-out in our region to maximise VfM from Government's intervention and ensure our region does not fall further behind the levels of mobile connectivity enjoyed by other parts of the country. In the past we have seen a mismatch between the Government's ambition for mobile coverage and how this plays out specifically in our region. In addition, survey data we have conducted suggests that our coverage is worse than what is reported by Ofcom, therefore risking the scale of the challenge in our region to be significantly underestimated.

We are seeking to work with Government and industry partners to co-design the roll out of the SRN in our region. We believe we bring an informed, local perspective of where investments should be made and how they should be prioritised in order to ensure VfM and maximise the programme's potential contribution to the region. We also believe through joint working this will in turn identify good practice which can be used more broadly to inform Government's approach to supporting mobile connectivity roll out to the UK's other rural regions.

The case for change

As a largely rural area, we understand the challenges of achieving full mobile coverage across the region. We recognise that many of the rural areas of the UK suffer from this, and Government has responded to the rurality challenge via the recently announced £1b SRN, which aims to have 95% of UK's land mass to have 4G coverage by 2025.

Whilst YNY is supportive of Government's response to the rural digital divide, the approach to rollout of the SRN needs to reflect the differing characteristics of the UK's rural economies. At the moment there is a mismatch between the Government's ambition and how this plays out specifically in our region. Ofcom's 2019 Connected Nations report states that there is 97% 4G coverage in England by at least one operators However, in comparison our coverage equates to 74% as of Sept 2019 (see Table 2 below).

Table 2. ***Percentage mobile coverage***

Area	Percentage Coverage			
	At least one MNO		All MNO's	
	Current	Target	Current	Target
England	97%	98%	81%	90%
	Current	**% Increase**	**Current**	**% Increase**
Craven	84%	14%	51%	39%
Hambleton	98%	0%	89%	1%
Harrogate	94%	4%	78%	12%
Richmondshire	77%	21%	50%	40%
Ryedale	91%	7%	67%	33%
Scarborough	91%	7%	66%	34%
Selby	100%	0%	98%	0%
York	100%	0%	99%	0%

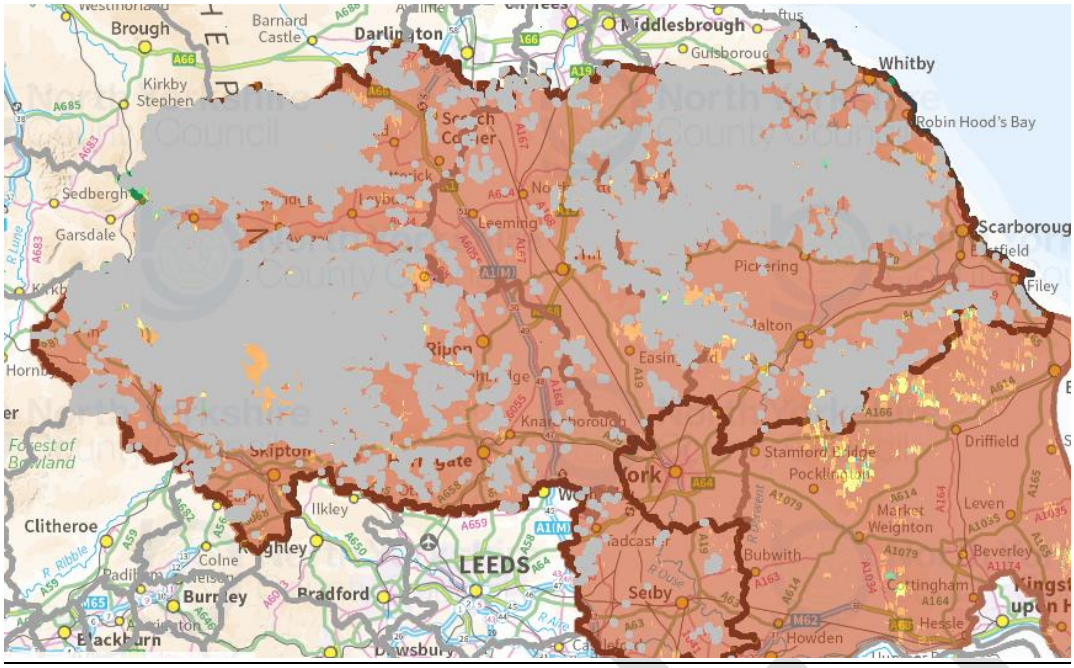
In the YNY region, the level of mobile coverage is well below the national average, is highly variable across our geography, and in practice falls well short of the levels reported by MNOs. Overall, mobile coverage in YNY is currently around 74% indoor coverage, whilst indoor coverage falls to around 45% by all operators Although the yellow areas indicated above meet the national coverage levels according to the Ofcom data, users within these area and our survey shows that this is not the case.

Addressing the inherent challenges in achieving full mobile coverage requires an accurate picture of the scale of the challenge. Current coverage data comes from Ofcom which is provided via the MNOs. Recognising the issues DCMS and Ofcom face in mapping rural connections, we carried out our own drive through survey in May 2018 which shows coverage to be worse than is currently reported. The following table summarise Ofcom data on mobile coverage nationally against YNY showing how we have been left behind and the increase required to bring us to the national average.

Figure 3 illustrates 4G coverage in the YNY region and shows the contrast between high levels of 4G coverage (coloured in brown) in the City of York, larger towns, the coast and transport corridors such as the A1(M) corridor, and low coverage in large, more remote rural areas (shaded grey)[7].

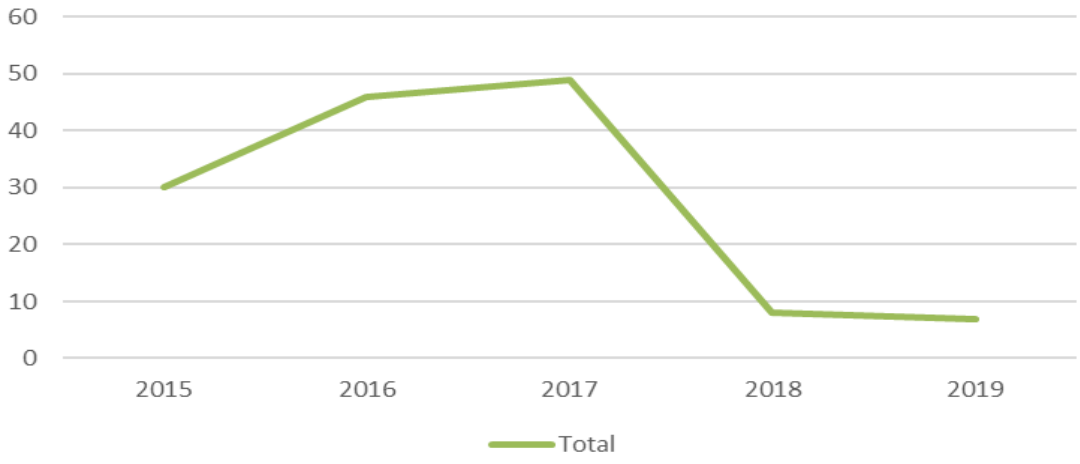
[7] Improving Mobile Phone Coverage Programme (Ofcom Mobile Coverage presentation), North Yorkshire County Council, 2019

Figure 3. 4G Indoor Coverage



Further evidence of the lack of investment in rural areas is demonstrated in the number of planning applications for new mobile masts that have been received recently. As can be seen from Figure 4 the numbers of applications have reduced dramatically following the completion of the last round of coverage targets in 2017.

Figure 4. YNY planning applications for mobile infrastructure



Source: YNY Planning Departments

Our offer and proposals to Government

We are seeking to work with Government and industry partners to co-design the roll out of SRN in YNY and in turn identify good practice which can be used more broadly to inform Government's approach to supporting mobile roll out to the UK's rural regions.

Given our local intelligence, alongside our track record of successfully delivering digital infrastructure through NYnet, we bring an informed, local perspective of where investments should be made and how they should be prioritised to ensure VfM is achieved from the SRN and maximise the programme's contribution to Government and YNY's aims for mobile connectivity. Through joint work working with Government, we believe we can achieve the national targets of England for YNY ensuring we are not left behind in mobile coverage.

3. £20m Mayoral Smart Infrastructure Fund (MSIF)

Summary:

High quality digital infrastructure, shared data and new 'smart' solutions have a major role to play in addressing our economic, social and environmental challenges; particularly in a "new reality" post COVID-19. Smart City technologies – including "Internet of Things" ('IoT') devices – have the potential to deliver more innovative, cost-effective services in both the public and private sectors.

However, across our region, poor network coverage is a key barrier to the development of new products and solutions. A programme-based approach to Smart Investment across YNY will enable us to achieve economies of scale, support the rapid deployment of IoT technologies and a step-change in the delivery of smart solutions in our region.

We are proposing to establish **a new £20m Mayoral Smart Infrastructure Fund** to deliver four key projects:

i. Procuring and deploying **an extension of the Low Powered Wide Area Network** (LPWAN) across YNY's urban areas and the wider region;

ii. Procuring an **initial tranche of sensors** for a variety of use cases across YNY;

iii. Running **Innovation Competitions to secure private inward investment**, incentivise activity by local businesses and educational establishments, and address our challenges where no commercial off-the-shelf solutions exist; and,

iv. **Establish a Knowledge and Skills Hub** to deliver a combination of roadshows and skills workshops, share knowledge in respect of the Smart Cities investments that we are making, provide visibility of the challenges that we are seeking to address through Smart Cities technologies (including Innovation Competitions), and work with businesses to determine how they can use the LPWAN infrastructure

The investment will **support cost optimisation of existing services** in a post-COVID-19 economy, **improve resilience** of our physical assets, **improve safety and security** for our population, and **create a foundation for private sector innovation and investment** in our region

The case for change

Our region's mix of urban and rural characteristics presents a diverse yet particular set of challenges and opportunities for residents, businesses and public bodies. These include (but are not limited to):

- The need to deliver core public services across the region on a more efficient, cost-effective basis in the face of rising demand against a background of increasingly constrained resources, particularly as we enter a "new reality", post-COVID-19.

- Driving up business productivity across the YNY region, which has not kept pace with regional or national trends.
- Environmental resilience challenges – especially in respect of flooding.
- High car ownership and resultant congestion and air quality issues in our urban centres.
- Additional CO_2 and NOx emission challenges associated with industry and transport, which have not been decreasing at regional or national rates.
- An ageing population, particularly given our rural demographics, wherein consideration must be given to how housing and health technology adequately meets need, both now and in the future, enabling more people to stay in their homes for longer.

High quality digital infrastructure, shared data and innovative 'smart' solutions led at the local level have a major role to play in addressing these challenges. Specifically, Smart Cities technologies – including IoT devices – have the potential to deliver more innovative, cost-effective services and successful demand management in both the public and private sectors. IoT can deliver 'optimised' public and private services by feeding real-time to services providers, defining 'need' on historical trends, and flagging key risk areas.

We have assessed the potential use cases for Smart City technologies within YNY (see Table 3) which could be enabled by significantly improved network coverage and IoT devices and help to address the above challenges, with reference to a range of successful UK and international case studies, including what York are currently working on:

Table 3. ***Potential use cases for Smart Cities technologies in YNY***

Local authorities	Local authorities with public sector partners	Private sector
• **York has used IoT for** housing management **to gather data on building state and need of repair to optimise service delivery and to minimise cost by responding ahead of damage to assets and estate. This extends to providing supplementary data in support of health services where housing data can inform potential health issues. This will enable early intervention and minimise the risk of longer-term health issues (and strains to service delivery) arising.** • **Using smart** street lighting **to use an array of lighting solutions depending on the setting (e.g. residential vs. city**	• York has conducted IoT **social/health care trials** using sensors to monitor activity, sleep patterns, bathroom use, door/safety, kitchen use, temperature/humidity that are located within homes within the "at risk" group • York has also used **home hubs** to provide targeted artificial intelligence advice on customer conditions, medications and reminders for the day. Completing health checks and helping with movement, eating, heating, but also looking at mental health areas such as loneliness support and providing	• Smart **agriculture** can help farmers monitor water, soil, and crops themselves to inform where to prioritise fertilizer/pesticides to increase crop yields and increase overall efficiency • Smart **logistics** can enable businesses to conduct real-time data visualisation – and the automation of logistics flows.

Local authorities	Local authorities with public sector partners	Private sector
centre) and time of day. In Manchester, the City Council installed 56,000 smart LED luminaires and anticipates savings of 60% of its current £3.6m annual costs, as well as a 50% reduction in carbon. • **Smart bins can be to indicate bin fullness over time and inform a city's** waste management **plans. Across the UK over 160 councils have used Smart Bins and have shown average frequency of bin collection can be reduced by 86% by having real-time information of levels of waste.** • **Using IoT in** water management systems in public spaces **to gather data and use predictive analytics to inform when a city needs to irrigate their public spaces. In one year, Barcelona saved EUR42.5m (£37.6m), or 25% on water through deployment and use of smart devices**	connections into the community. • York is **trialling a range of wearable**s which could improve patient outcomes for the elderly, helping keep them in their homes for longer. This includes the following functionality: SoS solution; Geo-fencing; Heart rate, HR variability, respiratory, circadian cycle, body temperature, movement/activity; Temperature, pulse, heart rate, sleep monitoring, • In **flood management,** sensors can be used to enable proactive and pre-emptive action to reduce and/or mitigate flood risk. A proof-of-concept project is being piloted in Dublin along River Liffey.	

The use cases described above can be implemented under a variety of IoT networks. The two principal options are a LPWAN, and cellular (referred to as LTE). Our initial analysis concludes that an LPWAN is best suited to delivering our IoT ambitions for the reasons discussed and illustrated in Table 4 below.

LPWAN technologies have properties that are best suited for smart cities applications; longer coverage range and low energy requirements[8] make these technologies strong contenders in IoT applications. These properties allow devices to be placed in remote locations without requiring external power or significant maintenance. LPWAN is also easy to deploy as a separate communications network carrier is not required, thereby saving on communication fees. These advantages do, however, limit the types of applications that can be deployed on this network; for example, video data cannot be transmitted over this network as it exceeds the available bandwidth with a LPWAN.

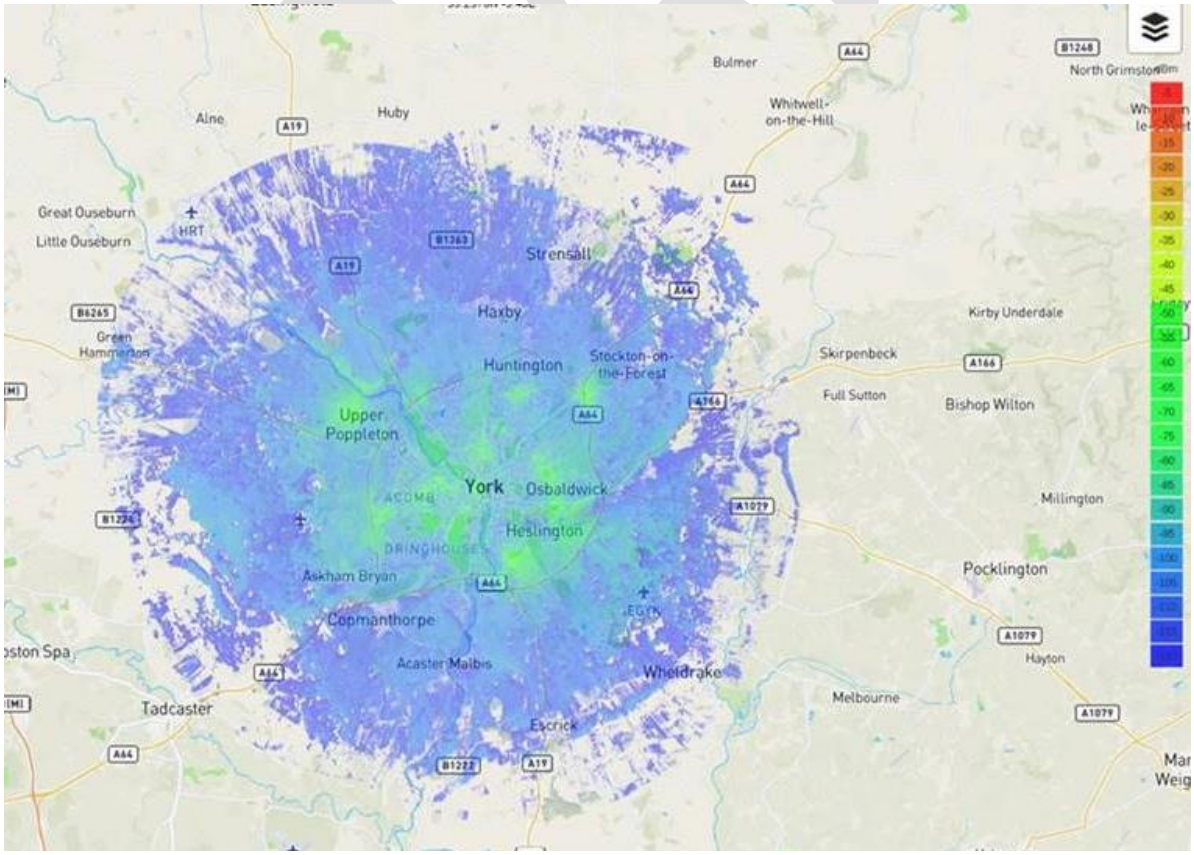
[8] Low Power Wide Area Network Technologies for Smart Cities Applications, 2019

Table 4. ***Assessment of smart cities technologies***

Criteria	LPWAN	LTE
Affordability	●	◔
Power efficiency for devices	●	◔
Allows for Government autonomy (e.g. does not require a separate carrier network).	●	○
YNY's sub-regional context	●	◕
Other factors	Allows for two-way data communication, albeit most applications are designed for one-way communication.	Allows for two-way communication Provides bandwidth for more critical or sensitive applications.

We have the capacity and capability to deliver smart technologies, as demonstrated by a number of successful smart initiatives in YNY, including the Smart Travel Evolution Programme (STEP) in York, and the North Yorkshire Office of Data Analytics (nYODA). The map in Figure 5 shows current LPWAN coverage in York, which reflects 13 gateways currently active in the city.

Figure 5. LPWAN coverage in York



We also have the Local Full Fibre Network (LFFN) programme which has already deployed and will deploy Fibre to 16 urban areas across the region. Furthermore, North Yorkshire has also been selected as a testbed for 5G rollout.

However, whilst these individual projects have been successful, they tend to be piecemeal and small scale, resulting in a missed opportunity to rapidly develop and deploy IoT technologies across our region. A programme-based approach is required to achieve economies of scale and support a cost-effective and comprehensive network for the YNY region which supports a step-change in the delivery of smart solutions by both YNY authorities and industry. This programme-based approach will not be possible to deliver without Government funding, due to a number of market failures:

- Commercial viability: As at 2018, c50% of the funding for Smart Cities initiatives originated from the private sector[9]. Private sector investment is, however, targeted at specific use cases, where there is direct financial benefit associated with contract or service delivery. YNY's low population density and geographic renders private sector investment in LPWAN unattractive relative to denser city regions (meaning that many areas we are targeting for economic growth will be left behind)
- Positive externalities: Funding of smart solutions which address policy objectives such as clean and inclusive economic growth are highly unlikely to be provided for by the private sector. Furthermore, an LPWAN that is accessible to local businesses and enterprises will generate positive spill over effects which make it unlikely that a private sector player would fund such a solution, especially if this benefited and/or created competition in the sub-region.

Due to continued pressures of an ageing population, along with the financial and economic pressures that have resulted from COVID-19, the correct implementation and application of IoT has the capability to optimise and target services into the future. This in turn will reduce service delivery costs or enable authorities to widen service provision.

Our offer and proposals to Government

We are seeking £20m to establish a new, MSIF which will deliver an integrated, coherent programme of investment across the YNY region. The scope of the fund comprises four sub-programmes:

I Delivery of an urban and region wide LPWAN

The LPWAN will enable rapid, cost-effective deployment of IoT devices by both public and private sector companies and is intended to be operationally self-sustaining in the medium-to-long term.

In FY22 we will prioritise instalment to our market towns, which are targeted through the LFFN programme, to expedite delivery of the LPWAN infrastructure and services. Following this we will deploy LPWAN to the remaining rural areas across YNY.

II Investment in an initial tranche of IoT devices

To be allocated to use cases which can be used to prove the benefits of IoT and the LPWAN in our context, and to enable us to reduce costs in associated services which, in turn, can be used to pay for the long-term operations and maintenance of the LPWAN infrastructure and services.

[9] The challenge of paying for smart cities projects, Deloitte 2018

III IoT and Smart Innovation Competitions

Funding to run one or more Innovation Competitions for Smart Cities use cases in our region; for example, reducing the risk of flooding. Innovation Competitions will have awards of between £25,000 and £500,000 for SMEs to develop and supply solutions and will be delivered through a structured management service.

IV Knowledge and Skills Hub Programme

Delivering a combination of roadshows and skills workshops to share knowledge in respect of the Smart Cities investments that we are making, and to provide visibility of the challenges that we are seeking to address through Smart Cities technologies. Also, to collaborate with peers, to work with businesses to determine how they can use the LPWAN infrastructure, and to support education providers in developing and delivering digital, data and technology (DDaT) skills programmes.

We anticipate the £20m fund to cover the upfront capital and revenue expenditure to deliver and operate these four projects over an initial 2-year period between FY22 and FY23, allowing time for adoption by services across the region. We estimate the capital cost to be £13m which comprises investment in the LPWAN network and sensors, and revenue costs to be £7m, which will cover the operation of the programme and a programme delivery team who will be responsible for:

- Procurement, deployment and operation of the LPWAN infrastructure (and associated service contracts)
- Appraisal of proposals and options for investment in the initial tranche of sensors, ensuring VfM and alignment to the objectives for the MSIF
- Identifying innovation challenges, and design and execute Innovation Competitions
- Establishing and managing a knowledge hub for the programme
- Preparing marketing and knowledge sharing materials, and running workshops and roadshows to educate businesses, authorities and educational institutions on YNY's "smart" capabilities and DDaT skills requirements
- Working with businesses/local enterprises to identify opportunities for them to use the LPWAN infrastructure, and executing associated commercial deals
- Managing changes that occur throughout the MSIF programme and evaluating and monitoring the benefits of the programme.

The MSIF will fund the team for two years, beyond which our intention is for their costs to be covered by revenue associated with the LPWAN (derived from internal transfers from budget savings achieved through more efficient public service delivery), and commercial revenue from private sector enterprises using the LPWAN. Further detail on the financial assumptions and indicative costs underpinning our proposal can be provided, with final costs for each of the programme components subject to refinement through the development of a full business case.

As part of due diligence for investment of the MSIF we will undertake further analysis to determine the right combination of public and private investment to maximise VfM. Setting up the right commercial model will be key in extracting value from the investment, and if we can secure suitable private sector funding for the LPWAN we will look to do so. It is important to note that, regardless of

the combination of public funding and private funding, the objectives for MSIF will be pre-determined and aligned with YNY's key policy priorities.

In order to achieve optimised service delivery, the programme delivery team will work with LAs, service providers, and vendors to ensure the installed LPWAN network and sensors integrate to back office systems to effectively utilise the data and information collected.

5 Towns and Cities

Strategic context

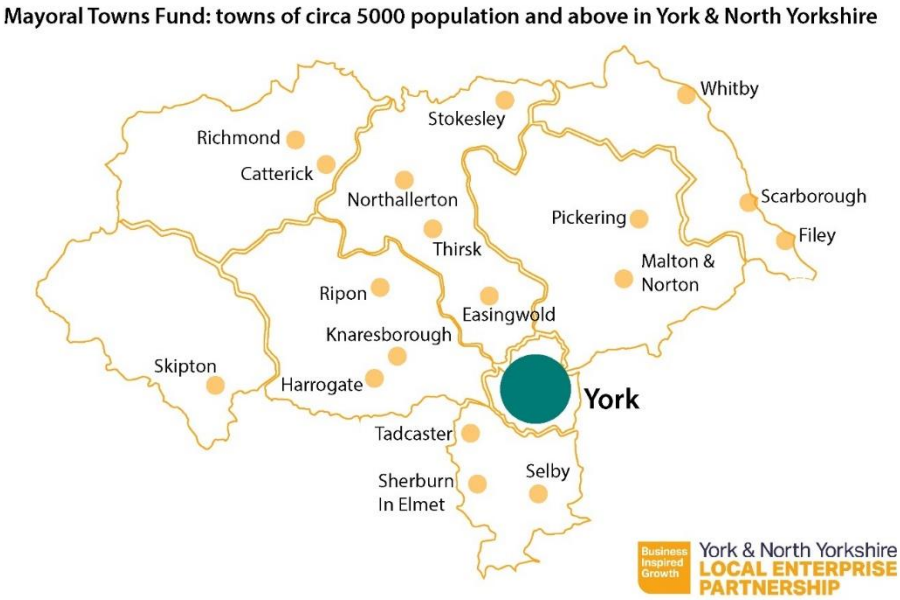
Cities and towns are significant assets to the local economy and community; serving as important centres for housing, public services, and businesses to thrive and contribute to sustainable growth. They are also key drivers of productivity and national growth.

We welcome Government's focus in recent years on providing the fundamental building blocks to help towns to thrive and respond to changes in behaviours towards online retail, which has resulted in declining footfall, store closures and empty shops.

However, the threat to high streets and town centres has intensified in the context of COVID-19, which has accelerated market trends in the retail sector, and could have a profound impact on how on we work, travel and shop in future. However, the economic recovery presents an opportunity to revitalise and reposition our towns as we 'build back better'; with an approach based on high-value, low carbon living and economic growth.

Our region benefits from distinctive places with national identities (see map in Figure 6 below). Places such as Harrogate, Skipton and York have been voted 'Best' or 'Happiest' places to live, and Scarborough receives more visitors than anywhere in the UK outside London. The city of York, together with our larger towns of Harrogate and Skipton, are concentrated locations of productive businesses and higher paid jobs. However, many of our places suffer from poor infrastructure provision, which leads to high car dependency and congestion, and contributes to our region's long-standing challenges of housing affordability and limited access to well paid, local careers. Many of our high earning residents commute out of the region to work, whilst lower paid residents can face commutes into more rural areas. In places like Scarborough, where a large percentage of residents live and work within the Borough, residents have very little choice outside of seasonal, low paid employment.

Figure 6. Overview of our towns and cities



Post-COVID-19, we need to think creatively about how our towns are repurposed to meet the needs of what people today expect from them – transitioning from shopping destinations to places where people can come together regularly to meet, work, live and have experiences. Achieving this requires a step-up and acceleration of investment across our places.

Our initial proposals to Government focus on short-term, pump-prime investment to help provide a catalyst for change:

1. **£230m between FY22 and FY26 for a five-year Devolved Mayoral Towns Fund (MTF) which covers Phase 1 of our long-term 21st Century Towns programme.**
2. **£64m between FY21 and FY26 for a York Place Fund which covers six, place-led regeneration and cultural activation projects across the City of York.**

The details of each of these proposals are outlined below.

Our proposals for town centres

1. Devolved Mayoral Towns Fund (MTF)

Summary:

Each of our individual towns differ in terms of their size, history and economic performance, meaning they face common challenges but to different extents. This includes: an ageing population, poor physical and digital connectivity, lower levels of walking, cycling, public transport use, changing social attitudes to the role of town centres, and the need to protect and enhance the natural environment. Whilst COVID-19 has accelerated some of these challenges, it also presents an opportunity to 'build back better' in the national economic recovery and accelerate our Good Growth objectives.

We have developed a ten year "21st Century Towns" programme which will address both the short-term economic impacts of COVID-19 and address the long-term challenges we need to tackle for our towns to thrive as more productive places to live and work.

The programme comprises five areas of intervention:

i. **Smart and Enterprising Towns:** investment in digital infrastructure and business hubs for businesses to grow and take advantage of new, smart opportunities.

ii. **Active and Transformed Towns:** encouraging a shift to sustainable transport through investment in walking and cycling networks, physical improvements to rail stations, and wider place-making and public realm improvements.

iii. **Cultural and Heritage Towns:** targeted investments which aim to regenerate and re-energise our cultural, creative and tourism sectors, particularly in the wake of COVID-19.

iv. **Living and Circular Towns:** investment in green and blue infrastructure, and testing circular economy approaches at a micro-scale, to make our market towns more sustainable and resilient to climate change.

v. **Growing Towns:** targeted investment to pump-prime housing and commercial development through enabling works such as highway and flood management infrastructure.

We are seeking £230m of a total £420m to deliver Phase 1 (FY22 – FY26) of our ten-year programme through the establishment of a Devolved Mayoral Towns Fund for investment.

A place-based investment programme will enable us to prioritise interventions that have maximum impact on economic recovery, achieve cost efficiency, leverage a greater proportion of private investment into our towns and accelerate delivery, thus achieving better Value for Money.

The case for change

Across York and North Yorkshire (YNY) there are a range of large and medium towns with a combined population of over 300,000 – representing c40% of our region's residents. Many of the medium-sized towns have common characteristics and would broadly be described as "Market Towns", meanwhile our larger towns include Harrogate and Scarborough.

The strength of our towns is their significant heritage and social assets, giving them a strong regional and national identity, as well as a sense of community. They also benefit from links into our main city of York and neighbouring cities of Leeds, Hull, Doncaster and those in Teesside. However, they also face structural disadvantages, with limited funding and investment to address the challenges that living and working in these towns can bring when compared to city-living. While each of our individual towns differ in terms of their size, history and economic performance, they face common challenges:

- An **ageing population**, generating increasing pressure on health and social care services, and implications for the **mix and type of housing needed and accessibility requirements** within town centres;
- **Poor digital connectivity within our towns,** hindering the potential for increasing business productivity and developing high value digital skills;

- **Lower levels of walking, cycling, public transport use due to limited existing local sustainable infrastructure and poor-quality public realm, parks and open spaces** in town centres, impacting negatively on health and well-being of local communities;
- **Changing social attitudes to the role of town centres**, moving away from traditional retail towards recreation and experiential leisure activities where people can drink and eat, as well as access the arts, heritage and entertainment; and
- In the face of **climate change,** there is a greater need for town centres to focus on **protecting and enhancing the natural environment**, requiring whole-community approaches to flood resilience and emergency response planning, and creating economic opportunities for places and businesses to employ **more sustainable approaches to growth**.

In December 2019 we finalised our Future Towns Report[10], which was commissioned to identify how to raise the productivity of our towns. The report looked at opportunities and challenges facing our towns over the long term (up to 2040) and identifies an ambitious but realistic vision for transforming our places into "21st Century Towns".

Through this work we have begun developing a ten-year programme with the prime focus of creating the conditions that will attract private investment into our towns and secure their future as drivers of sustainable growth. The programme comprises five areas of intervention, which are summarised in Figure 7.

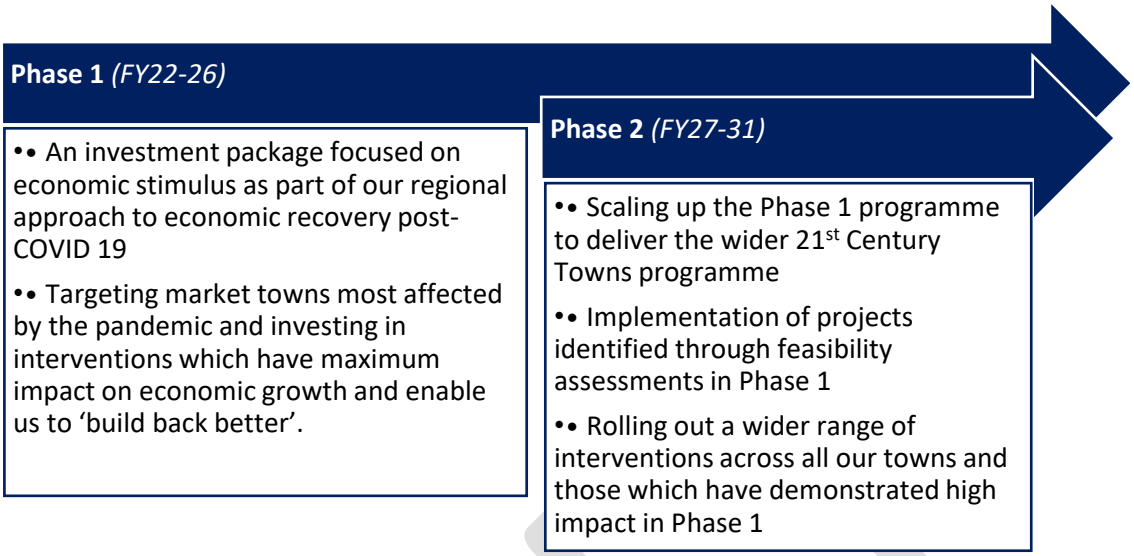
Figure 7. Five areas of intervention for the Devolved Mayoral Towns Fund

The programme is based on the roll-out of strategic investment packages across each of our towns, drawing on the right mix of interventions across the five areas outlined above, ensuring that investment is tailored to the specific strengths, assets and challenges of each town.

[10] 21st Century Towns - Metro Dynamics for York North Yorkshire East Riding LEP (December 2019)

The programme comprises three delivery phases (see Figure 8):

Figure 8. Delivery phases for the Devolved MTF



A place-based investment programme will enable us to:

- **Prioritise interventions that have maximum impact** by targeting and tailoring them to the economic, social and environmental challenges and opportunities across each of our towns;
- **Achieve cost efficiency** by addressing common challenges and solutions at scale across all towns rather than ad-hoc investments on a town-by-town basis, which enables knowledge-sharing and ensures what works for one location can be replicated/adjusted to work effectively in another;
- **Leverage a greater proportion of private investment into our towns**, enabled by the longer-term visibility and certainty over public investment plans; and
- **Accelerate delivery and achieve better Value for Money overall,** by tailoring and prioritising interventions so they have maximum impact and driving down the net cost to the public sector.

Our offer and proposals to Government

Our 21st Century Towns programme is expected to require £420m of funding over a ten-year period.

We are seeking devolved funding to deliver Phase 1 of our programme, which amounts to £230m between FY22 and FY26. The breakdown by the five intervention areas is set out in Table 5 below.

Table 5. ***Overview of the 21st Century Towns programme in Phase 1 and 2 (£ millions)***

	Phase 1 (FY22 - FY26)	Phase 2 (FY27 - FY31)	Total
Smart and Enterprising Towns	30	20	**50**
Active and Transformed Towns	110	90	**200**
Cultural and Heritage Towns	20	0	**20**
Living and Circular Towns	20	20	**40**
Growing Towns	50	60	**110**
Total funding requirement	**230**	**190**	**420**

The MTF programme would be additional to the Government's existing Future High Streets and Towns Fund processes. Where funding has been allocated, or agreed in principle, through the Future High Streets Fund (bids submitted for Scarborough and Northallerton) or Towns Fund (bids due to be submitted in September for Scarborough and Whitby), the local authority will required to draw first upon that source for relevant projects before seeking additional funding through the MTF programme.

The MTF would be managed by the MCA and funding allocated based on a robust assurance process, in line with HMT Green Book and building on the well-established framework we have in place via the LEP for making regional investment decisions.

Investment proposals will need to demonstrate a robust business case; identifying the market failure being addressed; the value for money solution to the opportunity/challenge; and the proposed financial, commercial and management approach to fund and deliver the project. Proposals would be reviewed independently, through the Head of Assurance, in line with good practise. The Head of Assurance would be responsible for ensuring projects are aligned to the spending objectives of the fund. Following sufficient scrutiny, the Head of Assurance would make a clear recommendation to the MTF Programme Board within the MCA.

Phase 1 of the MTF programme is described below for each of the five areas of intervention. Appendix 2 provides a sample of the projects within our investment pipeline which could be delivered through the MTF.

I £43m for Smart and Enterprising Towns

We will ensure our towns are open for business, and create the conditions needed to support smart business growth. The types of projects to be funded include:

- Shared workspace facilities for digital SMEs, similar to the Centre for Digital Innovation (C4DI) being implemented in Northallerton. Funding would cover capital costs to convert/set up facilities of existing buildings, as well as revenue funding to kick start operations in the short term before becoming financially sustainable. We anticipate investing in up to seven facilities in Phase 1.
- Establishing town centre emporiums selling locally made food and goods based on the model used in the Stockton Enterprise Arcade. Funding would cover capital costs to set up the emporiums, as well as revenue funding in the short term before becoming financially sustainable. Emporiums would be established in up to seven towns in Phase 1.

This investment will be aligned with our separate, but complementary proposal for a £20m Mayoral Smart Investment Fund to roll out a Low Powered Wide Area Network (LPWAN) across our market towns. This will enable the deployment of "Internet of Things" devices and more innovative and cost-effective services and solutions for both the public and private sectors in our towns. It will also integrate with our separate proposal to devolve DCMS funding for roll-out of fibre broadband across our region, including ultrafast and gigabit connectivity. The details of our digital proposals are set out in Chapter 4.

II £110m for Active and Transformed Towns

We will provide high quality places and connections by making our market towns more attractive and easier to access through sustainable transport. The types of projects to be funded include:

- Comprehensive cycling and walking networks in each of our towns over the 10-year programme. In Phase 1 we will focus on those towns where local cycling and walking infrastructure plans (LCWIP) are already in place.
- Physical improvements to enhance passenger facilities and the arrival experience at local rail stations, which provide a gateway to our market towns. In Phase 1 we will focus on the design and implementation of station improvements, building on the Transforming Cities Fund (TCF) schemes Government has committed to fund at Harrogate, Selby and Skipton (via the West Yorkshire Devolution Agreement).
- A series of place-making and public realm improvements, following a places and movements assessment for the town. These improvements will lead to better vehicle movements and increase the use and appeal of our town centres, to support recovery and drive up visitor numbers. In Phase 1 we will focus on conducting places and movements assessments and where possible investing in 'quick win' public realm schemes.

III £20m for Cultural and Heritage Towns

We will strengthen our market towns' identities and sense of community through investment which enhances their unique heritage assets and attractions. In Phase 1 we will focus on an immediate post-COVID recovery through re-animation and street dressing activity across all selected towns, such as:

- Artist-designed shop-wrappings or lamp-post banners with portraits of past shopkeepers;
- Icons designed to help people stay 2m apart which are specific to the heritage of the town, such as Viking oars, the propeller of a seaplane, a Roman legionnaire;
- Artist-designed guerrilla projection using built heritage to share local stories, myths and legends; and
- Outdoor exhibitions via billboards/bus shelters of images and objects from local studies collections and museums.

IV £20m Living and Circular Towns

We will invest in local sustainable energy sources, alongside carbon sequestration, to support the decarbonisation of our economy and our ambition to be carbon negative. The types of projects to be funded include:

- Land management agreements with local landowners to plant trees/manage/provide public access to an area of land adjacent to each of the selected towns
- Local energy generation and recycling solutions (e.g. anaerobic digesters) for selected towns – based on the 'Circular Malton' approach. We anticipate investing in up to seven facilities over the course of Phase 1.
- Financial incentives for businesses to encourage investment in zero carbon/zero waste employment sites, such as micro-generation of electricity (e.g. retrofitting solar PV), energy efficiency measures, and capture and use of rainwater/wastewater

V £50m Growing Towns

We will invest in enabling infrastructure (to address development viability) and undertake land acquisition and assembly in order to enable significant new housing and employment development to come forward within and adjacent to our towns. This will pump prime conversion of unneeded retail units in town centres to housing and mixed-use development, as well as the development of creative workspaces, exhibition and live workspace within our town centres.

2. York Place Fund

Summary:

York is our principal city and considered one of the 'Best' places to live due to its nationally significant heritage, culture, welcoming residents and enterprising businesses. York's visitor economy businesses have been disproportionally affected by the COVID-19 lockdown. Key to our region's economy recovery is re-establishing and growing our main city.

We are seeking £64m (£3m revenue, £61m capital) for a York Place Fund for investment in six, place-led regeneration and cultural activation projects across York between FY21 and FY26. These projects are:

i. Phase 1 of York Castle Museum's Castle Capital Project

ii. York Station Frontage Project

iii. York Riverside Walkway

iv. Regeneration of Castle Gateway

v. Delivering key initiatives within York's Cultural Strategy

vi. Transforming secondary shopping areas.

This pump-prime investment will help to build consumer and visitor confidence in the city and enable residents and visitors to engage with the city in new and exciting ways, ensuring that York remains a quality place to live, work and visit.

We would also seek to work with Government to develop proposals to relocate a significant Civil Service or parliamentary presence to the York Central site, reaffirming the government's commitment to the Northern Powerhouse and supporting its levelling up agenda. The York Central development is one of the largest city-centre brownfield sites in the UK, set to grow York's

economy by 20%, and has already been recognised by Government as a potential site for the relocation of the House of Lords.

The case for change

York is a knowledge-driven city producing skilled graduates and underpinned by a world-famous visitor economy, with a GVA of £6.5bn, 9,000 businesses, two leading universities, and a cultural and heritage offer that attracts 8.4m visitors a year. The city combines the strength of our Yorkshire brand with significant economic assets to attract and grow highly productive businesses. It can be found regularly amongst best UK places to live lists; famed for its historic environment, fresh culture, growing foodie scene, unrivalled rail connections and leading-edge digital connectivity as the UK's first Gigabit City.

Despite such advantages, York faces its own challenges. Before Covid-19, the city was seeing unprecedented investment of over £500m in building more homes, creating more jobs and improving its infrastructure. Central to these plans is York Central, one of the largest brownfield sites in England. The development, which is getting ready for work to start on-site, will create 6,500 jobs and up to 2,500 homes in close proximity to York Station.

Also important is the transformation of public realm across York, creating new public spaces, a more pedestrian-friendly experience and an improved setting for the city's internationally famed heritage. The pandemic has temporarily slowed down work and delayed these projects. Alongside this the pandemic has also accelerated the changes that high streets and city centres were facing in terms of changing shopping habits and behaviours. We have seen increased home working, people shopping more locally and growth in active travel.

York's visitor economy businesses have been disproportionally affected by the COVID-19 lockdown. Key to our region's economy recovery is re-establishing and growing our main city. We need pump-prime investment which helps to build consumer and visitor confidence and enables residents and visitors to engage with the city in new and exciting ways, ensuring that York remains a quality place to live, work, visit and invest in. York's historical position as the capital of the North, alongside the opportunities afforded by York Central make it a logical place for a significant Government or Civil Service /presence in the North.

Our offer and proposals to Government

We are seeking £64m (£3m revenue, £61m capital) to deliver a York Place Fund for investment between FY21 and FY26. This will support the delivery of six of place-led regeneration and cultural activation projects across York. These projects have been identified by City of York Council as critical to our economic recovery from COIVID-19; all of which were in City of York's project pipeline to varying degrees of business case development but now take priority due to the impact of the pandemic. These are:

I £14m to support the delivery of the York Station Frontage project (FY21 to FY22)

The creation of a world-class gateway to the city on the east front of the railway station designed to effectively move pedestrians, cyclists, public transport and vehicles around the city and maximise the growth opportunities presented by York Central, High Speed Two and Northern Powerhouse Rail.

II £10m of funding to deliver York Riverside Walkway (FY21 to FY23)

A new pedestrian linkage parallel with the north-east bank of the River Ouse within York city centre, enabling new leisure uses and improving the attractiveness of the city centre. This new walkway to the rear of Coney Street would enable existing retail units to become dual facing, providing new means of access (and therefore new uses) to upper floors of retail units;

III £28m to deliver Phase 1 of York Castle Museum's Castle Capital Project (FY21 to FY25)

A multi-phased development at the York Castle Museum which seeks to provide a must-see experience, deepen and increase visitor engagement and fully embed the Museum within the wider regenerated Castle Gateway area. The redevelopment of this regionally significant visitor attraction will support additional overnight stays in York (1.6m in 2018) and encourage visitors to use York as a central location from which to explore the cultural and outdoor sights of North Yorkshire and the wider region.

IV £8m to support the delivery of Castle Gateway (FY21 to FY22)

A major regeneration project that will transform this significant area of York's city centre, creating new public space for cultural activity in an area that will be valued, well-used and loved;

V £3m to support the implementation of York's Cultural Strategy (FY21 to FY26)

Providing outstanding experiences for residents and visitors alike, and ensuring that all of York residents are engaged with York's arts and heritage offer; and

VI £1m of funding to transform secondary shopping areas (FY21 to FY22)

Transforming the two designated secondary shopping areas of Acomb, a suburb to the west of York city centre, and Haxby, a town to the north. Taken together, the two settlements serve a population of over 30,000 residents. Funding will be used to make physical improvements to the public realm and street scene, and better integrate transport links with a focus on sustainable travel, thus improving the visitor experience.

VII Civil Service relocation

Additionally, we also seek to work with Government to develop proposals to relocate a significant Civil Service or parliamentary presence to the York Central site. Through joint working with York and North Yorkshire and the York Central Partnership, the strategic opportunities of this site could support even wider economic and social benefits beyond our region.

6 Housing

Strategic context

The provision of high quality, affordable and well-connected housing is essential to meeting the current and future needs of York and North Yorkshire's (YNY) residents, as well as the success of our economy. Our current annual completions are c1,400 homes above housing need[11], however, this is not just a numbers game. High-skilled and ambitious workers want to live in quality homes with good access to services, leisure opportunities and well-paid jobs. Meanwhile high-value industries and employers require skilled workers.

However, we face a number of demographic, economic and environmental challenges in the delivery of high-quality, affordable homes:

Our demographic and economic challenges

- **Attracting and retaining key workers**: Our region has been successful historically in meeting new housing supply targets, but this has been at the expense of meeting our affordable targets within overall supply, despite the efforts of the York, North Yorkshire and East Riding Strategic Housing Partnership and Registered Providers' (RP) investment. The limited availability of affordable housing is a barrier to attracting and training a skilled working age population. The house price to income ratio in half of our local authorities (York, Hambleton, Harrogate and Ryedale) is higher than the national average[12], and is expected to increase over the period to 2025[13]. Meanwhile in some areas of the region, the ratio of house prices to income is as high as 10. Each of our local authorities also rank in the third least affordable areas in the North.
- **Serving a rapidly ageing population**, with growth in the number of people aged 85+ corresponding with a reduction in the working age population. This creates unique requirements in terms of the size, type and tenure of housing to enable people to stay living in their own communities. In North Yorkshire alone, between 2019 and 2041, the number of people aged 65 and over will increase by 39% (59,800) and the number over 85 will rise by 110%[14].
- **Poverty and deprivation:** Residents in five of our eight local authorities earn less than the national average[15], with this wage disparity most acute in the authorities of Craven, Ryedale and Scarborough (16.6%, 14.5% and 15.3% below the national average respectively). Over the past 20 years the poorest in the population have become concentrated within social housing. The link between social housing and negative outcomes across health, education, self-efficacy and

[11] Based on the 2018 NPPF methodology, and includes East Riding, who are part of the sub-regional Housing Partnership

[12] ONS, Housing affordability in England and Wales: 2019 – work-placed earnings based. The house price to income ratio is 7.8 nationally, versus 8.10 in York, 8.66 in Hambleton, 8.52 in Harrogate and 8.68 in Ryedale.

[13] Public Health England analysis

[14] The Joint Strategic Needs Assessment (JSNA) for North Yorkshire advises that '*We need to think about how we build homes to support those who may need more help to maintain independence, whilst also limiting dependence on care and support services. This applies to the elderly living at home as well as the working age population. Demand for housing across the county is changing in line with the changing demographics. Households aged 65 years or older make up a quarter of the population and this is predicted to grow. Couples with no children also make up a higher than average proportion of the population.' (NY JSNA page 24).*

[15] ONS, Annual Survey of Hours and Earnings, 2019.

income are well established[16]. Whilst on average, the North Yorkshire area is in the least deprived 81-100% nationally, there are pockets of isolated deprivation across the region, and particularly in our coastal communities. Access to a decent home is an important element in helping address wide inequalities in our region and promoting economic prosperity.

- **A dispersed population**: The rurality of North Yorkshire, as the largest geographical county in England, means the area is characterised by rural villages, hamlets and villages. Some 85% of the county area is classed as very rural or super-sparse and the population density is five times below the national average[17]. The southern and eastern parts of the City of York authority area are also characterised as rural areas. These locations are typically characterised by poor connectivity, which prevents residents from accessing economic and social opportunity.

Decarbonising our economy

Against the background of these demographic challenges, **we have an ambitious but realistic vision to become England's first carbon negative economy and play a critical role in helping Government to achieve its net zero target by 2050**. This raises the bar further on what is deemed high quality housing. The Future Homes Standard, proposed by Government for introduction in 2025, will require up to 80% lower carbon emissions for new homes (though it should be noted that responses to the Future Homes consultation have tended to disagree with this target, arguing that the proposals are not ambitious enough).

An increased emphasis on quality across the housing sector, as opposed to simply a focus on quantity, is supported by the current national policy and industry. This includes Government's National Design Guide (October 2019) which identifies priorities for the physical character, community, and climate issues for housing, and the Building Better, Building Beautiful Commission's January 2020 'Living with beauty' report, which identifies a framework for promoting and increasing the use of high-quality design for new build homes and neighbourhoods. The recent revision to NPPF to encourage design and place-making throughout the planning process and Government's implementation of a new National Design Code also represents progress.

These policy shifts are very welcome and indeed necessary, but they present further pressures on our ability to deliver affordable, high-quality housing in our region. Whilst we have been successful in increasing overall housing supply, these homes do not meet the standard we aspire to. We are developing a Design Guide to help improve the type of new housing delivered. The introduction of the Government's Future Homes Standard will help to improve standards; however, we believe it does not go far enough in helping us to decarbonise our economy. We know that design and build quality comes with price implications. For example, bespoke off-site manufactured homes planned for Horton in Ribblesdale are at risk due to viability issues liked to the high standard of design and build sought for this site[18]. Driving up design standards and introducing carbon reduction measures risk exerting downward pressure on affordable housing supply delivered through Section 106 agreements.

<u>The market alone will not deliver sufficiently high-quality, affordable homes</u>

To promote economic prosperity in our region and support the transition to a low carbon economy we must build the right type of homes – ones that are aspirational, accessible and adaptable – in the

[16] Marmot 2010 and Marmot 10 years on, 2020.
[17] with just 76 people per square mile compared to 430 nationally in England.
[18] http://ribacompetitions.com/gpld/L48.html

right places, and focus on quality of place, connectivity and community. However, there are key market barriers which limit the delivery of sufficiently high-quality, affordable homes, evidence and examples of which can be found at Appendix 3:

i. **Viability challenges due to high delivery costs:** Rurality across much of our geography creates delivery challenges and high infrastructure costs in terms of new supply generally, but especially in providing affordable housing. Our region also includes two National Parks wherein delivery cost challenges can be particularly acute. Moreover, the additional costs of building to higher standards such as Passivhaus of around 15% in the short term, reducing to 5-10% in the longer term, mean that homes are often not built. This is exacerbated by a lack of skills and supply chain capacity in the bio-based construction industry, a sector which – without scaling up – has high build costs which act as a barrier to its widespread adoption. For example, a scheme in York to deliver a mutual and affordable homeownership product using bio-based materials in construction is struggling to get off the ground due to the barrier of increased build costs. There is a significant risk that as we push to drive up quality this will impact on viability and bear down on supply, particularly affordable housing delivery.

ii. **Specific delivery barriers for larger scale and strategic sites:** A 'stalled sites study' (GVA Grimley, 2017), looking at unimplemented planning permissions, found that some larger sites in our region have failed to move forward from permission to delivery and completion due to a lack of capacity and resource post-planning permission, and also due to up-front project and site development costs, including elements of infrastructure.

Against this background, our specific proposals to Government are:

1. **£96m of funding between FY22 and FY26 and several non-financial commitments from Government through a place-based Strategic Housing Investment Package, comprising:**
    i. £1m of matched revenue funding to scale up YNY's strategic planning and delivery capacity at the regional level
    ii. Increasing the supply of high-quality affordable housing via:
        - A commitment from Homes England to a higher grant rate per plot of £60k for rural affordable housing via the Affordable Housing Programme
        - £45m revolving credit fund to accelerate the delivery of Off Site Manufactured and Modern Method of Construction affordable homes
    iii. £50m capital funding to address viability challenges driven by infrastructure and enabling costs
    iv. A strategic partnership with the MoD and the wider Public Sector to bring forward c20,000 homes
2. **Enhanced local planning powers to facilitate the delivery of housing and regeneration across our region, including:**
    i. Spatial Plan Powers
    ii. Land assembly and CPO powers for the Mayor
    iii. MDC Powers

Lastly, we are seeking the release of the £77m Government committed to the York Central project in Budget 2020 to enable work on the site to commence and help kick-start our economic recovery. The York Central project is one of the largest city-centre brownfield sites in the UK and is expected to create 6,500 jobs and 2,500 homes in close proximity to York Station.

Our proposals for housing

1. Strategic Housing Investment Package

Summary:

The demographic, economic and environmental challenges that characterise our housing market mean that, without additional investment, we will not be able to maintain supply levels whilst also providing high-quality, affordable housing to the levels necessary to meet local need and support the growth and prosperity of our region.

To begin to tackle our long-term challenges, **we are seeking £96m of funding between FY22 and FY26 and several non-financial commitments through a place-based Strategic Housing Investment Package (SHIP), comprising four elements**:

i. £1m of matched revenue funding to scale up YNY's strategic planning and delivery capacity at the regional level

ii. Work jointly with Homes England to establish a commitment to a higher grant rate per plot to unlock the delivery of additional affordable rural homes, and establish a £45m revolving credit fund to accelerate the delivery of Off Site Manufactured and Modern Methods of Construction affordable homes

iii. £50m capital funding to address viability challenges driven by infrastructure and enabling costs, over and above existing national funding processes (i.e. HIF and the new Single Housing Infrastructure Fund)

iv. A strategic partnership with the Ministry of Defence (MoD) and the wider public sector to bring forward c20,000 homes at released sites within our area

The case for change

Current planning and funding mechanisms are not sufficient to address viability-driven downward pressure on affordable housing requirements, particularly against a backdrop of transitioning to zero carbon housing delivery. This means that, without additional investment, we will not be able to maintain supply levels whilst also providing affordable housing to the levels necessary to meet local need and support the growth and prosperity of our region. This puts at risk the Government's agenda to level up our national economy.

Our offer and proposals to Government

To begin to tackle our long-term challenges, **we are seeking £96m of funding between FY22 and FY26 and several non-financial commitments through a place-based Strategic Housing Investment Package (SHIP), comprising four elements**. The details of each of these is set out below.

The SHIP will unlock and accelerate the delivery of high-quality, affordable homes across our region and support the Government's housing and net zero carbon objectives. The objectives of the SHIP are to:

- **Maximise development opportunities** on privately owned sites;
- **Support development of new settlements**
- **Coherently address our demographic challenges;**
- **Ensure that a range of affordable housing needs are met[19],** avoiding instances where the needs of one demographic are addressed at the expense of another;
- **Address the needs of our rurality**, building on work underway by the independent Rural Commission that has been appointed by North Yorkshire County Council (NYCC); and
- **Strategically tackle skills shortages through the supply of affordable**, good quality housing to meet the needs of the current and future labour markets.
- **Recognising the link between housing, health, the strength and resilience of communities**, educational attainment and economic outcomes we will create integrated communities

The SHIP will be managed by the MCA, building on our robust regional governance arrangements and relationships with private house builders and RP's established via our Housing Board. The Housing Board includes a Housing Forum, Rural Housing Enabling Network and Registered Provider Group, and has a proven track record in developing and delivering our strategic housing ambitions, including challenging stretch targets around housing supply.

I £1m of matched revenue funding to scale up YNY's strategic planning and delivery capacity at the regional level

Through the establishment of the MCA, we recognise the need to scale up our capacity to plan, develop, prioritise and deliver our strategic housing plans and investment pipeline.

We are seeking £1m of revenue funding over 5 years from FY22 to FY26, which will be matched by the YNY authorities, to pump prime the establishment of a central Housing Growth Team in the MCA to develop an investment pipeline, bring sites forward, tackle blockages and ensure quality homes and places are achieved across our region. The dedicated and suitably qualified team will manage the delivery of the SHIP, and provide strategic support to the region's constituent local planning authorities, with specific expertise in:

- Developing a strategic pipeline of sites based on robust market intelligence and to set strategic targets that address our demographic challenges and economic and environmental ambitions in a coherent and cost-effective manner.
- Assessing viability effectively in the context of place making and design quality, by way of a dedicated resource to support this process. This resource can be used to support upskilling of other council officers working in planning and affordable housing.
- Securing inward investment, including for affordable and rural housing, and strengthen the relationship with Homes England

[19] For example, meeting the need for key worker accommodation as identified within the Joint Strategic Needs Assessment.

- Sharing learning and delivering economies of scale in terms of market intelligence, evidence bases and viability assessments.
- Building capacity and providing support to project manage large sites.
- Encouraging quality of design and levelling up standards across the region, providing a common approach to areas such as affordable housing specification and legal frameworks.

II Government commitment and funding to increase the supply of high-quality affordable housing

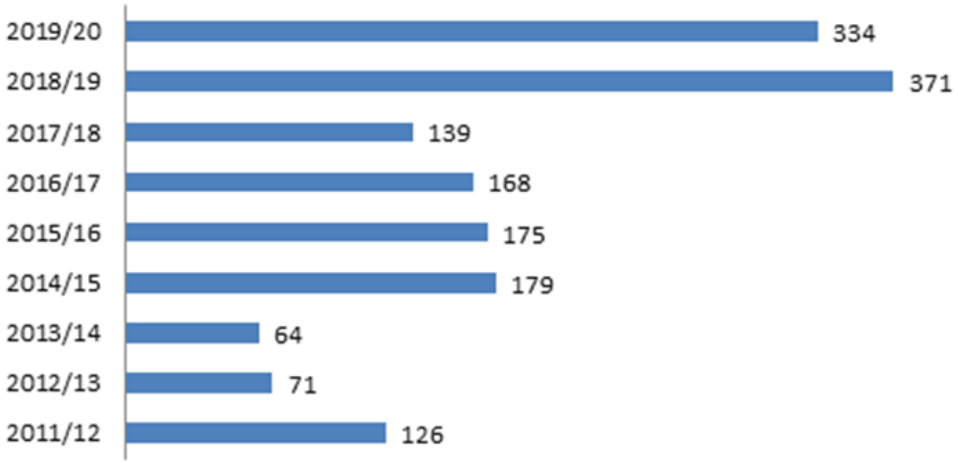
1. A commitment from Homes England to a higher grant rate per plot of £60k for rural affordable housing via the Affordable Housing Programme

Facilitating housing development in our rural communities is a strategic housing priority, and it is essential in helping us to ensure the long-term sustainability of these communities.

We currently have 17 Rural Housing Enabler Network RP partners who are delivering new rural affordable homes per annum in our region (in line with the NHF 5 Star Rural Pledge).

Through our programme of Rural Housing Enablers (RHE) we have worked consistently to deliver rural homes across our communities in North Yorkshire since 2008, this includes working with developers to deliver affordable homes on Section 106 sites where these opportunities present. Over recent years we have seen an upturn in supply driven by a significant proportion of Section 106 opportunities on larger sites in rural areas (see Figure 9 below). Homes delivered as a planning obligation in this way are secured without recourse to public subsidy. This recent increase in supply from S106 sites is linked to specific Local Plan context within Harrogate and is a short-term supply driver. Increased completions driven by large scale developments in a limited number of rural settlements masks the supply of smaller rural developments (including Rural Exception Sites) that RHEs work to bring forward with local communities, landowners, Parish Councils and RP partners; these homes are wholly reliant upon public subsidy, either from Homes England, the local authority or RP. Such schemes are labour intensive and have high development costs.

Figure 9. RHE Completions 2011/12 to 2019/20



In this context, the current grant rate has been identified through the Rural Housing Network as a key barrier to delivery.

Under pressure to deliver on numbers, rural affordable housing schemes are understandably less attractive to RP partners. Given that many of our key rural development RPs are not Strategic Partners they do not have the financial flexibilities associated with SP status, as such they are tied into individual scheme viability appraisals with Homes England, which builds in additional cost and delay to an already labour-intensive process. As a result, we are missing an opportunity to provide more rural affordable housing. The examples provided in Appendix 3 demonstrate that the current grant regime is insufficient to deliver rural housing.

A guarantee from Homes England that RPs will be able to access a specified higher grant rate for rural schemes would:

- unlock development opportunities that would not otherwise come forward, by encouraging RPs to reappraise rural schemes rather than dismissing them as too labour intensive/risky/cost prohibitive
- enable stalled schemes to progress
- speed up the delivery process by removing the need for additional viability appraisal work by Homes England
- free up other public subsidy in the form of Local Authority Section 106 monies for use on other additional local affordable housing projects

We are therefore **seeking to work jointly with Homes England on affordable rural housing and establish a commitment to a higher grant rate per plot to unlock the delivery of additional affordable rural homes over the period FY22 to FY26.** As part of this, NYCC will consider rural sites in its ownership for affordable rural housing as they come forward.

2. £45m revolving credit fund to accelerate the delivery of Off Site Manufactured affordable homes

Across our region there are Local Plan commitments to deliver a total of around 1,300 new units of affordable housing per year, which is 30% of overall supply. We will prioritise the development of new homes which are built using off site manufacture (OSM) methods, including modular and modern methods of construction (MMC). We already have good working relationships with providers, with whom we are engaged in discussions around skills and green construction, as well as design quality and opportunities for exemplar projects. However, a key barrier to delivery of OSM homes is that the business models of manufacturers in this sector require upfront purchase and guaranteed orders.

We are therefore seeking £45m over 5 years from FY22 to FY26 to provide a revolving credit facility to OSM providers to scale-up and accelerate the delivery of cleaner and more affordable homes. This is anticipated to deliver c650 OSM homes over 5 years (130 units per annum) and assumes the fund will be fully 'revolved' by 31st March 2027, at which point it will become a continuously recycled credit facility.

We will work with providers in the YNY area (including ilke, L&G, and Portakabin) to negotiate purchase prices for new units which benefit from a strategic approach and economies of scale. We will seek to ensure that opportunities are exploited which offer the chance to innovate in order to contribute towards carbon reduction goals, as well as to increase quality, deliver tenure-blind developments, and tackle affordability through addressing the challenges associated with the traditional section 106 approach.

The fund will support the delivery of our commitment to improving the quality and design of new housing and will be informed by the ongoing development of our Design Guide. This principles-based

design guide will be shaped around quality of design and low carbon and pursue objectives around healthy place making, building on work already undertaken in parts of the area, including the City of York Housing Design Manual, and the development and roll out to YNY of an Urban Design training programme by Selby District and partners.

III £50m capital funding to address viability challenges driven by infrastructure and enabling costs

As shown in Appendix 3, several sites in the YNY area have been delayed or even languished as a result of high infrastructure costs. In some cases, where sites have been delivered, affordable housing targets have not been delivered due to viability challenges arising from infrastructure and other enabling or site preparation costs.

We are seeking £50m of capital funding over 5 years from FY22 to FY26, over and above existing national funding processes (i.e. HIF and the new Single Housing Infrastructure Fund) to unlock high quality, affordable market-led housing sites in our region.

The MCA's newly formed Housing Growth Team will manage the flexible capital fund and ensure that investments represent Value for Money (VfM). The activities funded to unlock sites and address viability challenges will help to safeguard delivery of affordable housing targets and to create opportunities for higher quality new housing. Gap funding will also be available through this capital fund for high quality and exemplar OSM schemes which showcase design and construction innovation, but which would otherwise remain unviable even with funding from the revolving credit fund that has been separately put forward.

IV A strategic partnership with the MoD and wider Public Sector to bring forward c20,000 homes

A significant number of extensive sites[20] are to be released by the MoD within our area over the next 15 years, located primarily in York and in the A1 corridor. These sites have the combined potential to deliver 20,000 new homes. However, the high costs of infrastructure and enabling works on these are likely to pose a major viability challenge. In addition, the delivery of a sustainable, low carbon and affordable housing offer on these sites requires a strategic, plan-led approach.

We are seeking to build on the MoU we have in place for Ripon Barracks and agree a single point of contact and Partnering Arrangements with the MoD for the remaining sites in our region. This model could be extended to incorporate other public sector sites e.g. NHS.

2. Enhanced local planning powers to facilitate the delivery of housing and regeneration

In line with other Mayoral Devolution Deals, through a Devolution Deal for YNY we are seeking a range of enhanced local planning powers. This includes:

I Spatial Plan Powers

The Mayor is to receive strategic planning powers, which will give the Mayor the power to create a Spatial Development Strategy for the YNY area. This will coordinate strategic land-use planning with

[20]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/576401/Better_Defence_Estate_Dec16_Amends_Web.pdf

strategic transport planning, providing a robust framework for regional policies that support the delivery of the region's carbon negative ambitions.

The scope and preferred approach to a Spatial Development Strategy will be a matter for local agreement, in line with the National Planning Policy Framework. This Spatial Development Strategy will need to be approved by a unanimous vote of the Combined Authority constituent authorities. This, along with local plans, will act as the framework for managing planning across YNY.

II Land assembly and CPO powers for the Mayor

The Mayor to have land assembly and compulsory purchase powers, subject to the agreement of the YNY Combined Authority member (excluding any member appointed for political balance) where the relevant land is located, and to the consent of the Secretary of State for Housing, Communities and Local Government.

This power would be complementary to the development of a Spatial Development Strategy and would provide the Mayor with the ability to ensure that development coming forward at a local level is consistent with the Spatial Strategy and the policies and vision that underpin it.

III Mayoral Development Corporation Powers

The Mayor to have the power to designate a Mayoral Development Area and to create MDCs, which will support the delivery of strategic sites in the YNY area. This power will be exercised only with the consent of the Combined Authority member(s) (excluding any member(s) appointed for political balance) who represent the area in which the Development Corporation is to be established, and the consent of the National Park Authority, if relevant.

7 Skills

Strategic context

Whilst we will invest in places and infrastructure to unlock good jobs locally, as described in earlier chapters, we must make sure that our people have the right skills to take up new economic opportunities and benefit from our clean growth agenda. In order to achieve this, we must tackle the skills challenges bespoke to our area:

- York and North Yorkshire (YNY) faces a significant and **widening gap in our productivity performance**. Output per hour worked in the LEP area is only 86% of the UK average (from a position of parity in 2004). Linked to this, pay levels also lag behind at 87% the national average.
- **Deprivation in isolated pockets of our region.** Our coastal communities in particular have historically experienced poor levels of education, training and skills and this has been a major driver of deprivation in these areas.
- **Deficit of high skilled employment.** YNY is home to a highly skilled resident base, yet there is a pay gap between high skilled jobs within the region compared to those in neighbouring areas. Furthermore, there is a low demand from our businesses for higher skilled roles. These factors combined lead to many of our higher skilled residents commuting out of the region for work.
- Around two-thirds of employers in our area have indicated they have **upskilling needs** in the LEP area. In addition **as technology alters the importance of some tasks and jobs in the labour market, there will be a need to invest in re-skilling** to enable workers to adapt to changes in the design of their existing jobs and to help them to move jobs or even occupations in order to benefit from more sustainable opportunities.
- **Skill shortages** result in vacancies that are difficult to fill due to a lack of candidates with the required skills. Currently our skills shortages are **most prevalent in digital, the construction, and the primary sector and utilities** (which comprises agriculture, mining and quarrying, electricity, gas and water supply)
- Our **ageing population** is placing pressure on our skills and education systems to keep up with replacement demand. Further still, many **young people are choosing to leave our region**, due to the attraction of employment and lifestyle opportunities outside the area.

To make the most of our skilled and experienced workforce and build career pathways that attract and retain young talent, we have set out a plan where the transition to a digitally enabled, carbon negative, circular economy will allow people to flourish and realise their full potential, locally. This is a long-term approach that starts now, by matching young people's appetite for tackling climate change with their ambitions and expectations for fulfilling local employment. We must provide clear pathways to good job opportunities for the young, whilst retaining the skills of older workers for as long as possible. New technologies that enable automation, digitisation and the transition to a carbon negative future, will demand that people currently in work re-skill in order to remain in productive employment for longer.

Against this background, our proposals to Government are:

1. **Revenue and Capital Funding to deliver a Low Carbon Skills Programme across the region**

2. **Devolution of the Adult Education Budget (AEB)**
3. **Enhanced joint working with Government, covering:**
    i. Joint working with Government to align local and national programmes;
    ii. Joint working with the Careers Enterprise Company and National Careers Service;
    iii. Influencing spend on unutilised apprenticeship levy funding; and
    iv. Stronger links with the Department for Work and Pensions.

Our proposals for skills

1. Low Carbon Skills Programme

Summary:

Our LIS has an ambitious vision – to become England's first carbon negative region – playing a critical role in supporting the Government's net zero target and clean growth agenda. This will require significant reskilling of the workforce and investment in our skills infrastructure. Meanwhile the impacts of COVID-19, on top of background trends in automation and the costs to industry of decarbonising, means our Small and Medium Enterprises face a high risk of failing and puts a significant number of jobs at risk. However, this also presents an opportunity to 'build back better' – providing our residents with the choice of new sustainable, higher-paid jobs and supporting the long-term economic growth and prosperity of our region.

This requires new and flexible funding that can quickly meet the emerging needs of our region, which is not possible through traditional, restrictive funding mechanisms. We are therefore seeking to establish a new, place-based and industry-led Local Carbon Skills Programme, which we will develop and implement to support those businesses whose employees need to re-train to meet the future needs of a carbon negative region. To deliver this, our proposal to Government is twofold:

i. **£10m of revenue funding, which could be resourced from the National Skills Fund, to up-skill the existing workforce, returners and jobseekers to gain the vocational low-carbon skills in immediate demand**, especially from the automotive and construction industry. We are also seeking **capital funding for training equipment.** This Government funding will go alongside funding that we will secure from industry and delivery partners.
ii. **Joint working with Government to establish a Centre of Excellence for Low Carbon Technology** which will be both a regional hub and national exemplar for a coordinated, industry-led approach to developing a low-carbon workforce and providing a positive example of cross LEP collaboration with the Hull and Humber region.

The case for change

The current skills system cannot facilitate the step-change required to transition to a low carbon economy

Our LIS has an ambitious vision to become England's first carbon negative region and play a critical role in supporting the Government's net zero objectives and clean growth agenda. This will require

significant reskilling of the workforce, which is consistent with one of the four Grand Challenges set out in the Government's Industrial Strategy.

Current funding streams such as European Structural Fund (ESF) and AEB have been delivered successfully across our region, but do not allow for the flexibility required to drive low carbon skills at the scale and pace required. In the main, they focus on low level regulated learning rather than the non-regulated learning at level 3+ increasingly required by the automotive and construction industries. Participation targets such as ethnicity, gender, age and disability also unduly influence the type of offer available to the local workforce.

Meanwhile around two-fifths of local employers acknowledge that they under-invest in training. The key constraints relate to a lack of funds for training and, owing to our rural characteristics, an inability to spare staff time particularly where travel to learn distances far exceed the national average. For example, around 29% of FE and skills learners travel to a delivery location that is outside our region and 13% outside their home district to undertake learning. Innovative solutions such as increased virtual learning or 'roving' tutors and mobile infrastructure must be sought.

An innovative approach is required to work alongside existing funding streams and target training for low carbon skills which are not currently offered locally. Key to achieving this is both investment in our skills infrastructure and intervention to stimulate demand from business. The ability to subsidise or part subsidise learning for those who are already earning is crucial to kick starting employer demand for skills and 'build back better' in the economic recovery from COVID-19.

Businesses lack resilience in the move to low carbon

The continued development of the green economy and the associated demand for skills means businesses which only provide traditional methods will be increasingly susceptible to changes in Government policy and regulation. National and local policy to decarbonise the economy is putting pressure on industry to innovate and utilise new and cheaper sources of clean energy - particularly in the automotive and construction industry. However, local Small and Medium Enterprises (SMEs), who make up 99.7% of all businesses in this area, and who operate in these sectors, will be increasingly susceptible due to the impact of COVID-19 and must be enabled to adapt, or face a high risk of failing.

Our engagement with sector skills organisations such as CITB and The Institute of the Motor Industry suggests that SME's still do not understand the urgency to upskill and reskill their workforce in order to remain viable in the future. A recent survey of 34 construction businesses found more than 50% of businesses were interested in developing work on the "green skills agenda" specifically carbon reduction methods, however only 6% thought this was going to be relevant to their business in the next 3 years.

A significant number of jobs are at risk

Our estimations for the effect of the COVID-19 crisis in this region are a £2.3bn (10.7%) drop in GVA which translates to a potential 51,100 (12.4%) rise in unemployment. Industries hardest hit by COVID-19 are those which are particularly concentrated in our region; including tourism, construction, non-food manufacturing and retail. In the post-COVID-19 recovery period, skills training will be crucial to ensuring as many people as possible return to sustainable work, and as quickly as possible.

We are also conscious that this crisis as well as our exit from the EU may well kick start other market disrupters such as automation and a change in the market industry mix. One out of every three jobs in the YNY area is at risk due to automation over the next 20 years. This region needs an executable plan aligned with our vision, backed by investment to re-skill those falling out of work or unable to progress due to automation and other market disruption.

A new approach to low-carbon skills provision

We must take this opportunity to 'build back better' – providing all our residents with the choice of new sustainable, higher-paid jobs and supporting the long-term economic growth and prosperity of our region.

This requires a new approach to low-carbon skills provision which:

- Provides a responsive funding system that can quickly meet the emerging needs of our region, which is not possible through traditional, restrictive funding mechanisms. This includes the need for coordinated development of low carbon teaching resources across the region; and
- Ensures that interventions developed on a regional basis align to and supports national programmes, such as Apprenticeship standards and T-levels, so that local intervention is focused on creating complementary programmes that can provide our population with greater access to national programmes.

Our offer and proposals to Government

We are seeking to establish a new, place-based and industry-led Local Carbon Skills Programme, which we will develop and implement to support those businesses whose employees need to re-train to meet the future needs of a carbon negative region.

We will be innovative and collaborative to join up existing provision but also create new pathways where needed. We will start now, but also have a clear medium-term ambition to create a nationally significant CoE for Low Carbon Technology that will be a regional and national hub for skills development in this critical area.

We will work with Government to develop, implement and scale-up skills provision in low-carbon industries which will support customer-facing skills for a digitally enabled, low carbon economy. To deliver this, our proposal to Government is twofold:

I £10m revenue funding, as well as capital funding, to up-skill the existing workforce, returners and jobseekers in vocational low-carbon skills in immediate demand

We are seeking £10m of flexible revenue funding over the 5-year period of FY21 to FY25, as well as a capital funding allocation, to deliver a re-training programme across the whole of our 19+ population.

This covers both regulated and non-regulated packages of vocational learning targeted at skills in immediate demand by the construction and automotive industries, and digital skills which enable low carbon technologies. This will challenge stagnating local employer demand for skills and create new skills for emerging industries.

This low-carbon retraining programme will require some investment in capital infrastructure to deliver the new curriculum. The aim is to work with existing providers and employer infrastructure to provide flexible physical spaces for training. Therefore, the capital funding requirement is unlikely to involve new buildings, but will require collective investment in technical, industry-specific equipment for delivery of training, using both digital and mobile solutions. By way of example, we are already talking to industry specialists and colleges about innovative solutions to ensure infrastructure and tutors are able to meet employer demand across a large rural area - for instance, through a mobile EV training which could be taken out to rural areas and accessed by our current SMEs.

With £10m of revenue funding, we will:

In year 1:

- Undertake a rapid assessment (completed within 3 months after funding is received) of the capital investment required to deliver a re-skilling programme that is agile; flexible and mobile across our region and finalise the funding contributions from industry and delivery partners. Given the quickly developing nature of the technology required, this assessment would also quantify and understand the ongoing replacement needs for any capital investment. The output of this work will finalise the capital funding requirement over the 5-year period of our proposed programme, which we would aim to agree with Government as soon as possible.
- Deliver a first phase of the programme (commencing in FY21), building on the existing Scarborough Skills Village (see case study below) around timber framed houses where we can leverage off existing infrastructure and then expand out to the wider region in subsequent years.
- Undertake feasibility work and additional consultation study to provide the evidence for the interventions in years 2-5 and assess a baseline for capability and capacity. This will build on our existing work to identify the *medium-term* skills required to re-train the existing workforce (see focus sectors below) and map the regional capacity to develop the required training capability (including infrastructure), to finalise the programme for years 2-5.

In years 2-5:

- Develop and deliver a collaborative training programme across our region which will:
    - Upskill the existing workforce initially in identified key sectors to create a step-change in our labour supply for a low carbon economy.
    - Retrain those whose jobs are at risk of automation, or due to the longer-term effects of the COVID-19 and other market disruption.
    - Train those who are out of work or returning to work with skills that meet current and future employer demand and provide residents with higher earning potential, raising low skill levels and shifting our region away from a low skill, low pay economy.
- Work with industry to understand the *medium-term* skills and workforce needs, identify gaps and plan future provision on a dynamic basis, reflecting the evolving nature of technology and employer demand over the 5-year period (and indeed longer term).

Scarborough Skills Village Case Study

Scarborough Construction Skills Village (established in 2015 through a partnership between Scarborough Borough Council, Northern Regeneration CIC and the Kepple Homes and Keepmoat) is geared up to tackle the green construction skills agenda. They have recently conducted a survey with local construction businesses to ensure that this need is built into their delivery going forward. The primary focus is on timber framed construction and solar panels along with improved insulation and they are able to deliver this training from 2021. In addition to this they are also exploring options for delivering training in the installation and maintenance of new and improved ways of heating and working with a local housing association to develop a retrofit training centre using an existing property.

Initially, the programme will focus on retraining in:

- **Construction sector,** including skills for retrofitting and modular housebuilding.
- **EV sector** most notably technicians as well as associated roles e.g. car sales staff, roadside assistance etc.
- **Plumbing and electrical services** including installation and servicing of heat pumps, biomass for heat, anaerobic digestion
- **Building surveying** for low carbon solutions.
- **Digital skills** that enable low carbon technologies.

Recipients of the funding would include:

- Unemployed/inactive residents through bespoke vocational skills training to enable participants to take advantage of job opportunities that cannot be funded through other programmes;
- Existing employees who may be at risk of redundancy through automation and who have an identified need for upskilling in low carbon skills evaluated by a Training Needs Assessment; and
- Training providers; supporting the rapid acquisition of training capacity with access to funding to develop the new technical skills required to meet the low carbon curriculum.

II Joint working with Government to establish a Centre of Excellence for Low Carbon Technology Skills

The establishment of an MCA presents an opportunity to look outside of old models and be both innovative and transformational in the provision of low-carbon skills over the medium-to-longer-term.

We want to work with industry; learners; providers and Government to develop a robust business case for an enhanced Institute of Technology offer which would establish a national Centre of Excellence (CoE) for Low Carbon Technology Skills. This would build on the existing Yorkshire and Humber Institute of Technology (IoT) in York, aligning employers, providers and learners and represent a beacon for innovative curriculum development that provides progression pathways for 19+.

The CoE would support national post-COVID-19 recovery as a core plank of our LIS and Government's Industrial Strategy, by linking local skills provision with emerging industry skills demand and addressing the shift to a digitally enabled, low carbon economy.

The CoE, which would be distributed across the regional provider network but focussed in the IoT, would provide the opportunity for a consolidation of the administrative requirement for the management and monitoring of the funding. This would be closely aligned to the management and monitoring of the existing AEB and ESF budget but provide economies of scale for programme management.

Given the reach of the IoT across Yorkshire and the Humber we would also look to work collaboratively with the Humber LEP, for example extending their relationship with the existing IoT to include their Aura programme across renewable wind energy.

As part of the CoE, we would also like to explore with Government the potential for a low carbon tutor engagement programme such as fully funded, accelerated FE teacher training and enhanced salary arrangements to ensure it is an attractive proposition and overcomes the current recruitment issues FE often experiences with curriculum in emerging industries.

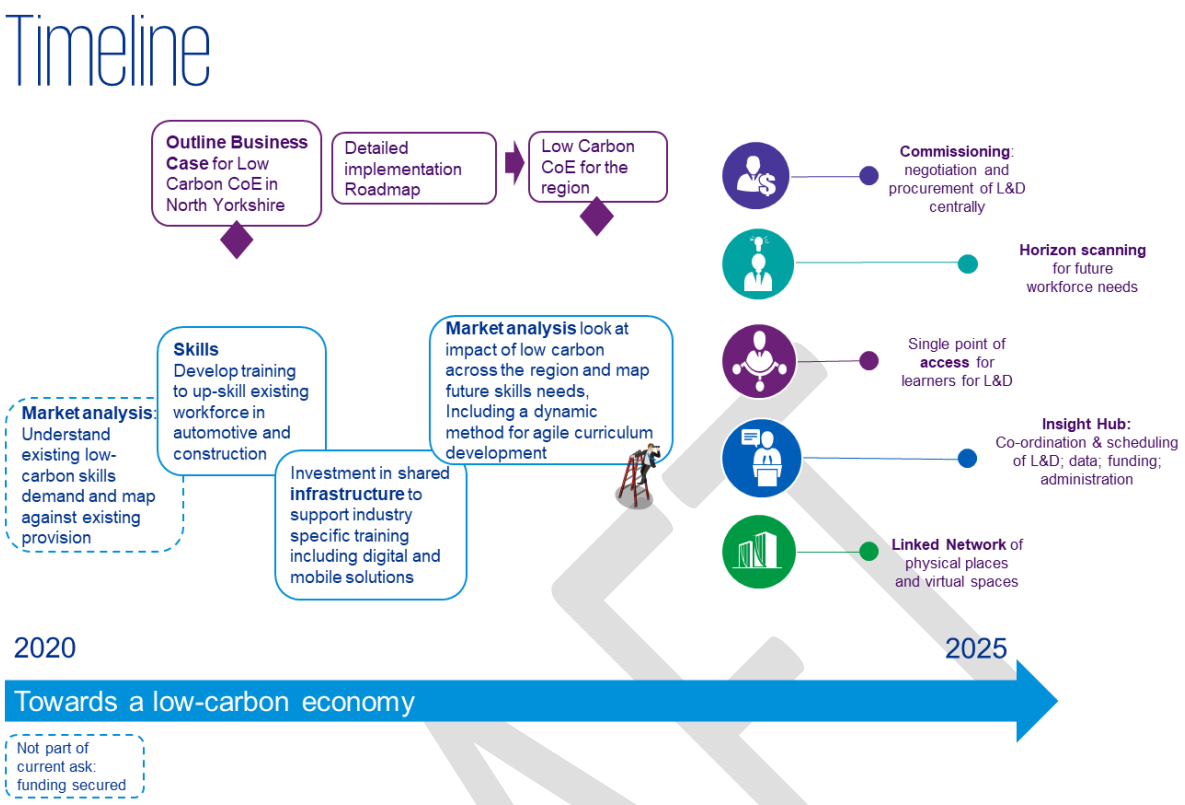
We wold also welcome discussions on our ambition for the CoE to be developed and delivered through enhanced employer partnerships utilising dual professionals and a co-designed approach to align this to emerging needs, providing access to specialist who may also be available to provide support and training outside of the region. We have already begun to evaluate the effectiveness of this model within other IoTs and have started to identify potential partners such as City & Guilds who are interested in supporting the development of low carbon training.

We are seeking engagement and joint working with Government as we develop the business case for the YNY CoE for Low Carbon Technology Skills. Our work plan and timeline for the business case is outlined below (see Figure 10). This comprises:

- A detailed **market analysis** looking at future demand across a wider set of industries and the impact of low-carbon technologies on the existing workforce
- Extensive local **stakeholder engagement t**o understand current issues but primarily focus on the desired future state and outcomes. This would also include a view of the geographic scope and assess the benefits of working jointly with Humber as outlined above.
- A detailed **benefits analysis** including but not limited to:
    - Meeting current future skills needs
    - Efficiency of L&D spend
    - Consistency of training provision
    - Lack of duplication
    - Attraction and retention of workforce
- An analysis of existing and potential **funding streams** to support a collaborative regional L&D programme including but not limited to existing Government funds and assessing the private sector spend on L&D in this area (current and predicted)
- The **scope and functions** of the CoE (some options listed in below)
- The **funding requirement** to deliver including governance; tax and legal options
- An **implementation** roadmap

The CoE business case would provide an exemplar for place-based, low carbon skills training and provide insight to other regions as they respond to emerging low carbon policy.

Figure 10. Work Plan and Timeline for CoE Business Case



2. Devolved Adult Education Budget

In line with other Mayoral Devolution Deals, we are seeking to devolve the AEB. Our proposal to Government is to:

- Work with YNY to support our preparations for taking on the relevant functions that cover the remit of AEB;
- Set proportionate requirements about outcome information to be collected in order to allow students to make informed choices; and
- Consult with YNY on any proposed changes to a funding formula for calculating the size of the grant to be paid to the combined authority for the purpose of exercising the devolved functions.

We are seeking to commence devolution of the AEB from the academic year FY22, subject to readiness conditions. Upon devolution, YNY will be responsible for making allocations to providers and the outcomes to be achieved, consistent with statutory entitlements. We recognise these arrangements would not cover apprenticeships or traineeships, even though the latter is funded through the AEB.

3. Enhanced joint working with Government

In line with other Mayoral Devolution Deals, through a Devolution Deal for YNY we are seeking an enhanced working relationship with Government across the skills agenda. This includes:

I Joint working with the Careers Enterprise Company and National Careers Service

To ensure local priorities shape the provision of local careers advice. We are seeking direct involvement and collaboration with Government in the design of local careers and enterprise provision for all ages in our areas.

II Influencing spend on unutilised apprenticeship levy funding

To maximise investment in apprenticeships and promote the benefits of apprenticeships to local employers. We are seeking Government's support in YNY's efforts to convene employers so they can increase the number of apprenticeships available in our region, including via levy transfers.

III Stronger links with DWP

To co-design the future employment support for the hardest-to-help claimants. We expect this will be subject to an assurance framework covering the respective roles of YNY and DWP in the delivery and monitoring of the support, including a mechanism by which each party can raise and resolve any concerns that arise.

IV Joint working with Government to align local and national programmes

This is in order to make the most efficient and effective use of skills funding in our region, and ultimately deliver better outcomes for residents and maximum Value for Money for the taxpayer. The key areas for collaboration include:

- Early engagement and consultation to help shape new Government policies in order to ensure that proposals work in a non-urban context and make maximum contribution to levelling up the North's economic performance.
- Building on the successful transition of the YNY LEP Skills and Employability Board to a Skills Advisory Panel, working more closely with the Skills and Productivity Board to advise Government on how to ensure courses and qualifications on offer to students are high-quality, aligned to employers' future skills needs and help increase productivity, taking account of the economic and demographic characteristics of our region.
- Similarly, working closely with the Skills Commission and other influencers of skills policy to enhance the development of a low carbon economy in YNY.
- Helping to shape any future changes to the 16-18 funding rules to again ensure that such policies are fit for purpose in an YNY context.
- Working to ensure national programmes, support local priorities, for example unemployed 16-24 year olds or supporting disabled into work.

8 Business and Innovation

Strategic context

Creating the right conditions for business growth to support increased productivity and level up the economy is a shared priority nationally and locally; reflected in the Government's Industrial Strategy and our own Local Industrial Strategy (LIS).

Historic jobs growth in our region has broadly matched the rest of the UK, but much of this growth has been in lower productivity sectors, particularly the visitor economy. Relative to GB levels, we have a proportionally higher sectoral share of accommodation and food services and manufacturing in employment terms (11% compared to 8% in both sectors)[21]. Our region's productivity has moved from being the same as UK average in 2003 to more than 14% below the UK average in 2017[22]. This structural imbalance is compounded by businesses that are yet to optimise the full potential of their workforce. We have half the proportion of 'high performing workplaces' as the national average, and significant under-utilisation of skills due to factors such as seasonal employment and a lack of flexible employment.

We need businesses that can adapt and develop their strengths into more productive, high-performing workplaces as we decarbonise our economy and to secure the economy prosperity of our residents through better paid job opportunities. This in turn will enable us to play our full part in levelling up the North with the rest of the economy.

Our economic ambitions are underpinned by our Universities whose innovation strengths are a key driver in the economic future of the region and which provide a flow of graduates with cutting edge skills into our labour force. In particular we have world leading innovation around;

- Bio-Yorkshire the UK's Centre of Excellence on Bioeconomy
- A Digital Creativity programme which brings together over 100 partners and researchers from multiple disciplines around augmented reality and gaming technology. This not only underpins our creative and digital sectors but provides new opportunities for our vast cultural and heritage assets.
- The Institute for Safe Autonomy will contribute significantly to the national Industrial Strategy, enabling us to establish a world-class facility and help strengthen the UK's position as a leader in the safe introduction of advanced technology.

The ambition set out in our LIS is to deliver "Good Growth" – economic growth that is good for business, good for people and good for the planet. Our business base has the knowledge, expertise and capability to position York and North Yorkshire (YNY) as a prime proving ground for climate solutions. As part of achieving our Good Growth ambition, we need strategic, long-term and co-ordinated action to support businesses transition to higher value tourism and advanced manufacturing, and foster innovation in the circular bioeconomy which will help to drive productivity across our wider economy.

Supporting our businesses is vital to achieving Good Growth; now more than ever. COVID-19 presents a risk to many of our businesses, particularly those in the Visitor Economy. It also presents

[21] Data from NOMIS, 2019

[22] YNY output per hour is £28.80 compared to the UK average of £33.65

an opportunity us to 'build back better', with high value and environmentally sustainable businesses at the forefront of delivering Good Growth.

We have demonstrated strong economic performance and resilience during uncertain times, including the 2008 global financial crisis and Brexit. This is due strong partnerships with businesses and focussed activities such as the delivery of the Local Growth Fund (LGF) which remains on target. We want to build on this track record, with three proposals to Government:

1. **Co-development of a Yorkshire Tourism Plan between YNY and Visit Britain to increase high value tourism**
2. **Support for our proposals to redevelop Harrogate Convention Centre, currently a Nightingale Hospital**
3. **Support for our proposals for an Advanced Manufacturing Research Centre at Scarborough, in partnership with the University of Sheffield**
4. **Enhanced joint working with UK Research and Innovation (UKRI) and Department for International Trade (DIT)**

Alongside these proposals, Chapter **Error! Reference source not found.** sets out our proposed ' BioYorkshire' programme, which represents a nationally significant innovation programme and centre of excellence for the UK's bioeconomy.

Our proposals for business and innovation

1. Co-development of a Yorkshire Tourism Plan between YNY and Visit Britain to increase high value tourism

Summary:

The visitor economy is a major part of regional economy, standing at £2.67bn (or 6% of GVA). According to Visit England, North Yorkshire receives the most holiday visitors in Northern England and is third in the UK overall (following after London and Cornwall). Whilst much of the region's employment growth has come in visitor economy jobs, one in four of regional jobs pay below the real living wage; increasing to one in three in coastal areas where tourism is most prominent. Reducing seasonal jobs and increasing high value tourism is of fundamental importance to driving productivity in our region and supporting the economic prosperity of our communities.

Furthermore, this sector is forecast to be one of the most affected by COVID-19. There is a need for both national and local stimulus to accelerate the recovery and seize the opportunity to ensure future growth is based on high value tourism and increased productivity.

To help the transition to a higher value tourism sector, we need a strategic approach, bringing together public and private sector partners, to develop heritage, culture and visitor products and associated accommodation and food and drink businesses.

We are seeking to work in partnership with Visit Britain to develop a short- and long-term Yorkshire Tourism Plan; increasing cohesion between national campaigns and local ambitions. Specifically, our proposals to Government are:

i. For the Department for Digital, Culture, Media and Sport (DCMS) and Visit Britain to formerly become a member of the managing board responsible for developing the tourism strategy for Yorkshire, ensuring alignment of Yorkshire's product offering with Visit England priorities to enable joint investment in future campaigns.

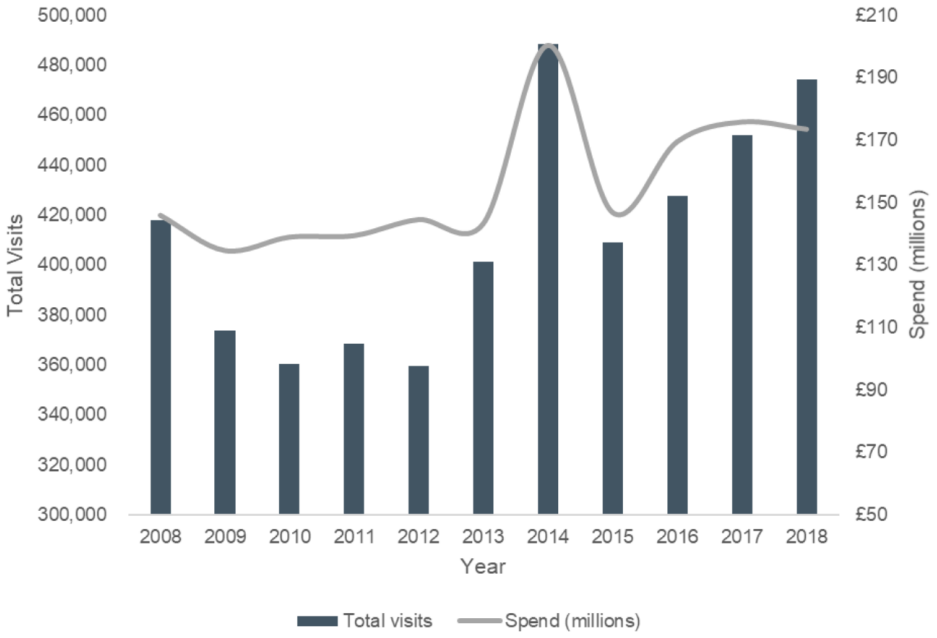
ii. In support of the launch of the strategy, Visit Britain to work in partnership and host the 2021 Visit Britain International Trade Exhibition 'ExploreGB' in YNY.

The case for change

As set out in the Government's 2018 Tourism Sector Deal, the UK attracted 38 million international visitors, who added £23bn to the economy,[23] making tourism one of the country's most important industries and the third largest service export. In 2018, British residents took 119 million overnight trips in the UK, totalling 372 million nights away and spending £24bn.[24] Pre-COVID-19 forecasts predict that by 2025, the sector will see a 23% increase in international visitors and 16% increase in domestic tourism[25]

This trend plays out in YNY. Between 2012 and 2017, jobs in our Accommodation and Food Services sector increased by a third to 56,000, making it our fastest growing sector. Similarly, its contribution to GVA has also grown, standing at £2.67bn (or 6% of GVA) in 2017. Figure 11 shows increase in tourist visits and spend over the period 2008-2018 and demonstrates a strong recovery from the slump in 2010 brought on the back of the recession. Our tourism sector has a national identity. Harrogate and Skipton have been rated as the happiest places in England, York the best place to live, and Scarborough receives more visitors than anywhere in the UK outside London.

Figure 11. Tourist visits and spend in North Yorkshire, 2008-2018



[23] ONS: Travel Trends 2018
[24] VisitBritain: GB Tourism Survey: overview. 2018
[25] Ibid

Source: Visit Britain 2019

However, whilst our tourism sector is growing, it is creating low pay, low productivity jobs. His is a long-term structural issue which has resulted in some deep routed challenges, particularly in our most deprived coastal areas.

Added to this, COVID-19 presents a risk of losing the progress we have made as a region in building up our Visitor Economy over the past ten years. Our current evidence, based on the OBR's assessment, indicates that tourism will be one of the worst hit sectors from the pandemic.

We welcomed Government's 2018 Tourism Sector Deal and, in particular, its commitment to pilot up to five Tourism Zones which aim to bring together businesses, local authorities, Local Enterprise Partnerships (LEP) and local partners to establish a coordinated strategy for growth in local visitor economy and increase off-season visits through initiatives such as enhancing tourism product, extending the tourism season and investing in skills. However, we have yet to receive clarity on the process for bidding to VisitBritain to establish a Tourism Zone.

In the context of COVID-19 there is a need for an immediate response to the downturn with a short-term recovery plan, accompanied by a longer-term visitor economy strategy. This needs to bring together targeted national and local initiatives to stimulate a visitor economy which provides good, sustainable jobs for our region.

Our offer and proposals to Government

We are seeking to work in partnership with Visit Britain to develop a short- and long-term Yorkshire Tourism Plan; increasing cohesion between national campaigns and local ambitions.

This will bring together our Local Authorities and key stakeholders including Welcome to Yorkshire, Destination Management Organisations, English Heritage and Arts Council to develop a tourism strategy for Yorkshire. Our specific proposals to Government are:

1. For DCMS and Visit Britain to formerly become a member of the managing board responsible for developing the tourism strategy for Yorkshire, ensuring alignment of Yorkshire's product offering with Visit England priorities to enable joint investment in future campaigns.
2. In support of the launch of the strategy, Visit Britain to work in partnership and host the 2021 Visit Britain International Trade Exhibition 'ExploreGB' in YNY.

In the short-term our COVID-19 Economic Recovery Plan for the tourism sector, developed with key stakeholders across the region, will focus on:

- Sustainability and resilience of tourism businesses
- Place safety and visitor confidence
- Placing Yorkshire at the forefront of people's minds
- New product development
- Welcome back to Yorkshire campaign aimed at domestic tourism in 2021.

Over the medium to long term, we want to address the persistent market failures and barriers to productivity in our tourism sector and seize the economic opportunity to 'build back better'.
This includes:

- Options for extending the tourism season outside of the summer months;
- Proposals for investing in the skills of the local workforce;
- Options for making the visitor economy more accessible;
- Investment opportunities to enhance and innovate the visitor experience, for example by promoting a destination's heritage attractions or by creating an attraction around intangible assets;
- Options for 'small-scale' infrastructure developments;
- A commitment to measuring job quality, with a clear plan for reporting on the metrics chosen and how this information will be used to increase the provision of good work; and
- A sustainable development plan to reduce environmental impacts within key tourism areas.

2. Support for the redevelopment of Harrogate Convention Centre, currently a Nightingale Hospital

Summary:

Harrogate Convention Centre, currently operating as a Nightingale Hospital, represents an important economic asset to the Region bringing 157,000 visitors per year and £29m of spend.

With investment the Convention Centre will continue to increase both the number of visitors and spend to the Region. It will allow us to compete against other National Centres to win business and grow our economy.

We are seeking to work with Government to address the capital funding gap we have identified through our business case work to date. This support would align closely with the Government's economic recovery approach and help to level up the economic performance of our visitor economy.

The case for change

This proposal plays an important role in the region's economy attracting 157,000 visitors and £29m of spend each year.

Harrogate Convention Centre contributes strongly to the prosperity of Harrogate district and the wider region, providing a unique offer to the conference and exhibition market, attracting large numbers of business visitors every year, and supporting a huge number of jobs and businesses.

With investment the Convention Centre will continue to increase both the number of visitors and spend to the Region. It will allow us to compete against other National Centres to win business and grow our economy. In addition, there are significant opportunities convert business tourism stays into leisure tourism stays that will support the Regional economy.

Without investment HCC will continue to decline in terms of its physical facility and its national and regional ranking appeal. Furthermore, the market is becoming increasingly competitive with new venues planned in Hull and Gateshead. This further underpins the need for investment to ensure that HCC can both sustain and enhance its position within the market place, support the levelling up

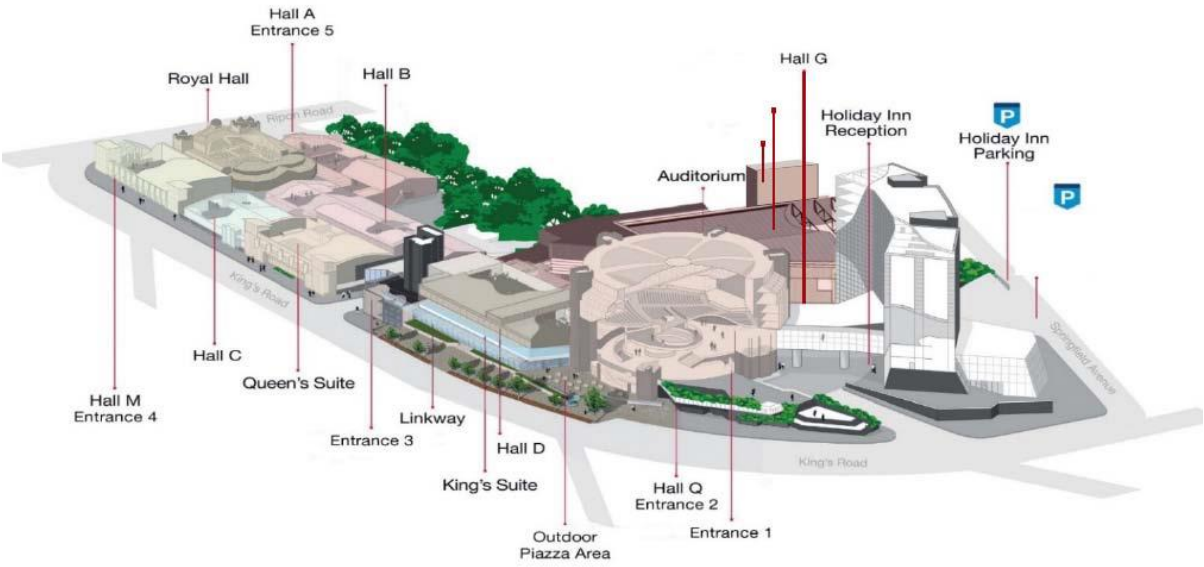
agenda and ensure that the economic benefits that this delivers to the wider economy are maximised.

The economic benefits of this project are considerable as it will maximise HCC's potential, providing a significant place-shaping, cultural and economic boost to the region. The full economic impact of redevelopment will be evaluated as the project progresses, but data on direct visitor expenditure alone shows an expected increase.

The strategic importance of Harrogate Convention Centre has been highlighted recently with the NHS/MOD choosing it as the location for the Yorkshire and Humber NHS Nightingale. This further emphasises HCC's strategic, operational and geographical importance.

Moreover, investment in HCC is key to our Covid-19 Economic Recovery, ensuring that Harrogate can capitalise on its unique offer to secure business and attract visitors to support the districts economy.

Figure 12. Overview of Harrogate Convention Centre



Our offer and ask of Government

Our offer is to work in partnership to create an asset of National importance that allows us to bring visitor and investment into our Region, growing our economy and providing opportunity for our businesses and residents.

Our 'ask' is that stakeholders work together to develop a dialogue with government to meet the capital shortfall identified through the business case modelling.

Debt costs in meeting this high upfront capital expenditure will weigh-down the project's viability necessitating innovative funding solutions to enable these costs to be mitigated. Finding a means to write off or subsidise a portion of the upfront capital costs is considered necessary to enable the scheme to be viable.

The proposal for redevelopment aligns with a new sales strategy for the venue. The initial focus is to increase the number, size and value of conferencing events, primarily driven through attracting

national association events. The wider motivational pull of such events tends to attract visitors that stay longer and spend more. The positive appeal of Harrogate, that sets it apart from competitors, will help maximise opportunities to convert business tourism into leisure tourism, with visitors encouraged to return for leisure stays and to visit the region more widely - including the Dales, National Parks, Yorkshire Coasts, etc.

The capital investment requirements of the preferred redevelopment option are considerable. However, once these works are carried out, there is potential to generate a significant ongoing economic impact.

3. Support for AMRC Scarborough

Summary:

In partnership with the University of Sheffield and private sector partners, we are developing a Strategic Outline Case (SOC) for a new Advanced Manufacturing and Research Centre (AMRC) satellite location at Scarborough, which we expect to complete by the autumn. The AMRC Scarborough will leverage the area's existing, high value manufacturing base and focus on the development of next generation manufacturing processes for existing and emerging sectors in Scarborough and our wider regional economy, including low carbon energy.

We are seeking engagement from UKRI as we develop the business case for AMRC Scarborough with local partners over the next 6 months, and a commitment from Government to consider the business case when it is finalised in the autumn.

The case for change

The AMRC is a network of innovation centres which carry out world-leading research into advanced manufacturing and materials, which is of practical use to industry. In partnership with the University of Sheffield, together with anchor companies of national and international significance in our region, we are seeking to establish an AMRC satellite location in Scarborough. This would build on the successful model of establishing the AMRC North West satellite at Preston and Broughton in North Wales.

Scarborough is a coastal town renowned for its high value manufacturing base as well as a unique range of economic assets. This includes the world's largest offshore wind farm on the Dogger Bank and proposals for the 'York Potash Project'; a new, high-tech potash mine with the world's highest grade polyhalite resource. The renewable energy sector and high value manufacturing sectors are both growth industries for Scarborough. However, Scarborough is also facing a period of economic and industrial restructuring following the impacts of COVID-19, against a background of multiple deprivation challenges including income, employment and education measures.

The AMRC Scarborough would focus on next generation manufacturing processes for existing and emerging sectors of our regional economy, including low carbon energy.

We have undertaken soft market engagement on the AMRC Scarborough concept and are now in discussion with a number of potential anchor companies that would be partners to the AMRC. Whilst these organisations undertake their own R&D in-house, AMRC Scarborough would bring together industry, academia and local businesses to scale-up innovation activity and the adoption of

new manufacturing processes in our region, leading to increased business productivity and the creation of higher value employment opportunities for our residents.

Our offer and proposals to Government

In partnership with the University of Sheffield, we are now developing a Strategic Outline Case (SOC) for the AMRC Scarborough, which we expect to complete by the autumn.

We are seeking engagement from UKRI as we develop the business case for AMRC Scarborough with local partners over the next 6 months, and a commitment from Government to consider the business case in the autumn.

4. Enhanced joint working with UKRI and DIT

In line with other Mayoral Devolution Deals, through a Devolution Deal for YNY we are seeking enhanced joint working with Government to coordinate activity around trade, investment and R&D across our region. This includes:

I Joint working with DIT

As stated in the West Yorkshire Devolution Deal, DIT have committed to work with regions in the North to develop a joint plan and working arrangements to 'level up' the North. Similarly, we are seeking to establish;

1. An international trade forum with DIT where we will agree a joint plan and seek to join up activity around key sector and market priorities across the region. The joint plan between DIT and the YNY will ensure there is coherent and effective support for businesses of all sizes.
2. A co-developed Inward Investment plan delivering a joined up approach to targeting and attracting new investment in to YNY, together with a commitment to resource Key Account Management of foreign owned businesses in YNY similar to the model West Yorkshire.

II Joint working with UKRI

We are seeking to enhance joint working with UKRI to support the development and implementation of our LIS, particularly building on local strengths in the bioeconomy, advanced manufacturing, and tourism. Examples include:

- **Improved data sharing and referrals.** Developing improved business intelligence to better target the right support at businesses with the potential to grow
- **Marketing and promotion.** Co-designing and delivering targeted local events and workshops to support business-led innovation
- **Access to expertise.** Providing expert opinion on Value for Money (VfM) into local investment decisions
- **Developing co-investment opportunities.** Explore opportunities for the region to benefit from future Government funding opportunities

9 BioYorkshire

Strategic context

As part of our Good Growth ambition, we must invest in innovation in order to raise our productivity and global competitiveness whilst transitioning to a low carbon economy. This presents both a policy challenge and a significant economic opportunity – and one that can be addressed head on with investment in the development and deployment of new ideas in our bioeconomy. Our response to these challenges and opportunities is to deliver a strategic and co-ordinated "BioYorkshire" programme which will establish York and North Yorkshire (YNY) as the UK's global Centre of Excellence (CoE) for bioeconomy solutions.

The importance of BioYorkshire to the resilience, growth and prosperity of our region is amplified in the context of COVID-19. We will accelerate a Green economic recovery, create new sustainable jobs and improve resilience in our area through supporting innovative entrepreneurs to start-up companies, enabling Small and Medium Enterprises (SMEs) to scale up their businesses and improving efficiencies of industry through collaborative research. Collectively this will 'level-up' our region by boosting productivity and economic output, while still committing ourselves to being a negative carbon region. Indeed, tackling climate change, ensuring a resilient, sustainable supply of key resources and meeting growing food demand will all require innovation and growth in the bioeconomy and forms an essential component of a green recovery programme.

Government demonstrated its commitment to make the UK a global biotech partner of choice when it released its national Bioeconomy Strategy 2018-2030 and set an ambitious target to double the size of the bioeconomy by 2030 (from a current base of £220bn in GVA). Our region represents the largest concentration of the bioeconomy in the North. Indeed, Department for Business, Energy and Industrial Strategy's (BEIS) 2017 Science and Innovation Audit (SIA) shows a concentration of bioeconomy activity in YNY of up to five times the national average, equating to c10% of the UK's bioeconomy. Therefore, we share Government's recognition that a strong and vibrant bioeconomy has the power to transform the way we address challenges of clean growth in food, chemicals, energy, materials and medicines and this region is best positioned and most ready to do this.

At present, Government funding for bioeconomy research spans multiple parts of Government including Innovate UK, BEIS, Department for Education, ESF, among others. BioYorkshire offers an opportunity to bring together public sector funding and private sector investment for innovation. However, we need a step change in the way industrial and academic research combine, generating an ecosystem of world-class bioeconomy research, knowledge exchange and training to deliver a green recovery programme for the UK's post-COVID-19 economy.

NESTA's May 2020 report "The Missing £4 Billion: Making R&D work for the whole UK" recommended substantial devolution of innovation funding to remedy the regional imbalance in R&D spending. This could achieve a better fit with local opportunities, address notably low R&D intensities for instance in Yorkshire and the North East and spread the economic benefits of innovation across the whole of the UK. BioYorkshire directly addresses their recommendations for "translational research centres whose technological foci work with the grain of their local economies to support national missions", "create a more balanced distribution of research infrastructure across the nation" and develop "new poles for innovation and productivity growth, attracting new private sector investment as well as supporting the existing business base."

YNY is uniquely placed and ready to pioneer a new, strategic approach to investment in the bioeconomy given our combination of world-leading assets, including:

- **Globally leading institutions in bio-science research** via University of York (UoY) and Fera Science, translational facilities (Bio-renewables Development Centre and Crop Health and Protection), and land-based training at Askham Bryan College.
- **Significant natural capital** – agricultural businesses account for 61% of our land use, and our region includes the UK's largest area of energy crops. YNY's uplands are also home to 5% of the world's blanket bog, offering an opportunity to secure their store of over 38mt of carbon.
- **A significant cluster of businesses in the food, drink and agriculture industries that provide a market for adopting new bio-based processes, products and services**. These industries are three times more concentrated here than nationally, and 80% of inward investment value to the area in 2017-18 was in food and drink and more broadly. Major businesses in the region include supermarket headquarters (HQ) such as Asda and Morrisons, as well as other major food and drink businesses such as Nestlé, McCain and Quorn.
- **Connectivity into two of the UK's most significant chemical clusters** on the Humber and Tees giving us a direct route to commercialisation of technology via direct transport links and existing relationships between our businesses and institutions. This includes BDC's strategic relationship with the Centre for Process Innovation on Teesside, and UoY's collaboration with BP and px group to develop a bio-based chemical cluster on Humberside and supply industrial sugar from wastes and by-products through the Low-Carbon Bio Innovation Corridor (LBIC). In addition, we are home to Croda (which grew from Yorkshire and continues to HQ here) which is a speciality chemical company that uses renewable raw materials for most of its products.

The "BioYorkshire" programme involves a strategic and co-ordinated approach to investment which will establish the UK's global CoE for bioeconomy solutions and achieve the necessary step-change in innovation in the sector. These solutions will focus on two key areas of the bioeconomy:

1. **Profitable bio-based production of fuel, chemicals and materials**
2. **Productive, net-zero food, feed, farming and wider land use practices**

Larger global companies surrounding the YNY region such as Croda, Unilever and Associated British Food do not have the bandwidth to respond to the growing need to develop bio-based sustainable products. These companies all strongly endorse the development of BioYorkshire which will enable them to expand their bio-based product portfolios, gain access to skilled technologies that will enable the transition to a sustainable future and contribute to jobs and growth in the bioeconomy in the region.

BioYorkshire's core institutions are ready now to deliver a programme of business-focused strategic research, development and demonstration as well as specialist skills support using existing facilities. The proposed programme will be delivered in three phases over 10 years, as outlined below. In total is the programme is expected to require £430m of Government funding which would leverage an expected minimum contribution from third parties of £570m. Appendix 5 provides a breakdown of estimated RDEL and CDEL funding requirement over the 10 year period.

- **Phase 1 (3 years) – delivered between 2021 and 2023.** We will build four new innovation facilities, a circular economy data hub, three new incubator spaces and anaerobic digester (AD)

plants, two new bio-based learning institutes, and co-develop programmes of research, skills, networking and investment with business to kick-start operations in these new facilities.

- **Phase 2 (4 years) – delivered between 2024 and 2027.** From 2024 onwards the new facilities will deliver significant GVA and inward investment, mitigation of CO2e and waste, increased number of spin-outs, start-ups and scale-ups as well as skilled people and high value jobs both within YNY and in the wider UK, especially the North East. The first incubator hubs and innovation facilities will become self-financing. We will build on the experience of the first phase to deliver three further incubator spaces with material-relevant anaerobic digestion or biorefinery, a further farm-focused applied research facility at Askham Bryan College and kick-start operations in these new facilities.
- **Phase 3 (3 years) – delivered between 2028 and 2030.** By 2030 we anticipate at least £500m of further contribution in BioYorkshire projects and facilities through public and private match funding. This phase will see the final two incubator spaces developed and we anticipate the programme becomes self-supporting through the additional economic activity it is generating.

"The North East of England Process Industry Cluster (NEPIC), is a membership organisation supporting what is the second biggest process cluster in Europe. Our membership covers petrochemical, fine and specialty chemical, pharmaceutical, renewable energy and biotechnology companies, together with their extensive supply chain.

We are supporting our members' wishes and societal trends by helping them access and share best practice in the areas of decarbonization and the circular economy. Following Brexit and the current COVID-19 pandemic, we are keen to help our members re-shore raw material supply chains and recreate lost downstream integration. NEPIC already has a number of member companies with large scale industrial biotechnology expertise such as Ensus (bioethanol), Calystsa (fish food via gas fermentation), Quorn (large scale fungal fermentation for food), Fujifilm (biologics) and a number of others looking at biotechnology routes to chemicals. These organisations are well placed to benefit from the bio-innovation and technology development that should flow from the BioYorkshire programme. This will be especially important in the context of resilient supply of novel and sustainable bio-based feedstocks."

***Philip Aldridge**, CEO, NEPIC*

We are seeking £215m of funding for delivery of Phase 1 over the 3-year period between FY22 and FY24, comprising:

1. **£175m BioYorkshire Innovation Central (BYIC)** to deliver buildings, equipment and capacity funding across York which aims to build on the York area's existing R&D capabilities to support a step-change in R&D collaboration between our higher education institutions, research facilities and industry.
2. **£25m BioYorkshire District Incubator Hubs** to build facilities in Scarborough, Ryedale and York for local entrepreneurs and SMEs to start up and scale up their bio-based businesses.
3. **£15m BioYorkshire Innovation Accelerator** to provide expert advice and match funding to drive engagement and de-risk the commercialisation of bio-based innovation, as well as attract inward investment from across the country and internationally through promotion of BioYorkshire.

The detail of each of these three proposals is outlined in the next section.

Detailed governance of the BioYorkshire programme is still to be determined at this stage. It is anticipated funds would be ringfenced and overseen by a Governing Board, which would comprise representation from the MCA, the three research Partners (i.e. UoY, Fera Science, ABC), YNY LEP, independent Industry non-executive directors from both large- and small-scale businesses and BEIS. The Board would be responsible for approving and allocating funding, co-funding realisation, and ensuring the overall programme is delivered on time and on budget.

The PMO would be responsible for managing the delivery of the programme, under the funding and timelines determined by the Board. We are considering the PMO running under UoY given experience in allocating and administering UK Government and European funding, such as the UKRI's Biotechnology and Biological Science Research Council (BBSRC) and Innovate UK. Bespoke Delivery teams will be responsible for specific project implementation, such as the Bio-renewables Development Centre (BDC) overseeing the delivery of new equipment purchases and increased resource capacity at their facilities.

We estimate that innovation and skills developed through BioYorkshire will add around £4bn in GVA to the UK economy by 2030, attracting over £1bn of inward investment, creating 4,000 jobs across Yorkshire and the UK, whilst mitigating some two million tons CO2e annually.

Critically, the BioYorkshire initiative is a key transformational enabler of the YNY circular economy and local energy strategy – jointly sharing the vision to become the UK's first carbon negative region. The details of this programme has been developed in partnership with the LEP as we are all determined to create a thriving economy that creates business opportunities, a sustainable environment and social wellbeing, by using the bioeconomy to keep products and materials in use; eliminate waste and pollution; and regenerate natural systems.

Our proposals for BioYorkshire

1. BioYorkshire Innovation Central (BYIC)

Summary:

YNY is home to a high proportion of businesses that are 'innovation active' within their own company (i.e. over the last three years conducted activities such as knowledge transfer, introducing new or improved products or services, or investing in R&D).

BioYorkshire Innovation Central (BYIC) will develop an innovation ecosystem that connects academia, industry and policy makers and enables knowledge flow between businesses in different sectors. This ecosystem will enable R&D and roll out of technology across the full range of industries in the bioeconomy, alongside a bioeconomy skills academy aimed at providing both the STEM and soft skills that businesses and farms need to innovate and grow. The academy will run across the three institutions offering training and education co-developed with businesses from post-16 T levels, apprenticeships, higher levels through to post-graduate and continuing professional development. It will include programmes for displaced and newly unemployed people. With our agriculture and business partners we will create a cohort of people with the right mix of skills to match the pace of the technology development and ensure innovation translates into jobs and productivity gains both in our locality and the wider North of England.

For Phase 1 of the BYIC programme we are seeking **£175m (£151m capital and £24m revenue funding) between FY22 and FY24**, which we expect to leverage a further contribution of £20m in this period, to deliver six, integrated projects:

i. £90m for the upfront construction and equipment costs for a new industry facing interdisciplinary **Global Bioeconomy Institute at the University of York** as well as a phased contribution to staff costs associated with delivery of the Institute's strategic aims in collaborative R&D, as well as education and training;

ii. £15m to increase the capacity and capabilities of the **Biorenewables Development Centre (BDC) in York** through new equipment and additional skilled scientific officers and business development staff across a broader range of biorefinery technologies;

iii. £35m for the upfront construction, equipment costs and operating costs for a **new Research Cube** (£30m) and **Packaging Hub** (£5m) **in York**, which are research testing facilities that will house strategic R&D at the **National Agri-Food Innovation Campus and Sand Hutton, in partnership with Fera Science and Ocado;**

iv. £15m for the construction and operation of **a new Sustainability Learning Centre at Askham Bryan Agricultural College** with learning space and specialised STEM facilities;

v. £10m for the construction and operation of a new **Bio-Yorkshire Agriculture Incubator Hub at Askham Bryan College** offering 20 start-up spaces for applied practical and agri-tech business; and

vi. £10m to invest in the equipment for a **Circular Economy Data Hub distributed across and building on existing knowledge and hardware at Fera Science and the University of York campus** as well as initial operating costs (for staff, dataset procurement and management and marketing).

The case for change

BYIC is an integrated innovation investment based in York that aims to transform the economy and build resilience across the full extent of YNY and the adjacent industrial clusters in Teesside and Humberside. The aim of BYIC is to bring together world leading academic researchers with innovative industries to research, develop, demonstrate and implement solutions to bio-based production of fuel, chemicals and materials, as well as net-zero food, feed, farming and wider land use. Importantly, BYIC will also work with industry to educate and train the skilled people who can implement these technologies in the marketplace. The case for these new innovation facilities is evidenced through:

- Survey research which suggests[26] that, relative to the England average, YNY has a proportionately higher share of businesses that are 'innovation active' i.e. have carried out at least one of a set of stated innovation activities over the past three years, such as introducing new technologies, participating in knowledge transfer activities, and introducing new or significantly improved services, or processes for producing or supplying goods or services.

  Industries in the bioeconomy often share a common toolset - for instance biotech, genomics, advanced data handling - but sit in different sectors e.g. food, chemistry, pharmaceuticals. Innovations do not make their way between industry silos and, as a result, opportunities are lost for cross-fertilisation of technology between businesses in the bioeconomy that sit in different

[26] West and North Yorkshire Innovation Commission Report citing data from Smart Specialisation Hub, LEP Profile data (December 2018) based on UKCIS Data

sectors. For instance, enzymes used in the food industry can be applied in chemical manufacture; agriculture and food manufacturing both use biodegradable surface-active agents; understanding the processes in a cow's stomach directly informs control of an anaerobic digester.

Private sector businesses tend to focus on their own sector so opportunities for multiple uses of a new technology in different sectors are lost, resulting in a lower return on R&D investments. Even large companies need support in networking outside their own sector - for instance a commercial relationship between a multi-national pharmaceutical company and a chemicals company focused on personal care has been fostered through academic collaboration at York. Through an integrated innovation ecosystem, investments in R&D will generate benefits to other industries, and society in the context the decarbonisation agenda; generating positive externalities.

- Facilities for technical innovation are often too large and expensive for companies, especially SMEs, resulting in too high a risk to invest. Currently, the UK does not have the capability to evaluate and develop bio-refinery based solutions to produce fuels, chemicals and materials. As a result, even in those cases when companies are committed to bio-based solutions, much of the final development and final value from production moves off-shore. This is a missed economic opportunity both regionally and nationally.

Harry Swan, CEO of Thomas Swan, Global Chemical Manufacturers, writes:

"We will look to the centre to identify opportunities in the biotech space, to source skilled employees and to pilot new technologies in a low risk environment where our own facilities cannot achieve this. Efficient, modern techniques allow the UK manufacture of products to be globally cost competitive. Combine this with world leading academic capabilities and the BioYorkshire proposition is compelling".

Our offer and proposals to Government

BYIC comprises a suite of integrated innovation facilities and services that will be delivered by expanding on existing facilities at the University of York, Fera Science and Askham Bryan College in York and will bring together academia, industry, the public sector and NGOs.

For Phase 1 of BYIC, we are seeking £175m between FY22 and FY24 (see Appendix 5 for RDEL/CDEL breakdown per annum) to deliver six, integrated projects:

I £90m for a new industry-facing Global Bioeconomy Institute at the University of York delivered by autumn 2023

This institute will build on our world class reputation for research and innovation in crop science, industrial biotechnology; becoming the first bioscience R&D base in the UK focusing on research outside academia. The new interdisciplinary institute will be among the best in the world at developing and de-risking the uptake and realising the potential of Agri-Tech and Industrial Biotechnology solutions to industrial, environmental and societal challenges. It will do this by providing a "one-stop-shop" that will focus not only on the underpinning science but also the social science and economics that are needed to transition from a petro-chemical to a resilient and sustainable net zero economy.

The institute will attract talent from across these different disciplines and they will work together to inform public debate and awareness and Government policy on how to implement the changes that are needed to achieve both net zero and resilient economic growth. Importantly it will educate and train the scientists, managers and professionals who will lead the biobased companies that will deliver the UK's green recovery.

Government funding for the bioeconomy Institute will cover the upfront construction and equipment costs for a new R&D facility at the University of York as well as a phased contribution to staff costs associated with delivery of the Institute's strategic aims. It is anticipated that a further £50m of private sector and other sources of competitive funding will be secured as a result investment into the full Global Bioeconomy Institute programme (estimated to be £130m in total over ten years). Private sector contributions would mainly cover the costs of strategic partnerships around product discovery, development and delivery. The business model for sustainability is based on 20 years' experience gained through the operation of the University of York's prize-winning Centre for Novel Agricultural Products.

II £15m for capability expansion of the Bio-renewables Development Centre based at the University of York by autumn 2022

The Bio-renewables Development Centre (BDC) is an open access scale up and demonstration facility operating in the TRL 3 – 6 and is located on an industrial estate three miles from the main University Campus. It works with industry and academia to assess the viability of new bio-based processes and products including food and feed, fuels, materials and speciality chemicals such as pharmaceuticals and fragrances.

The range and scale of the BDC's modular scale up facilities will be increased through the BioYorkshire initiative to more effectively meet the demand of businesses seeking to evaluate their innovations at pilot scale and providing a means to showcase these to customers and potential investors. Based upon 10 years of operating experience and interaction with hundreds of businesses, this development will include plant room services, analytical capability, oil processing, bioreactor facilities and waste processing capability to operate across the growing expanse of bio-based technologies.

In all of these technology areas the BDC has been limited in the ability to respond rapidly, as is normally the requirement, to business and academia needs. For example, evaluation of AD feedstock experiments typically takes 1-2 months to simulate a larger scale AD process so the BDC's 8 pilot scale AD reactors are often fully in use when businesses seek support. This project would allow the number of AD reactors to be increased 2 or 3-fold to meet demand. Similarly, small scale bioreactors (the BDC currently has 6) will be increased 3 or 4-fold to meet demand from business for these versatile and much used instruments.

Government funding for developing the capabilities of the BDC will cover the costs of new equipment purchase, commissioning and operation. The size of the BDC team will also be expanded, in terms of capacity and capability, to meet the increased client demand. It is essential to invest in both the advanced equipment, and the staff who can operate it and understand its potential. The revenue funding will support these staff costs and the associated operating costs of the centre. Based on previous experience this Government investment will be matched 1:1 by private sector investment in innovation projects conducted by industries with the BDC.

III £30m for a new "Research Cube" innovation facility with a pilot by winter 2021 and full facility by winter 2023, alongside £5m for a new Packaging Hub by spring 2023

The **Research Cube** involves a new strategic partnership between Fera Science Ltd and Ocado at the National Agri-Food Innovation Campus (NAFIC), near York. The facility will provide a centre where indoor and insect farming research can be conducted, leading the development of advanced biotechnology that will address the global demand for sustainable food production. It will use high throughput robotics to develop and evaluate new crop varieties optimised for production in new sustainable growing conditions, including vertical farms.

The **Packaging Hub** involves a partnership with Fera Science at the NAFIC and will be a food packaging centre focused on development, safety and sensory testing, and pilot-scale manufacture of new reusable materials. These will be used by food, retail, healthcare and consumer goods industries who seek to accelerate the transition from the use of plastic / non-sustainable and environmentally harmful packaging to new, affordable, materials derived from sustainable sources.

Government funding will cover the upfront construction, occupancy and equipment costs for both new R&D facilities and their maintenance and essential operating support until met by 3rd party contract R&D revenues. This project will enable us to leverage additional contribution of £6m from Fera/Capita (subject to qualification review by Capita CRC Board). This contribution is expected to cover: bespoke IP; some parts of the build (e.g. system development and monitoring equipment); bespoke AI/ software for robot process automation and the building of a 'twin' prototype unit for de-risking the NAFIC pilot; promotion through sales and marketing of the facility; and some maintenance and operation effort. Fera is also intending to build a dedicated insect bioconversion research unit to support both the insect robotic units of the Research Cube and chitin production (as one primary source of biodegradable packaging base material) for the Packaging Hub. This contribution is a combination of revenue generation and Fera's in-kind support to the Packaging Hub by investing in packaging testing capability at NAFIC and in its promotion to the user base. Both facilities may also be supported by an in-kind contribution to support occupancy costs at the campus from NAFIC.

These two research hubs are expected to be self-funding after five years. This is based on strong expression of interest in using the research facility confirmed to Fera Science by Syngenta, NIAB, the John Innes Centre, and Rothamsted Research. Fera / Ocado clients expressing interest in insect applications include food and feed production companies (e.g. Mars, Moy Park, 2 Sisters Food Group), food service companies (e.g. McDonald's, McCain), supermarkets (e.g. Tesco, Sainsbury), and national food associations (e.g. British Poultry Council, National Pig Association, National Farmers Union).

IV £15m for a new Sustainability Learning Centre at Askham Bryan College by FY23

The Sustainability Learning Centre (SLC) will focus on providing both the STEM skills and soft skills that businesses and farms need to innovate and grow. The new academy will run across the three institutions offering training and education that is co-developed with businesses from post-16 T-levels, apprenticeships, higher levels through to post-graduate and continuing professional development. Government funding will enable the College to build and develop a technical, higher level skills training and apprenticeship centre.

The curriculum focus of the SLC would be on sustainable ecosystems management, crisis management of ecosystems, management of waste, sustainable food production, high welfare food

production, provenance and localism in bioeconomy, sustainable energy usage, carbon neutrality and food production, impact and re-training for Environmental Land Management (ELM) schemes.

This learning centre will provide a critical element of the planned comprehensive skills focus for YNY. Alongside Low Carbon Skills Programme, which targets low carbon skills for building, infrastructure, office workforces (discussed in the Skills Chapter), and the BYIC which focuses on basic and applied research on bio-based solutions, the SLC will enable those working with and on the land, to understand and apply the many biobased solutions in practice.

Government funding will be used to build the SLC facilities as well as operating costs for the first four years (FY23 and FY4 in phase 1). Staffing would consist of academic and technical support staff, building maintenance and contribution to central overhead ascribed to the building.

V £10m for a new BioYorkshire Agriculture Incubator Hub at Askham Bryan College by FY24

We will incubate new businesses to commercialise technology, as well as encouraging learners at Askham Bryan Agriculture College to experience applied innovation first-hand – a significant purpose as we strive to see more farm focused people embrace change or diversify with new business models.

Government funding be used to construct 20 business start-up units at Askham Bryan College; specially designed for applied practical and technical businesses. Business units would provide uniquely outside 'dirty' space focusing on environmental sustainability and management as well as more traditional office and desktop space. Funding will also be used for the redevelopment of Askham Bryan College's Horticulture facilities; updated to focus on food production and the integration of STEM skills around the engineering of heat, light, power and irrigation

The aim of the Agriculture Incubator Hubs is to support the development and retention of graduate talent within the North of England. Business support and development would be provided through a collaborative approach with the University of York. Integration of newly formed business skills would form an integral part of existing and future curriculum development.

VI £10m for a Circular Economy Data Hub, active from summer 2022, complete by summer 2024.

The Circular Economy Data Hub (CEDH) will integrate new and existing diverse datasets for business development and accreditation, building on existing knowledge and hardware at Fera Science and the University of York campus.

The CEDH will develop and hold publicly accessible specialist data sets for environmental metrics, including land, water and air, and data instances on flows of materials and waste. It will build on existing expertise in integrating diverse data sets to enhance value and deliver an evidence-base to guide business and public strategies and create economic value in meeting UK and international sustainability goals.

The CEDH provides an opportunity capitalise on the opportunities that advanced IT, artificial intelligence, neural networks, block chain and big data provide to drive bio-based value networks and zero carbon farming. This will be developed in partnership with Capita (subject to qualification review by Capita CRC Board) which could leverage a contribution of c£3m over the three-year period.

Government funding will cover the set-up of the hub with equipment, as well as operating costs for staff, dataset management and marketing overheads. Capita, UoY and Fera Science will support the CEDH with 'in kind' contributions of datasets and marketing of the Hub to its user base.

Government support for the operating costs is expected for a maximum four years, although the funding proposal for Phase 1 only covers RDEL in the first two years. Initial revenue costs reflect significant data management set up and marketing support to create a robust and intuitive database whilst creating awareness through marketing and promotion. After four years it is expected CEDH becomes self-funding through business development and data consultancy fees as industry and academia seek analytical work and insight from the CEDH's data experts.

2. BioYorkshire District Incubator Hubs

Summary:

Bio-based entrepreneurs and SMEs, particularly in our rural areas, do not have local access to facilities and affordable space to start up and scale-up, as this activity and academia networks is largely concentrated in our city and larger towns.
BioYorkshire District Incubator Hubs will provide facilities and affordable space for entrepreneurs across our region – be that rural, coastal or urban. Due to their chosen locations (i.e. change-driven towns with a richness of feedstock, land and business potential), entrepreneurs will have access to resources to develop projects and grow their businesses. Bio-based entrepreneurs and SMES will have access to leading agri-tech and biotechnology experts from BYIC, as well as the breadth of industry and knowledge shared by BioYorkshire Accelerator, who will be active in visiting each hub. These hubs will also be set up to enable **cross-fertilised innovation across different sectors**, such as fashion/textiles or digi-tech.

Developing the Hubs will involve a combination of adapting existing buildings, brownfield sites or new builds, and designed to be a carbon neutral facility. To support this, an anaerobic digester will be established nearby, taking biowaste from the hub and locality to in turn, provide heat and energy for the hub and local community.

The full 10-year BioYorkshire programme comprises the roll-out of eight District Incubator Hubs within each of our districts which each have their own the distinct economic characteristics. In Phase 1, we are seeking **£25m (£20m capital and £5m revenue funding)** between **FY22 to FY24** to construct and **equip three new district hubs and anaerobic digesters in Scarborough (coastal-based), Ryedale (rural-based) and York (urban-based) by February 2023 and kick-start their operations**. Operating costs for the Hub thereafter will be covered by rental income from tenants. Similarly, Government funding will be used to pay for staff to operate each AD, but after three years it is anticipated the income from feedstock providers and energy provision will cover these costs.

We have prioritised these three locations for Phase 1 based on a number of factors, including engagement with existing bioeconomy activity and their accessibility to and from York with UK arterial roads and rail infrastructure.

The case for change

Our vision for the BioYorkshire District Incubator Hubs is to create a space across our coastal, rural and urban breadth that supports entrepreneurs, micro-businesses and SMEs; fostering these businesses to start up and scale-up. Specifically, we will support start-ups that focus on bio-based production of fuel, chemicals and materials, as well as net-zero food, feed, farming and wider land use.

Bio-based entrepreneurs and SMEs do not have access to facilities and affordable space to start up and scale up, particularly in our rural areas. In addition, they lack access to the best available technology and the opportunity to work with internationally leading experts to develop productive bio-based businesses across the expanse of YNY. This is because biotechnology knowledge, research and equipment are usually based within a university or expert science organisation and only communicated within existing academia networks. As a result, business and entrepreneurial skill development is usually city-based and small businesses do not consider setting up elsewhere across the region. When small businesses seek to start manufacturing, city land is limited, unaffordable or with many planning restrictions, which presents challenges in scaling up.

Five options were considered to address the above challenges and foster entrepreneurship across the region:

Option 1: Develop one central District Incubator Hub in York only;

Option 2: A hub and spoke approach, with one District Incubator Hub in York and each District Authority of North Yorkshire for a total of eight hubs;

Option 3: Three District Incubator Hubs: one in a coastal, rural and urban area;

Option 4: Hubs with proximity to largest industry, largest population and workforce;

Option 5: Hubs with greatest geographical spread from York and complete feedstock diversity

A qualitative assessment was undertaken for each option, based on the critical success factors for the programme and achieving an optimum balance between costs, benefits and risks. These factors included:

- **Diversity** of industry, feedstock, business and entrepreneur awareness, and skills (e.g. science, entrepreneurship, finance)
- **Accessibility** of feedstock, skilled workforce, and infrastructure to allow export ease
- **Affordability** of land for manufacturing, as well as affordable translation and commercialisation with robust business models
- **Resilience** through specialisms in different areas and local supply chains; stimulating industry growth where there is a particularly unique opportunity e.g. Coastal region with aquaculture, ocean plastics.

In YNY, each local authority has a different area of industry specialisation. The diversity of industry and available feedstock requires a tailored assessment and suitable bio projects will differ by area (e.g. woodland, arable, marine). Therefore from this options assessment, we identified Option 3 (the hub and spoke) as the preferred option on the basis it has most potential to address the market failures that prove a barrier to potential entrepreneurship outside of cities; provide opportunities

across North Yorkshire's regional diversity; and ensure rural and coastal communities are not left behind.

A phased approach to Hub introduction was considered to be the most effective in terms of delivering our vision, as it enables us to learn and modify Hub operations and impact, plus adapt the design and resources as the districts as well as biotechnology and agri-tech progress. Further criteria were considered explored to determine the prioritisation of areas including: pipeline of potential bioeconomy projects and tenant; historic rate of start-up success and survival; appropriate existing infrastructure and land availability; and ease of integration with existing workforce and local school / training / community facilities.

Our offer and proposals to Government

For **Phase 1 of the BioYorkshire programme**, we are seeking **£25m between FY22 and FY24** (see Appendix 5 for RDEL/CDEL breakdown per annum) to deliver **three District Incubator Hubs and anaerobic digesters.** Government funding will cover two thirds of the upfront construction and all equipment costs, as well as three years of staff and overhead costs. Private sector funding of £20m is expected to cover the remaining third of construction as well as purchase or leasing of land and establishing infrastructure.

For phase 1, we have prioritised constructing the first three new District Incubator Hubs and the first three years' operating costs. Thereafter it is expected that tenant charges for hubs and feedstock plus energy income for ADs will cover the future operating costs. For all three hubs, we are now moving to the feasibility stage of evaluating options to determine the best sites in these areas. The three locations are:

- **A coastal-based Hub in Scarborough,** in order to leverage the marine based biomaterials and differentiated skills from the North Sea industries, the world's largest potato company – McCain Foods, as well the newly established Seagrown; the UK's first offshore seaweed farm. Importantly, this district has higher than average deprivation[27] to which the Hub provides the catalyst for new employment opportunities.
- **A rural-based Hub in Malton, Ryedale** which is home to Yorkshire's food capital, the first circular economy market town, two world leading engineering businesses (Ellis Patents and Hydramotion) and the Tofoo company; one of the UK's fastest growing food companies. The district also has the, highest business survival rate in the region at 55% (ONS 2017).
- **An urban-based Hub to be known as the Bio-Business Park, York** aligned with the BDC open access facilities in York. In addition to development in the capacity and capability of the BDC facilities (discussed in the previous section), there is an opportunity to provide additional flexible, well serviced lab, office and warehouse space for small businesses. The BDC currently hosts a small number of other businesses within its premises and, as part of BioYorkshire, this model will be developed as an incubator hub providing space for start-ups and SMEs, to establish their own operations while seeking the specific expertise and open access facilities of the BDC.

The District Incubator Hubs will be operated by the BioYorkshire team.

[27] In latest Index of Multiple Deprivation 2015 data, it is ranked 90th most deprived out of 326 lower tier local authorities with three LSOAs in Scarborough town within the most deprived 1% in England

The Incubator Hub space will be delivered through a public/private partnership model; working with a developer who will co-fund and co-own the new business unit facilities.

Federation of Small Businesses (FSB) Development Manager, North Yorkshire *states "We are keen to see the world leading bioeconomy expertise of our region shared with the smallest businesses and see this project BioYorkshire, as not only helping businesses to achieve net zero, but as an enabler to kick start greater innovation and skills development. We feel this project will have far reaching and long term impact, not only on the transformation of businesses to carbon neutrality, but in fostering greater entrepreneurship and enterprise in the biotech sector and beyond, and we are confident that the continued collaboration and approach proposed can deliver this effectively."*

3. BioYorkshire Innovation Accelerator

Summary:

BioYorkshire Accelerator's primary purpose is to address the lack of connectivity between academia, industry, investors and the public sector, as well as between industry sectors to promote adoption of and investment in innovation. There are three key areas of focus: fostering connectivity; encouraging bio-based entrepreneurship; and bringing global visibility to BioYorkshire as a CoE.

In Phase 1 of the BioYorkshire programme **we are seeking £15m of revenue funding between FY22 to FY24 to roll-out the Accelerator resource (£3m) and match funding incentives (£12m) across the region and industries.** These activities will be supported by a consortium of organisations, including the LEP and Federation of Small Businesses; spearheaded by BioVale, the University's existing bioeconomy network and training organisation. Importantly Accelerator activity can start immediately the programme is approved, since it is not reliant on new builds or equipment. These activities will take place across BYIC, the District Incubator Hubs, as well as speaking at and taking part in events across the world.

The case for change

Many bio-based innovations in the region remain at concept stage (rather than progressing to commercialisation) or struggle to scale-up operations. This is because traditional access to capital - particularly for start-ups, microbusinesses and SMEs - is limited due to long timescales and uncertainty on return on investment. Private sector investment also does not account for benefits from innovation accrued to other industries. This innovation market failure is particularly acute in the bioeconomy because the sector lacks the established business models for innovation that are available in other sectors, such as pharmaceuticals.

The lack of knowledge of the potential benefits and value that can be extracted inhibits potential R&D exploration alongside the lack of connectivity across sectors for mutual benefit, where insights could be shared, e.g. the attributes of potato starches in clothing or 3D printing or where one industry waste would be another industry's raw material.

The aim of the BioYorkshire Accelerator is to create awareness of the possibilities and the connections whilst de-risking the translation of proof-of-concept bio-innovations to commercialisation. This will be done by focusing on three areas:

- **Connectivity:** Expanding the existing integrated cluster, BioVale, the Accelerator will leverage capability from the LEP, Innovate UK and other private organisations to strengthen connectivity between academia, SMEs, industry and investors to accelerate knowledge transfer and IP commercialisation across industries and foster new supply chains. A key activity will be investor engagement and financial partnering as well as responding to emerging industry needs, skills, knowledge and data capture and transfer.
- **Entrepreneurship:** The BioYorkshire Accelerator will offer strategic advice, mentoring and training for entrepreneurs as well as clean growth audit, transition and clinic services. Importantly it will offer competitive match funding to de-risk private investment in innovative entrepreneurial spin-outs, start-ups and scaleups. Specialist teams will enable entrepreneurs in the BioYorkshire District Hubs to access the skills and technology provision in Innovation Central, connect entrepreneurs and SMEs to larger businesses, support development of new inter-sectoral value and supply chains based on wastes and by-products, connect investors to new investment opportunities.
- **Global Visibility:** Yorkshire is already the most widely recognised English region internationally for the bioeconomy. The BioYorkshire Accelerator will build on this global profile and existing connections with international clusters to confirm YNY as the UK's Go-To place for biobased innovation. It will partner with clusters in Asia and the USA, connecting international businesses and investors to BioYorkshire research, innovation and SMEs. We will also support a programme of exhibitions and trade missions to showcase our businesses and innovation capabilities and attract inward investment and open export markets.

Examples of known challenges where solutions are already sought:

- *What might be the business model where a second company can extract value from the first company's waste stream?*
- *What different markets and features can be identified for farming to create a viable market for wool based packaging? What is the financial structure for hemp to be grown at a commercial quantity for housing and with a secured contract?*
- *How can microplastic be commercially and consistently removed from digestate?*
- *What high value can be extracted from racing stables waste/ tofu/ shellfish waste?*
- *How can plastic packaging for frozen food be replaced with a biobased, compostable alternative that remains safe for food use and robust for transit, handling and 18 months storage at -18%?*
- *How can crops be grown commercially with 90% less water?*

We will achieve this by expanding the existing integrated cluster, BioVale which is already recognised internationally in attracting and providing critical connectivity between the many different sectors engaged with the bioeconomy and building further partnerships with potential organisations such as

the Federation of Small Businesses , Confederation of British Industry, Barclays Eagle Labs, and National Farmers Union.

BioVale is a not for profit company which provides support to build the region's capability and reputation as an innovation cluster for the bioeconomy and ensures that it fully exploits new business opportunities in this sector. Their activities include giving regional businesses access to the latest bioeconomy research and expertise ; providing specialised training, facilities, funding and other support; facilitating networks, dialogue and partnerships amongst the region's bio-based innovators and their supply chains; promoting the region's bioeconomy assets to export markets, investors, policy makers, and funders; and connecting with global markets via formal linkages with European clusters and BioVale-organised trade missions. In an emerging, disruptive sector, BioVale provides tailored entrepreneurial training for start-ups and, via the THYME project, post-graduate students and early career researchers.

"We know that there is value to be added to organic by-products from our operations. BioVale gives us streamlined access to a knowledge base that can help us do that." ***Christine Parry, Co-products Development Manager, AB Agri***

Our offer and proposals to Government

For Phase 1 of the BioYorkshire programme, **we are seeking £15m of revenue funding between FY22 and FY24** (see Appendix 5 for breakdown per annum) **to deliver the first phase of the Innovation Accelerator resources** across YNY. £3m will be used for resourcing and £12m for match funding incentives.

Resource funding is expected to cover a team of five people incorporating BioYorkshire oversight, operations and administration as well as expanding the BioVale reach and events, plus five people focused on developing and supporting entrepreneurs before and in district hubs (training, advising, evaluating). Resources will be responsible for delivering the following activity:

Locally

- Facilitating competitions to provide match funding to new innovations which includes promotion, project assessments/due diligence, monitoring and evaluation
- Providing advice and support to entrepreneurs and SMEs to access funding/capital to start up or scale up their businesses
- Identifying and sharing emerging industry needs, knowledge data capture and transfer learnings for best practice to District Incubator Hubs occupants
- Establishing the culture of entrepreneurship in YNY as the Golden Triangle of the North
- Connecting universities and industry to provide research and advice on carbon reduction, extracting value from waste, circular and bioeconomy, signposting to relevant Innovation Central partners

Nationally and globally

- Promoting YNY as the UK's CoE for bioeconomy innovation
- Meeting with private sector investors to attract inward investment

- Offering effective and practical relocation support
- Sharing research and discoveries that deliver solutions for societal, environmental and economic challenges

It is our intention that the Accelerator network and resource has the potential to step-change connectivity across the bioeconomy and so become the Trade Body for this industry and its players. In achieving this, the Accelerator will become a membership and fee-based organisation thus covering its ongoing operating costs. In Phases 2 and 3 of the BioYorkshire programme, the Accelerator activity would continue as well as introduce monitoring and evaluation of the match funding activity.

10 Energy

Strategic context

Tackling climate change and reducing our Greenhouse Gas (GHG) emissions is one of the biggest challenges facing our society and must be tackled on a global, national and local front. This has been recognised by Government in its legal commitment to reach net zero by 2050[28] and in our own decarbonisation approach; with our Local Industrial Strategy (LIS) ambition to become Carbon Neutral by 2034 with the further ambition to become England's first carbon negative region by 2040 and move towards a circular economy.

The scale of our ambition is made possible by our unique innovation and industrial capabilities; our nationally significant business base in low carbon energy (such as Drax); along with the diverse and extensive landscape and natural capital owing to our rural geography. Taken together, this means we have the potential to host future large-scale Carbon Capture, Usage and Storage (CCUS) plants and deploy high capacities of renewables[29].

Many sectors will have to take significant action to meet the net zero target and in doing so there is a clear need for a locally-led, place-based approach in particular energy solutions, including decarbonising heating systems; improving energy efficiency; and local renewable electricity generation to meet current and future growth needs. This is alongside embedding low carbon across all of our traditional policy areas – from transport, housing and town centres through to skills and business support.

Beyond the environmental and health benefits of reducing emissions, there are significant economic opportunities locally and nationally in the transition to low carbon energy technologies with growth in new high-value industries and more productive, higher-paid jobs. Seizing these economic opportunities will be critical to a successful economic recovery from COVID-19 and locking-in a 'new reality' in the medium term which supports long-term policy objectives.

We adopted our Local Energy Strategy in February 2019, and in November 2019 became the first Local Enterprise Partnership (LEP) to develop and start implementing a Circular Economy Strategy to transform the region to a circular economy.

We have developed a network of over 200 partners and wider stakeholders to support the implementation of these strategies and deliver a range of collaborative projects. We have developed a pipeline of low carbon energy projects and collaborative circular economy initiatives. For example, we are working with partners (including Yorkshire Water and the University of York) to trial an innovative portable anaerobic digestion facility in Malton, which is part of a wider initiative to create the UK's first Circular Malton Town. We are also developing programmes to support organisations to decarbonise. For example, we have established an SME programme, called ReBiz, to support businesses become more resource efficient and adopt circular operating models.

[28] Following the Committee on Climate Change (CCC) May 2019 report 'Net Zero: The UK's contribution to stopping global warming'

[29] Element Energy (2020) Carbon Abatements Pathway Study

We are now working as a region, alongside private sector partners, on a Carbon Abatement Pathway Study with support from Element Energy[30], which is due to be complete by early 2021 and aims to establish a comprehensive roadmap of interventions for delivery by Government, York and North Yorkshire (YNY) authorities and industry against our ambition of becoming a carbon negative region by 2035.

Whilst we are advanced in our approach, through our work to date developing our Local Energy Strategy, LIS and Carbon Abatement Strategy, we have identified a number of critical challenges in the delivery of our ambition. These include:

- **National policy uncertainty** – means that it is difficult to develop a robust roadmap of local and national interventions up to 2035 that will get us to carbon negative.
- **The scale of the challenge in addressing housing retrofit** – 68% of YNY's housing stock must be raised to a minimum of EPC level C, costing an estimated £8-18 billion. High upfront costs and slow return of investment in reduced energy bills, are compounded by a high proportion of dispersed, off gas grid homes.
- **Low renewable energy generation within the region** – due to a lack of capacity and capability for project development and a lack of availability for funding for feasibility studies, national and local policy barriers,
- **Low innovation in low carbon energy generation scheme** – Due to difficulty securing finance for projects looking utilising innovative business models.
- **Financing smaller, 'low value' projects** – despite growing interest in ESG investing, investors simply do not have the time or resources to invest in individual low value projects leading to a dislocation between projects and available funds. We need a high number of these smaller, 'low ticket', energy projects to reach carbon-neutral targets within the region.
- **Reliance on CCUS to decarbonise** – decarbonisation of the region and national grid is reliant on scaling up rapidly emerging CCUS technology and putting in place the infrastructure required to transport, store and use the captured carbon.

Against this background, we are seeking to work jointly with Government to develop and finalise our long-term roadmap to carbon negative, and secure support for the roll-out of short-to-medium term interventions. These interventions have been identified through our work to date as being key to addressing our decarbonisation challenges and offering significant economic opportunities for our region and the national economy.

Specifically, we have six proposals to Government, which are:

1. **Joint working to develop and deliver YNY's Roadmap to become a Carbon Negative Region**
2. **Funding for a 5year place-based Low Carbon Housing Retrofit Programme**
3. **£8m for regional-level capacity and feasibility work for strategic low carbon energy projects**
4. **£42m for a Low Carbon Energy Generation Demonstrator Programme**
5. **Joint working with Government to develop and implement a pan-Northern Regional Green Bond**
6. **Joint working with Government to accelerate the roll-out of CCUS technology**

[30] Element Energy (2020) Carbon Abatements Pathway Study

The detail of each of these proposals is outlined below.

Our proposals for low carbon energy

1. Joint working with Government to develop and deliver our Roadmap to become a Carbon Negative Region

Summary:

Whilst YNY are very supportive of the decarbonisation work Government are undertaking on a national level, we believe there is a need to establish a local level Road Map for achieving carbon neutrality. This roadmap will set out the investment and interventions needed to achieve carbon neutrality. Moreover, our region has the potential to go beyond carbon neutral and be carbon negative by 2040, but this will require a strategic and holistic approach to the planning and delivery of interventions in our region.

We have already completed a significant amount of work through our Carbon Abatement Study, working in partnership with key local players to develop a comprehensive and deliverable Road Map for decarbonising our economy, with an aim to finalise this work by early 2021. **It is critical that this work locally fits into the national approach and, to ensure this alignment, we are seeking joint working with Government over the next 12 months to finalise our Road Map to become carbon negative and deliver it over the medium-term.**

From this joint working we will be able to capture lessons learnt from our work to inform wider national policy and tackle challenges faced in implementation that cannot be solely resolved regionally.

The case for change

Decarbonising our economy is a sizeable task and requires a holistic policy, planning and delivery approach to tackling the challenges faced on the road to Government's Net Zero target and our objective of being carbon negative, as well as seizing the economic and social opportunities offered in achieving this structural change.

As stated above, we are developing a Roadmap Towards Carbon Negative, in collaboration with private sector partners, to identify a series of decarbonisation pathways for key sectors of our economy, including transport, buildings, industry, power and land use, land use change and forestry (LULUCF) and agriculture.

We are aiming to finalise the Strategy by early 2021, which will establish a comprehensive and deliverable roadmap for decarbonising our economy, including low carbon energy and circular economy measures. Implementing these measures will require action from industry, our local authorities and Government.

The key output of this work will be a deliverable Roadmap for YNY to become carbon negative, including plans for low carbon electricity and heating, CCUS deployment and moving towards a circular economy. This roadmap will define the optimal mix of technologies and measures to be deployed in the region to deliver decarbonisation and wider benefits to our communities, businesses and environment.

This work is also being used to shape our COVID-19 economic recovery plan; ensuring that any short-term interventions contribute to reducing carbon emissions, as well as stimulating our economy and benefitting local communities.

The carbon abatement pathways we are developing are based upon three potential alternative scenarios:

- a max ambition scenario (aiming for carbon-neutral by 2034;
- high hydrogen scenario (carbon-neutral by 2038); and
- balanced hydrogen scenario (carbon-neutral by 2038).

Key industry partners, including Northern Powergrid, Northern Gas Networks, Drax and Yorkshire Water, are already highly engaged in the work due to their instrumental role in delivering a pathway to carbon neutral and beyond to carbon negative. As a region, we recognise the importance of establishing these relationships to ensure we leverage and maximise private sector action in our region, and in turn get maximum VfM from any local intervention.

However, it is also critical that our plan fits into a national approach of achieving net zero and that any local intervention aligns with, and does not substitute, Government policy intervention and investment. The delivery of all pathways is highly dependent on forthcoming national policy, particularly around decarbonising heat, energy efficiency, hydrogen and CCUS. Recent Department for Business, Energy and Industrial Strategy (BEIS) consultations on aspects of low carbon heating[3132] and CCUS[33] suggest a considerable amount of work is currently underway in Government to progress policy forward. However there remains a lack of overarching steer for local regions to progress our own plans to tackle decarbonisation in our regions, particularly with respect to long term business models for new technology and infrastructure support.

Our offer and proposals to Government

As we continue to develop and finalise our Carbon Negative Roadmap, we are seeking to work jointly with Government to:

- Develop and establish a Carbon Negative Roadmap for YNY by early 2021 setting out the investment and interventions needed to achieve carbon neutrality
- Take lessons learnt from our region as a “trailblazer” to inform national policy and for other MCAs and local areas to follow Implement the Roadmap, including a collaborative approach for addressing challenges faced in implementation that cannot be solely resolved regionally

To develop the Carbon Negative Roadmap, we are seeking to work with Government by:

- A Government representative to sit on our Carbon Negative Circular Economy Steering Group (who meet every two months)
- Relevant Government representatives to attend 5 sector-specific workshops throughout August and September 2020 to co-design policy recommendations to implement findings from the Carbon Abatements Study

[31] BEIS (2020) Future support for low carbon heating
[32] BEIS (2020) Heat Networks: building a market
[33]BEIS (2019) Carbon capture, usage and storage: business models

- Meetings every 6 months to progress solutions to challenges which have national implications

2. Funding for a 5-year place-based Low Carbon Housing Retrofit Programme

Summary:

Decarbonisation of existing buildings and homes is a fundamental but challenging requirement in the transition to net zero. Given the upfront costs of retrofit for energy efficient and low carbon heating, public intervention and innovative funding and financing approaches will be required in order to decarbonise the existing property stock at pace and scale.

Our region has a high portion of energy inefficient housing, with 68% of our housing stock (257,000) currently below EPC Level C, with a high number of off gas grid properties (~71,000) which face additional barriers to decarbonisation. Whilst YNY are supportive of Government's proposed scheme to support the fuel poor off gas grid properties, this leaves 66% of our housing stock (249,000 homes) still requiring retrofit.

There is a strong case for a place-based solution to address this gap; tackling the location-specific characteristics of our housing stock and building a strong local value chain, including maintenance and repair. **We are seeking funding for a 5-year, place-based Low Carbon Housing Retrofit programme, commencing in FY22, to provide whole retrofit solutions for private housing targeted at decarbonising heating and achieving a minimum of EPC Level C.**

Please note a figure will be included prior to submission to government.

This programme will be designed to maximise the use of public funds, unlock additional private capital and will comprise a package of integrated interventions, including: working with industry to achieve cost reduction; establishing low cost financing options; and offering grants to bridge any remaining funding gaps.

The case for change

Homes and buildings in a carbon negative future will have to be energy efficient and heated with low carbon heating systems. Whilst national building regulations (such as Future Homes Standards) are in place to ensure new build homes satisfy these two requirements from 2025, 90% of our country's housing stock in 2050[34] will be houses which exist today, thus a major challenge ahead of us is to retrofit our existing housing stock.

The housing retrofit challenge is particularly pronounced in YNY, owing to our region's rural demographics and landscape, with a higher proportion of inefficient, off-grid and older buildings than the national average.

- 68% (257,000 homes) are below EPC level C– compared to 62% nationally[35]
- 19% (71,000) are off-grid properties – compared to 15% nationally[36]
- 24% were built before 1919 – compared to 19% UK wide

[34] Citizens Advice (2019) Keeping Warm: the future of heat
[35] EPC certification data/national housing surveys
[36] NNFCC (2019), Evidence Gathering for Off-Gas Grid Bioliquid Heating Options

Ambitious energy efficiency improvements are needed in the 2020s to reduce energy demand and support the technical feasibility of low carbon heating systems[37]. To become carbon neutral by 2034 we must raise 257,000 homes to a minimum of EPC level C, which through our work to date is to estimated cost between £8-18 billion for energy efficiency measures alone.

Installing a low carbon heating system, such as heat pumps, will be vital to significantly reducing emissions in our region. Approximately 13% of YNY's emissions come from heating our homes. The high number of rural and dispersed off-gas grid houses in our region (c71,000) presents a challenge due to increased costs of retrofitting and difficulty achieving economies of scale. Off gas grid properties should be high priority when tackling the wider heat decarbonisation challenge as their current fuel will likely be carbon intensive.

Improving energy efficiency and installing low carbon heating in homes require upfront costs which certain households in our region will not be in a position to finance themselves, despite the potential long-term savings to their energy bills from efficiency measures. In addition, when current heating systems have come to the end of their useful life and a property owner is faced with the options of replacing with a new solution price factors will often mean a sub-optimal solution with respect to emissions.

It is estimated that efficiency retrofits in YNY will cost between £6,880 and £30,979 per property. The cost varies widely depending on the home fabric type, size, current state and existence of supporting systems. Installation of heat pumps and a low temperature heating system is estimated to cost an additional £10,687 per property[38].

Heating solutions also have a considerable lifetime, typically 10-20 years[39] which can introduce additional challenges in decarbonisation heating:

- Many existing carbon intensive heating solutions will not be due to be replaced for decades. These properties have no financial incentive to installing a costly low carbon solution. With a low average replacement rate per year the move to low carbon heating will be slow.
- When a system is due for replacement a decision to choose a 'dirtier' solution will have substantial long-term embedded carbon footprint impact and therefore taking the right decision at the point of replacement is imperative to meeting our longer-term goals.

In addition, with two National Parks – Yorkshire Dales and North York Moors – there are building restrictions on properties within the parks which can make retrofitting more challenging and costly. For example, installing heat pumps requires going through a more complex planning process, and installing insulation measures may be more expensive to maintain the features of the property. Collectively, these factors contribute towards fuel poverty especially with off gas properties where the heating is mainly oil or liquefied petroleum gas.

There are some existing and proposed support mechanisms in place to help remove this upfront cost from consumers and encourage retrofitting of inefficient houses and install low carbon heating solutions. These include the Energy Company Obligation (ECO) scheme, the proposed Home Upgrade Grants (HUG) for energy efficiency improvements and the newly proposed Clean Heat Grant (CHG) outlined in the recent BEIS consultation 'Future Support for Low Carbon Heat' to support low carbon heating systems.

[37] Element Energy (2020) York and North Yorkshire Carbon Abatements Pathways Study

[38] Cost assumed for heat pumps also includes installation of a low temperature heating system £7,175 + £3,512. (Element Energy, 2020)

[39] Currie & Brown and AECOM (2019) The costs and benefits of tighter standards for new buildings

The proposed HUG programme is focused on supporting off gas-grid, fuel-poor homes. Through the proposed £2.45 billion pot, we would expect approx. 8,000 homes in our region to receive support (based upon division between Local Energy Hubs). The CHG is still in the early stages of proposal and therefore it is unclear what level of support this will provide our residents.

This leaves up to 63,000 off-gas grid homes in our region and up to 186,000 homes connected to the grid (subject to the number capable of access support through ECO and HUG schemes) which require energy efficiency retrofitting or low carbon heating system installation without clear support.

This gap in support will have to be bridged if we are to meet Government's net zero goals and, as supported by the Energy Systems Catapult[40], this requires a local approach to the design and delivery of such support. The Catapult's evidence identifies that local design and delivery of housing retrofit programmes will:

- Build local skills in low carbon heating and cooling technicians - reducing installation costs through economies of scale and standardisation.
- Targeting specific populations – focusing on pockets of fuel poverty and areas in need of greater redevelopment and responding to the ability of the local residents to pay.
- Respond to specific characteristics of local housing stock - factors like building age and condition which will be common trends across regions, can be efficiently tackled
- Accommodate wider regional implications – impacts on changing energy demands, such as increased electricity demand from heat pumps, can be addressed locally in line with other regional developments

Our own analysis also identified significant opportunities for economic growth from installing low carbon energy technologies and developing their value chains in the region. For example, analysis undertaken for our Local Energy Strategy identified:

- The economic contribution of energy efficient insulation to our region has the potential to grow from £41m to £62m GVA 2017-2030, and for heat pumps, from £8m to £324m 2017-2030[41] within the area.
- The promotion of domestic energy efficiency measures alone is estimated to generate over 1,000 jobs in the region.[42]

In addition, improving energy efficiency within housing stock and moving towards 'cleaner' energy sources offer substantial health benefits. There is a clear link between cold homes and ill health, where existing conditions (such as respiratory conditions or mental health conditions) are exacerbated.

Our offer and proposals to Government

To address the challenges facing the decarbonisation of our housing stock **we are seeking funding to establish a place-based, Low Carbon Housing Retrofit Programme delivered over a 5-year period between FY22 and FY26.**

[40] Energy Systems Catapult (2020) Six Steps to Zero Carbon Buildings
[41] Cambridge Econometrics and Element Energy (2018) Low carbon energy value chains study
[42] Ibid (Note. 1400 jobs estimated for York, North Yorkshire and East Riding)

The programme will focus on the private housing stock, and support the roll-out of whole retrofit solutions to decarbonise heating and achieve a minimum of EPC Level C.

The **Low Carbon Housing Retrofit Programme** will provide a strategic and holist approach which:

- **Recognises the interdependency between energy efficiency and low carbon heating systems** (e.g., energy efficiency measures are a pre-requisite to heat pumps);
- **Provides a package of interventions that maximises impact with minimal public spend**, leveraging private sector investment wherever possible; and
- Includes **a phased delivery approach** based on where interventions are most needed and have **maximum impact on our economic and environmental objectives**, and thus VfM.

The programme will combine a package of policy measures and financial support initiatives, including:

- **Working for industry to achieve cost reduction:** Uses market mechanisms to stimulate markets through implement other cost saving interventions such as bulk buying and competitive tenders for long term contracts for a systematic roll out of building level installations (defined within the Roadmap)
- **Commercial models to stimulate market:** Put in place a low-cost finance programme with technology providers, potentially through the use of pay-as-you-save programmes or simple repayment plans
- **Financial support for households:** Provide grants to bridge remaining capital cost gap where necessary with a focus on fuel poor and vulnerable customers.

The Programme will be managed by the MCA and, through its integration with our skills proposal to build technical skills in low carbon installation and the creation of buying power in the region, will benefit local supply chains and offer employment opportunities to local residents. This package of interventions will also create an approach capable of being rolled out nationally, particularly in rural areas which face similar challenges to our region.

Through our ongoing Carbon Abatement Study work for buildings, we are working with stakeholders to map out the role of different players in retrofitting our region's existing housing stock. This will establish a Roadmap of strategic policies and programmes to retrofit existing housing stock by early 2021and inform a detailed business case for this programme by September 2021. June to September 2020 will be a thorough period of stakeholder engagement to develop a greater understanding of the current retrofit landscape in YNY, existing barriers and the package of interventions that are required to accelerate retrofitting. From November 2020 we will be working with partners to develop the Low Carbon Housing Retrofit Programme, with the business case finalised by September 2021.

3. £8m of development funding for strategic low carbon energy generation projects

Summary:

There is a need to dramatically ramp-up the deployment of low carbon generation in our region from current levels, which are significantly below the national average.

Most of the projects within our region remain in concept stage and in the absence of public support to kick-start their development, will not progress to being 'investment ready'. Local funding constraints mean we lack sufficient capacity and capability to provide this support. However, this investment pipeline is critical to achieving a green recovery from COVID-19.
We are seeking £8 million in revenue funding between FY21 and FY25 to scale up our strategic capacity at the regional level and provide flexible, wrap-around project development support, covering three different services in the development cycle of projects:

1) Pre-feasibility support;
2) Funding for feasibility studies; and
3) Business case development.

This will support development work for local authority-led projects, non-rural community energy projects and innovative projects which involve private and public sector collaboration.

The case for change

To meet the UK's carbon targets to address climate change, the UK must decarbonise its energy supply. The CCC stated in their Net Zero report that renewable generation may have to increase the current levels of c.30-40% to a penetration of wind and solar of up to 65%[43] of our growing electricity demand by 2030.

In YNY, to achieve our carbon neutral targets by 2034, we must dramatically ramp up low carbon generation within the region. There are currently comparatively low levels of low carbon energy generation in YNY compared to the rest of the UK. Despite representing 3.4% of the UK's land area, we have just c.0.7% of the countries solar and c.0.6% of the countries onshore wind.

Recent research by Element Energy shows that to meet local and national carbon targets we must significantly increase low carbon energy generation within the region at an average build-out rate of 108 MW/year for Solar PV and 66 MW/year onshore wind until 2030.

Utility scale generation will address some of the required build-out rate and is a mature and buoyant market which is well supported through the private sector. However, there are certain types of projects that will not progress within public support to kick-start their development, which include:

- **Local authority led projects** - as an emerging priority within the Climate Action Plans being developed by our local authorities, we are looking to develop and own low carbon energy projects, such as smaller scale Solar PV and onshore wind projects.

[43] Committee on Climate Change (2019) Net Zero - Technical Annex: Integrating variable renewables into the UK electricity system

- **Non-rural community energy** – there is potential within our key towns in Selby, Scarborough and Richmond to develop community energy schemes, but these towns are too large to access the Rural Community Energy Fund (RCEF). Projects could include on-site renewable energy generation for schools, town halls and leisure centres.

- **Innovative, multi-party projects** – these projects include a consortium of partners (such as a group of businesses on an industrial site coming together to develop a project for on-site renewable energy generation) or are seeking more innovative approaches where more in-depth feasibility is required (such as development of a portable anaerobic digestion facility).

These projects face barriers which do not allow them to be developed through to becoming 'investment-ready'. Within our Local Energy Strategy project pipeline, 14 out of the 20 projects identified as potentially playing a major role in decarbonising the energy system remain at concept stage. These projects support the delivery of our placed-based strategic priorities within our Local Energy Strategy:

1. Support towns, rural communities and businesses benefit from energy independence
2. Create an energy smart City of York
3. Develop 'resource efficiency clusters'
4. Create a circular agri-food sector

The pipeline encompasses a range of opportunities, including those to decarbonise our energy supply, such as low carbon community energy projects, creating a network of small-scale anaerobic digestion facilities, and renewable energy generation on industrial sites.

The barriers which are holding back the development of these types of project include:

- **Feasibility study funding** – Feasibility studies consider factors such a technology and commercial viability to identify indicative costing for that project and assess if it is worth further development. These play an important role in progressing projects from concept stage to detailed development (e.g. progressing planning and consents work and working up detailed business plan). However, current funding sources for locally led feasibility work in low carbon energy generation, such as the recently made available £100k for feasibility studies from YNY LEP's LGF, tend to be ad-hoc and small-scale. This is particularly the case for the project types listed above. Due to resourcing implications and the perceived risk levels, local authorities and the private sector are reluctant to provide upfront capital for these types of feasibility studies. This market failure means that many potentially successful projects are never delivered.

YNY LEP recently made £100k available for low carbon energy feasibility studies, which was substantially over-subscribed with £1.2m of LEP support requested from local authority partners and the private sector. Proposal applications included community energy projects, on-farm anaerobic digestion and biomass pellets. This evidences the demand for feasibility study funding and the value of a feasibility study funding pot to draw potential projects out and advance them beyond concept stage.

- **Identifying viable commercial model**– The rurality of the region reduces the commercial viability of some low carbon energy projects, requiring more innovative funding models to be developed which de-risk investment. This work to progress projects from feasibility stage to investment-ready

requires the development of a detailed business case. However, access to support and expertise to develop more innovative business models to establish robust business cases is a key barrier.

- **Local capacity and capability** – alongside funding constraints technical and business case work, within our LEP and across local authority partners we lack the capacity and in certain technologies the technical expertise to oversee and deliver this work at the scale and pace required.

There is a clear opportunity here to accelerate the development of low carbon energy projects through the feasibility stage and develop a robust business plan to get them to a stage of being investment-ready and deliverable as early as possible in the 2020s.

Our offer and proposals to Government

We are seeking £8m of revenue funding between FY21 and FY25 to support development work for low carbon energy generation projects. This will enable us to scale up our strategic capacity at the regional level and provide flexible, wrap-around project development support, covering the concept, feasibility and business case stages as follows:

1. **Concept-stage development work (pre-feasibility)** – This will provide capacity at the YNY level to identify and prioritise the low carbon energy generation opportunities that have maximum potential in our region and develop 'concepts' up to the stage where a feasibility study can be commissioned. This will enable us to accelerate and expand upon our current project pipeline.
2. **Feasibility studies for prioritised projects** – We will create a funding pot for feasibility studies by local projects in energy generating technologies. The fund will be administered by the MCA and will be prioritised and allocated to individual projects through a robust assessment processes, building on the significant experience of the LEP in this space. This will involve a quarterly call for projects process, wherein proposals will be assessed against key prioritisation criteria, including strategic fit, VfM, affordability, deliverability and social value.
3. **Business case development** – We will create a funding pot to support the development of projects post-feasibility stage and establish a robust business case. This support would be expected to move projects to the 'investor ready' stage. This will similarly involve a quarterly call for projects, wherein proposals will be assessed against key prioritisation criteria, including strategic fit, VfM, affordability, deliverability and social value.

This £8 million funding proposal over 5 years between FY21 and FY25 comprises of:

- £1m to establish a team of three within the MCA to undertake concept-stage analysis and policy development; develop project plans; design and manage the funding processes for feasibility and business case support; and provide wrap-around support to accelerate development of projects.
- £5 million to provide funding for up to 50 feasibility studies over the programme duration. These will be procured externally, rather than carried out in-house due to the range of technical expertise that will be required. However, the MCA team will oversee these commissions.
- £2 million to procure external technical support to establish robust business cases for projects to reach investor-ready stage, with an expectation of supporting up to 50 projects. It is expected that not all projects at feasibility stage will feed through to business case stage, but at the same time support may be required from other projects that come forward which have already been developed to feasibility stage through other mechanisms.

Due to the types of projects being supported, state aid assessments will be required, and match funding will be sought where possible. (Match funding requirements will be developed in further detail for types of projects)

4. £42m Low Carbon Energy Generation Demonstrator

Summary:

Increasing low carbon generation in our region is a key component to meeting our carbon neutral negative ambitions and contributing towards the Government's Net Zero target. However, many projects which represent close-to-market solutions face barriers in accessing funds to demonstrate their innovative business models or trial new technologies.

We are seeking £42million of funding between FY22 and FY27 for a Low Carbon Energy Generation Demonstrator. The 5-year programme will look to support an estimated 15 low carbon energy projects through a grant which will be match funded by applicants. Candidate projects are expected to be within one of the following areas:

- Community Energy Demonstrator Projects
- Novel technologies demonstrator projects
- Business model innovation projects

The programme will demonstrate projects that operate at an area-wide and/or whole-systems scale; delivering substantial carbon savings, energy supply resilience and employment opportunities through the technology value chain. The programme will also provide an approach that can be replicated in other areas across the country, thus providing solutions that will enable us to 'build back better' both regionally and nationally in a green recovery from COVID-19.

The case for change

Alongside the barriers associated with project development for proven technologies, a further barrier to increasing low carbon energy generation in our region is the deployment and testing of more innovative technology types. Whilst large scale energy projects with well-established commercial models can easily access investment (e.g. utility scale solar and wind), projects that trialling innovative technologies and/or rely on more novel business models are not readily investable by the private sector. However, these solutions will play a critical role in achieving carbon neutrality (linking into our policy objectives to decarbonise transport, housing and other sectors) and the potential to provide cheaper energy services to local residents and businesses. The commercialisation and roll-out of these new technologies also supports the creation of new industries and new, more productive employment opportunities for local residents.

In the context of our economic and demographic characteristics, we have identified particular opportunities to demonstrate:

- **New business models in community energy (urban and rural)** – alongside the emerging business cases being brought forward under the Rural Community Energy Fund, there has been appetite within towns, such as Selby, Scarborough and Richmond to develop community energy schemes. Community-level renewables have a proven track record elsewhere in the UK, but the very small uptake in North Yorkshire shows that the market needs support in our region.

- **New bio-energy technologies** – Projects trialling new technologies that link into our regional priorities are often viewed as high-risk investment area. These include projects in bioenergy which leverage the strengths in the circular economy and agriculture, as well as projects with CCUS and hydrogen production with carbon capture.
- **Business model innovation in the rural and circular economy** - Innovative business models seeking to address rural challenges and further reduce carbon via embedding circular economy practices often face challenges to accessing funding due to their novel approach and need for collaborative working across multiple industries. For example, coordination across nature reserve management, council land management, food supply and distribution and anaerobic digestion at R&D and industrial scale to assess the potential for a more flexible feedstock mix for anaerobic digestion across a network of plants.

However, the private sector alone will not bring forward these solutions at the scale and pace necessary to decarbonise our region.

Our offer and proposals to Government

We are seeking £42m funding over 5 years between FY22 and FY26 to create a Low Carbon Energy Generation Demonstrator Programme.

The Programme will provide match grant funding to businesses to support the delivery of projects which demonstrate emerging technologies at scale and/or validate new business models, and represent close-to-market solutions which:

- **increase local low carbon energy generation** and support YNY to become a net energy exporter, as well as **support energy resilience**
- **provide an area-wide scale approach**, such as community-scale or town-scale projects. For example, trialling emerging technologies that particularly align with the challenges in our rural communities, such as an innovative portable anaerobic digestion facility to use sewage sludge as a feedstock which would otherwise be required to be transported to a central processing facility in York.
- **provide a whole-systems approach**, such as blending of community renewable generation, storage and heat projects provide an area-wide approach. For example, community-scale renewable energy projects at Hovingham, Helmsley and Malton, whose feasibility and business case are currently being funded by the Rural Community Energy Fund, could be made more wide-ranging and ambitious with grant funding to support more innovative generation and distribution models
- Provide a model/approach that is **replicable in other areas** across the region
- **offer the potential for substantial carbon savings, social value, productivity growth and employment opportunities**, such as renewable energy technology value chain opportunities

The demonstrator will not be used to support large industrial renewables generation, e.g. for solar and wind, as these are already considered to be viable without subsidy and will not provide local community benefits that this fund is designed to foster.

This £42m 5-year programme will be managed by the MCA, and is expected to cover:

- £1m to establish a team within the MCA administer the fund, undertake due diligence on applications, and support project delivery; and
- £41m to provide match-funding to support a portfolio of approximately 15 demonstrator projects, which we have estimated based on our experience of ERDF low carbon projects and HNDU proposals and the types of projects likely to be supported by the Fund (with fewer high-cost projects expected relative to these programmes).

Applicants will be expected to provide match funding for their proposed demonstrator project. A prospectus will be developed setting out the specific themes/scope of the Fund and its objectives. Applicants will need to identify how their proposals support these, the specific market failure/challenge the project is seeking to address, why public funding is required and an options analysis that evidences why their proposed project is the best solution to address the identified challenge. Applicants will also be required to provide the costs/funding structure, assessment of the deliverability of the project and proposed timescales, with key milestones. This process will build upon the appraisal process established for YNY's effective delivery of our LGF allocation.

5. Working with Government to develop and implement a pan-Northern Regional Green Bond

Summary:

We have a large volume of small-scale low carbon projects in our local authority pipeline which are self-funding in the long run but require upfront financing. The costs of PWLB borrowing have increased, and whilst there is a significant amount of private capital available, this tends to be invested into funds rather than individual projects due to the disproportionately high transaction costs of relatively small-scale, and often low return, low carbon projects.

An innovative approach to financing is therefore required which delivers a high volume of low carbon local authority projects in our region and across the North. Through our work as part of the NP11, we have identified a pan-Northern municipal 'Green Bond' as offering significant potential to deliver a high volume of projects, flexibility to fund projects of any size, and cost savings compared to PWLB.

We are seeking support and input from Government as we develop our proposals to use the UK municipal bond agency to raise a circa £300 million Green Bond for an estimated 20 local authority projects across the North, which we expect to be deliverable between FY23 and FY26.

The case for change

We have a high volume of small-scale low carbon energy projects in our local authority pipeline (with a typical value of £5m to £30m), as well as those within our Local Energy Hub and our partners across the North, which are self-funding in the long-run but require upfront financing to make them happen. Projects in the pipeline include Solar PV projects on public and commercial estates, projects that have a whole system approach (such as Solar PV, EV charging infrastructure and battery storage), and district heat networks. Collectively these projects could make a material contribution to the transition to net zero as well as levelling up the national economy, by creating employment opportunities through the local renewable energy value chain in the installation and maintenance of low carbon infrastructure.

Recent analysis completed by the University of Leeds[44] found that in aggregate across the York, North Yorkshire and the East Riding and Kingston-Upon-Hull area, £5.9 billion could be profitably invested in small scale renewables and in energy and fuel efficiency, generating annual savings of £0.96 billion and paying back the investment in 6 years. This would also equate to a reduction of energy bills of 41%, create 32,000 jobs and reduce carbon emissions by 39% relative to current levels.

However, with the October 2019 raise in the Public Works Loan Board (PWLB) rate, local authorities are now faced with a higher cost of borrowing from Government[45]. This limits local authorities' ability to use PWLB to finance low carbon projects, as many projects in local authority pipelines offer a low return on investment, making them unviable in the face of increased debt service costs.

At the same time, there is a growing amount of private capital available for investment in low carbon or 'green' sectors as investors look to support their ESG policies. However, the relatively small-scale nature of low carbon projects means they can have disproportionately high resource requirements and transaction costs which are unattractive to investors. As a result, many private sector funds do not invest in low carbon projects but rather ESG equity funds, with much of this private investment going into tangible liquid assets, such as mutual funds and exchange traded funds. This aggregation enables diversification across a wide range of projects instead of having full exposure to a single project or technology type.

There is therefore a significant disconnect between the volume of private capital available in the market – which could offer a cheaper source of finance to PWLB – and the projects themselves receiving the required investment.

An innovative approach to financing is therefore required which delivers a high volume of low carbon local authority projects which individually have relatively low levels of return. Working with our partners in the North through the NP11, we have undertaken options analysis of alternative financing approaches to PWLB which enable the aggregation of small projects into a larger pot, creating a more attractive proposition to investors. These options include: a pan-Northern bond; community municipal bonds; and an investment fund.

The choice between PWLB, a pan-norther Green Bond and a community municipal bond will depend of the specifics of individual projects. However, we have identified a pan-Northern 'NP11 Green Bond' as offering the most potential to deliver a high volume of projects, as well as the flexibility to fund projects of any size. It also has the potential to offer savings compared to PWLB. Based on a credit rating of Aa3[46], a Northern Green Bond would yield at 0.8-1%[47], which would amount to a saving of £6m for £500m worth of projects[48]. This in turn offers the potential to deliver a higher volume of projects, or projects with a lower rate of return but a larger environmental and economic impact. Green bonds on a municipal level are also widely used in every other developed country, as shown in Figure 13.

[44] University of Leeds (2018) Energy and Low Carbon Development Opportunities in York, North Yorkshire and East Riding and Kingston-Upon-Hull: An Economic Analysis

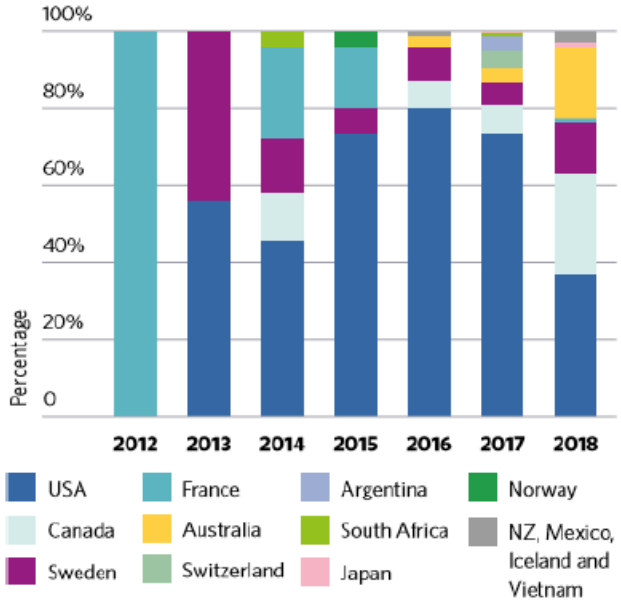
[45] As of 27th March 2020, the 5-year PWLB rate was 2.1% and 5-year UK Government Gilts are currently 0.2%.

[46] Average credit rating of Local Authorities

[47] Based on estimates of Gov +60-80bps

[48] In addition, in March 2020 Lancashire County Council raised a £350m bond through the UKMBA which was issued at SONIA +80bps

Figure 13. Market Share of Municipal Green Bond Issuance



Source: Climate Bonds Initiative 2018 Green Bond report

Our offer and proposals to Government

Municipal green bonds have been shown to be an effective way to draw upon investment from non-public funds to finance local authority low carbon projects. Over $200bn of green bonds were issued last year however the UK vastly lags behind every other major developed country in this area. This evidences the need for the UK Government to proactively support the raising of green bonds in the transition to a net zero economy.

We have identified the opportunity to use the UK municipal bond agency (UKMBA) to raise a circa £300 million Green Bond for an estimated 20 local authority low carbon energy projects, primarily consisting of solar and onshore wind projects, which we expect to be deliverable between FY23 and FY26. This programme has the potential to reduce 0.47 MtCO2 by 2030 and increase renewable energy generation by 348 MW of installed capacity resulting in 560 Gwh/yr of energy generation[49]. In practice, the performance of the environmental impact of the projects would be monitored and reported annually.

We are seeking support and input from Government as we develop our proposals as detail over the coming months, in recognition of the NP11 Green Bond's nationally significant role in helping to deliver Government's levelling up and net zero agendas.

6. Joint working with Government to accelerate the roll-out of CCUS technology in our region

Summary:

CCUS is set to play a pivotal role in the decarbonisation of the UK economy, particularly when it comes to decarbonising emissions from the power sector and industry. However, without a

[49] Analysis by Element Energy, on the assumption all 20 projects are delivered

defined business model for carbon sequestration and a clear roadmap to developing the required supporting infrastructure CCUS currently faces material barriers to deployment.

Given the scale of the challenge and the need for a national approach, we are seeking to work with Government to accelerate the roll-out of CCUS technology in our region. With Drax Power Station located in our region, we believe we bring a unique and informed perspective of the specific barriers faced in the nascent industry and through joint working we will identify blockers to change and co-developing policy and industry solutions.

The case for change

CCUS is set to play a pivotal role in the decarbonisation of the UK economy, particularly when it comes to decarbonising emissions from the power sector and industry. In their 2019 Net Zero report, the CCC stated that to meet net zero "CCS is a necessity not an option" with their scenarios assuming an aggregated annual capture and storage of 75-175 $MtCO_2$ in 2050. In recent years there has been growing Government support for CCUS technology, with publication of the Carbon Capture, Usage and Storage Action plan in 2018, followed by £26 million of Government funding awarded in 2019 to advance the roll out of the technology, and a further £800 million announced in the March 2020 Budget aiming to support at least two CCUS sites in the UK in the 2030s.

Within our region, CCUS is positioned to make a significant contribution towards our carbon negative ambitions. Drax Power Station has undergone significant retrofitting from the significant carbon emitter it once was and now plans to stop burning coal in early 2021 and become carbon negative through the adoption of bioenergy carbon capture and storage (BECCS) by 2030.

In our Carbon Abatement pathways study, CCUS is also shown to play a key role in decarbonising industry, particularly in the glass and chemical sector[50]. For industry, process emissions are directly from the raw materials or process, so can only be addressed by CCUS or through changing the production process. The majority of process emissions in the region are from the glass sector. Within the carbon abatements study, it is expected that CCUS is implemented during the 2030s for large plants in the glass and chemicals sector, enabling negative emissions in plants burning bioenergy (BECCS) by 2038.

Through our work to date on our Carbon Abatement pathways study, independent analysis and modelling has shown that no pathway reaches net zero without negative emissions from Drax using BECCS. Under a maximum ambition scenario, the region can become carbon neutral by 2034 providing that BECCS is fully operational at scale by Drax by 2030. Under this scenario, Drax can sequester over 17MtCO2 per year by 2040. To put this figure into context, the region's current total emissions stand at 7.7MtCO2.

North Yorkshire is expected to host large-scale, centralised power plants and export most of its power. Early CCUS and hydrogen infrastructure is likely to be located around Drax in Selby, therefore YNY is positioned to be a net power exporter compared to some of its neighbouring regions, such as West Yorkshire, which has limited distributed generation and is likely to rely on electricity imports.

Drax plays a critical role in the Zero Carbon Humber cluster, providing its pioneering developments of bioenergy carbon capture and storage (BECCS) to create the world's first negative emissions

[50] Element Energy (2020) Carbon Abatement Pathways Study

power station, enabling a hydrogen economy and large-scale carbon storage across the Humber.[51] The cluster will accelerate decarbonisation across the wider Yorkshire region and reinforce the UK's position as a global leader in clean growth.

There are however a number of key challenges to unlocking this CCUS potential:

- **The need for significant supporting infrastructure** - This includes the need to deploy CO2 transport infrastructure as BECCS (17 MtCO2/yr), CCS CCGT (5-7 MtCO2/yr) and EfW CCUS (0.2 MtCO2/yr) represent a CO2 storage requirement of 22-24 MtCO2/yr by 2040. This compares to the total injection capacity of 30 MtCO2/yr of all the four offshore sites that underwent detailed appraisal studies off the East England coast[52].
- **Insufficient financial incentives for businesses** - Within the current system, there is a lack of financial incentives for businesses to become carbon negative. Therefore, there is a clear need for Government to work with industry to ensure that these incentives exist (e.g., carbon pricing) for large scale CCUS.

Due to the material effort involved in creating a CCUS and hydrogen industry in our region, there is a need for a coordinated and well-articulated plan to build CCUS and Hydrogen infrastructure. A network of CCUS and hydrogen infrastructure will be the backbone that unlocks decarbonisation for multiple industries and energy generation players, therefore having a defined plan is particularly important to provide longer-term confidence from investors, drive the development of technologies (such as large-scale low carbon hydrogen turbines) and allow existing energy generation (such as energy from waste plants) to plan for CCUS retrofits.

There is a pressing need for current action as the required infrastructure has a material lead time. Our Carbon Abatement Pathway Study work to date has identified the need for completion of R&D of CCUS technologies by the early 2020s and planning for the construction of initial CCUS and hydrogen infrastructure for deployment towards the end of the decade.

Developing CCUS technology and hydrogen technology will preserve jobs by enabling energy intensive industries to continue to operate and thrive[53]. By building on the existing skills, innovation and infrastructure across Yorkshire and the Humber, CCUS roll-out will deliver new jobs and export opportunities for British businesses, supporting the region recover from the impacts of COVID-19.

Our offer and proposals to Government

To unlock the contribution CCUS can make towards our carbon negative plans, as well as the Government's own net zero target, we are seeking to work jointly with Government to accelerate the roll-out of CCUS technology in our region. This joint working would include two areas of focus:

1. Joint working with BEIS, other relevant Government departments and local partners to ensure a coordinated approach to roll out the required infrastructure for CCUS.
2. Joint working with BEIS, other relevant Government departments and industry to develop a funding model and financial business case for industry to go beyond carbon-neutral to carbon negative.

[51] https://www.zerocarbonhumber.co.uk/
[52] Element Energy (2020) Carbon Abatements Pathway Study
[53] https://www.zerocarbonhumber.co.uk/

Joint working is expected to involve regular meetings, identifying blockers to change and co-developing policy and industry solutions. Due to the urgency for progressing CCUS in the country we will would look to start this joint working in early 2021 to work towards a clear CCUS pathway being established by FY23 and a funding model in place by FY25.

11 Natural Capital

Strategic context

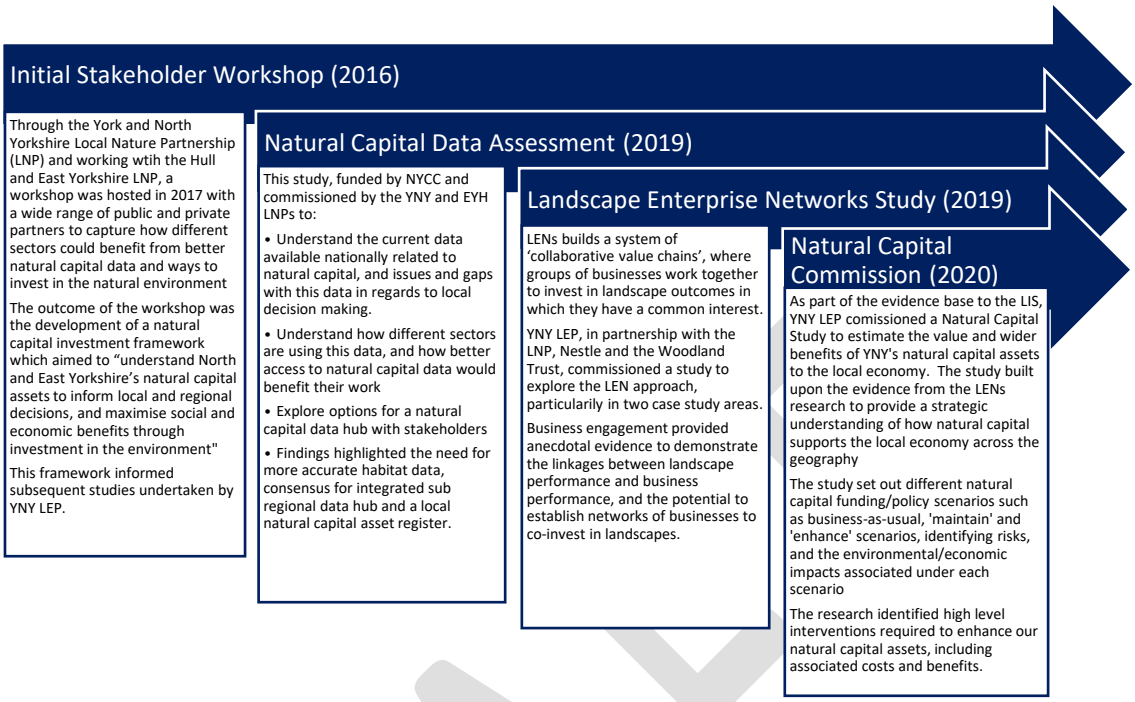
We have the ambition to be a circular, carbon-negative region, and pioneer innovative farming and land management approaches and climate change adaptation solutions which supports clean growth and helps to level up our national economy. With two National Parks, three Areas of Outstanding Natural Beauty, over 70% of our geography being used for agriculture, natural capital representing 11% of our GVA[54], and the ability of natural capital to sequester carbon, we are uniquely positioned to meet this ambition.

Department for Environment, Food and Rural Affairs (DEFRA) set out in their 25 Year Environment Plan several policies to use and manage land sustainably, recover nature and enhance the beauty of landscapes and connect people with the environment to improve health and wellbeing. Due to the prominence of agriculture within our region and importance of our landscapes to our businesses and communities, we are uniquely positioned to support the delivery of Government's Plan and commitment to net-zero emissions by 2050.

We have conducted a significant amount of work over the past four years to build partnerships for collaborative working, identify the national data available on natural capital and existing gaps, and identify opportunities for the public sector and businesses to co-invest in landscape outcomes in which they have a common interest (see Figure 14).

[54] Spanning the sectors of agriculture, food and drink, and tourism as well as forestry, manufacturing, biotech and water

Figure 14. Overview of York and North Yorkshire's (YNY) key strategic natural capital engagement and research to date



Earlier this year, we commissioned a Natural Capital Study to identify the key natural capital assets in our area, their value and benefits to our local economy, and – under several policy scenarios – the economic and environmental impact to the region by 2050.

This analysis found that under a 'business as usual' (BAU) scenario, we risk continued degradation of our natural capital, a 5% loss in the sector's GVA, and a deterioration in greenhouse gas (GHG) emissions owing to our region's high proportion of degraded peatlands, which will continue to emit carbon unless they are restored.

Due to the rural nature of our region and high dependency on natural capital, we are on the frontline of increasingly frequent weather extremes and other climate change impacts. Flood risk damage and disruption creates costs for our residents and businesses; drought risks cause significant disruption to agriculture and our wider industries; heatwaves cause disruption to productivity (especially in the construction, utilities and farming sectors); and we are at increased fire risks, especially on the upland moors, which could increase air pollution and pose costs to our tourism industry. Meanwhile some biodiversity losses may be irreversible.

However, through a step-change in both policy and investment compared to BAU, we can:

- **Achieve a 2.9MtCO2e increase in GHG sequestration** by 2050, with an increase in the quality and quantity of priority habitats such as woodland, peatland, species-rich grassland and wetland, and the priority species reliant upon these habitats
- **Grow our natural capital economy by 31%** by 2050, worth £946m in GVA, through the expansion of existing direct industries, such as forestry and tourism (increasing by 102% and 33% respectively), as well as supporting the growth of indirect industries such as food manufacturing and bio-tech (by 8% and 136% respectively).

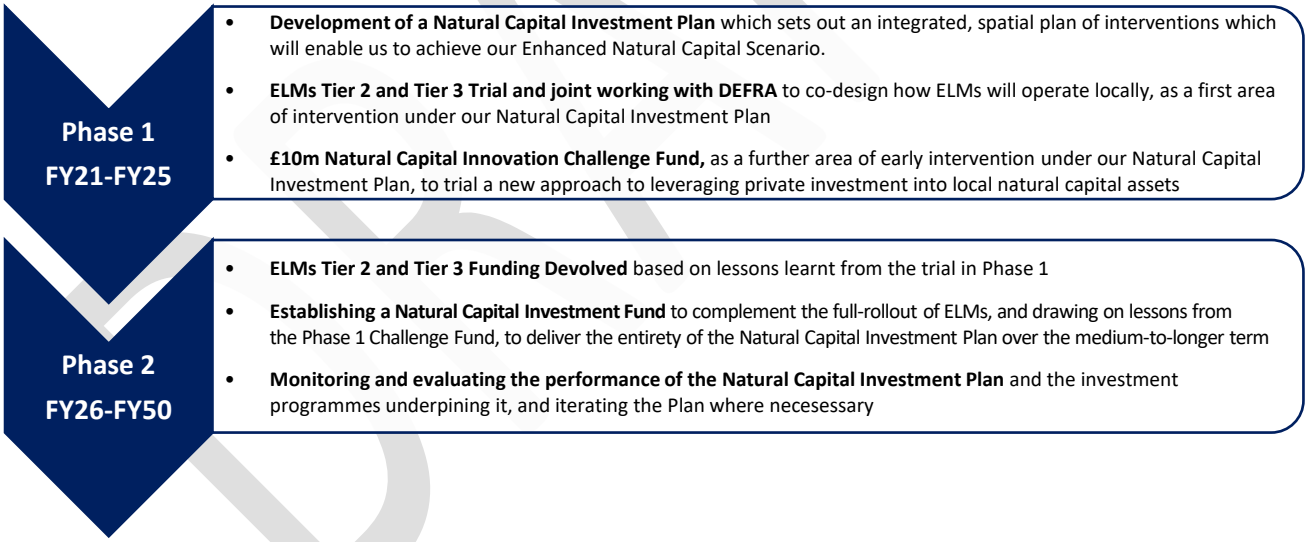
- **Develop healthier communities and improving the wellbeing of our workforce** through increased access to green space, which enables recreation, active travel and more inclusive environments. In addition, good quality urban green infrastructure **attracts inward investment and talent**, as well as improving welfare.
- **Improve our climate change resilience** in the event of floods, heat waves and/or droughts in the region, which also provides cost savings to both businesses and residents.
- **Take a catchment area approach** to flood mitigation considering both upstream investment alongside flood alleviation work.
- **Improve our air quality**, leading to reduction in deaths related to air pollution.
- **Improve our water quality**, due to reduction in pollution incidents and sedimentation.

Using natural capital to sequester carbon is an opportunity to support the UK in meeting its carbon targets but developing mechanisms and markets to fund GHG sequestration and emissions reduction at scale remains a key challenge.

To achieve this, we need innovative policy approaches which provide sustainable funding mechanisms in the long term.

We are taking a two-phased approach to our natural capital programme, as shown in Figure 15:

Figure 15. YNY Natural Capital programme



We are seeking support from Government to deliver the three elements of Phase 1 of our natural capital programme, which are:

1. **£2m revenue funding for the development of a Natural Capital Investment Plan by 2022, working with national partners, and scaling-up of our regional capacity to oversee the implementation of the Plan**
2. **The roll-out of a Tier 2 and Tier 3 trial for DEFRA's Environmental Land Management (ELM) scheme in 2021, alongside joint-working with DEFRA to co-design how the full scheme is rolled-out in 2024**

3. **£10m Natural Capital Innovation Challenge Fund which will develop and test new commercials models that support increased private investment in our natural capital**

The detail of each of these proposals is outlined below.

1. Development of a Natural Capital Investment Plan working with national partners

Summary:

There is currently a fragmented landscape for planning, funding and delivering natural capital investments in our region, as well as a lack of good data for informed decision making. Whilst we work closely with our different national partners and have invested significant local resource into development of our policy evidence base to date, we need a more strategic, integrated and long-term approach to investing in our natural capital if we are to progress local and national environmental objectives at an accelerated pace.

We are seeking £2m of revenue funding over the next five years (FY21 to FY25). In the first two years we will scale up our capacity at the regional level and develop a Natural Capital Investment Plan by 2022, working in partnership with the Environment Agency, Natural England, Historic England and the Forestry Commission. In FY23 onwards, revenue funding will be used to build our regional capacity to develop and deliver the Plan's pipeline of interventions.

The Natural Capital Investment Plan will provide an integrated spatial plan of interventions in our region over the next 25 years; a framework for prioritising interventions; powera required to support delivery; a funding strategy for delivering our prioritised programme; and a performance monitoring approach.

The case for change

The enhancement of our natural capital in a way that supports our ambition to be a circular, carbon-negative region requires a strategic, coordinated and long-term approach to the planning and delivery of investment. However, our ability to do this is currently limited by several factors, including:

- **A fragmented landscape.** The benefits of natural capital crosses many policy areas, including place-making, health, environment, and businesses. Because of this the scope of interventions do not fall neatly into one department or delivery agency, resulting in fragmented funding and decision-making. Our local and regional plans for capital investment need to align and integrate with of those of the DEFRA 'family' organisations (i.e. Environment Agency, Natural England, and Forestry Commission), as well as our own economic and spatial plans, in particular the emerging LIS, Spatial Framework and Local Development Plans.
- **Lack of good data for informed decision making.** In our 2019 Natural Capital Data Assessment undertaken by Aecom, we identified that much of the existing natural capital data is incomplete and/or not up to date. This impacts our ability to develop effective policy and investment proposals and, in turn, understand and monitor the benefits from investing in natural capital. In our 2020 Natural Capital Study undertaken by Eftec, we identified a number of specific information gaps:
    - Current soil condition, and the role of improved soil management in outcomes for carbon, agricultural production, biodiversity and water management
    - Links between the extent and quality of natural capital assets and:

    - Inward investment into the region
    - Workforce health and therefore productivity
  - Ecosystem-dependent spending in the tourism and leisure industries

- **Intervention beyond ELMs.** Whilst it is recognised and strongly supported that DEFRA's proposed ELM scheme is intended to deliver significant natural capital benefits, it will not deliver all of the change required. Not all land managers will be eligible to apply for the ELM scheme and it is possible that not all those who are eligible for the scheme will choose to take part. We need a holistic approach which addresses these gaps to ensure opportunities to maximise protection and enhancement of our critical natural capital.

Our offer and proposals to Government

We are seeking £2m of revenue funding over five years between FY21 and FY25 to scale up our capacity at the regional level and develop a Natural Capital Investment Plan, working jointly with the Environment Agency, Natural England, Historic England and the Forestry Commission. Our aim is to have the Plan in place by the end of 2022. In FY23 onwards revenue funding will be used to build our regional capacity to develop the pipeline and oversee the Natural Capital Investment Fund in Phase 2 of our programme.

The Natural Capital Investment Plan will build on the significant research and relationship-building we have invested in to date and establish a holistic route map to achieving the environmental and economic outcomes set out in our "Enhanced Natural Capital" scenario. The Plan will provide: a detailed list of natural capital interventions over the next 25 years; how these interventions will be prioritised; and how this prioritised programme will be funded through a combination of public and private sector funding, and across different public sector funding programmes.

The Natural Capital Investment Plan is a proto Local Nature Recovery Strategy, and we would work closely with Natural England and our local authorities to make sure there is no duplication in this area once the Environment Bill receives Royal Assent.

We will take learnings from the ELMs Tier 2 and Tier 3 Trials and the £10m Innovation Challenge Fund (proposed below) to inform where we can leverage private sector contributions and what areas ELMs alone is not able to cover.

To develop the Natural Capital Investment Plan, we are seeking to work with Government by:

- Inviting representatives of the DEFRA family to sit on our Steering Group for the development of the Plan (meeting monthly) to ensure an integrated, strategic and long-term approach
- Bi-annual meetings to discuss the development of local priorities which have national relevance, co-design interventions and progress solutions to challenges which have national implications

The funding will be used to establish a team of five within the MCA over the five-year period, comprising a team lead, two natural capital project officers and two natural capital data officers. This team would lead on:

- Overseeing the development of an integrated and comprehensive Natural Capital Investment Plan, including liaison with partners. This includes the YNY local authorities, the LEP and LNP, the DEFRA family, the National Parks and AONBs, Northern Forest, Yorkshire Peat Partnership,

Yorkshire Marine Partnership, catchment partnerships, and key stakeholders such as the National Farmers Union (NFU) and Country Land and Business Association (CLA) and Water Companies.

- Development of business cases/models for innovative approaches to funding the interventions identified in the Plan. This includes Landscape Enterprise Networks, local carbon offsetting, green infrastructure, natural flood management, green brokerage systems, and potential additional powers required. Pilots for these types of interventions would be funded through the Natural Capital Innovation Challenge Fund (proposed below), enabling lessons learnt to refine our approaches.
- Data development and creation of a natural capital data hub/portal to create a reliable evidence base for partners to access easily a range of data on natural capital to enable better decision making and collaboration, plan investment in natural assets and record changes in natural capital over time by a variety of partners in different sectors.
- Development of a recording and monitoring system that captures any natural capital investment back into the data hub. This would need to recognise work by ELMS, landscape projects and biodiversity net gain.

2. Tier 2 and Tier 3 ELMs trials and joint working with DEFRA to co-design how ELMs will operate locally

Summary:

DEFRA's draft proposals for the ELM scheme recognise the role of local areas in incentivising the management of land in a way that delivers locally targeted environmental outcomes, as well as contributing to national objectives.

We are seeking to work with DEFRA to co-design and test the national support programme alongside a targeted spatial Tier 2 and Tier 3 trial in YNY.

We have carried out much of the groundwork in building relationships with local farmers and land managers, meaning we are ready to start co-design work right away in 2020 with a view to establishing a Tier 2 trial at scale and a transformational landscape scale Tier 3 trial in 2021. This would inform the full roll out of the ELM scheme from 2024 onwards.

We are uniquely placed to trial Tier 2 and Tier 3 ELMs and inform DEFRA on how the ELM scheme will operate locally and nationally, owing to our:

- **Established relationships with an engaged farming community that is open to change,** providing us with direct insight into the local challenges that farmers are looking to address as they take their business forward.
- **Extensive experience in delivering positive environmental outcomes from land management interventions and partnership working**, including three existing ELM scheme trials, the largest nature recovery land management project in England, and projects such as the Foss Catchment Project, which is being managed by North Yorkshire County Council (NYCC) on behalf of the Environment Agency and delivered by the Yorkshire Wildlife Trust.

- **Successful working relationship with DEFRA** on business support initiatives, such as through the LEP's Grow Yorkshire programme.

DEFRA has already recognised the significance of our region to the design of the ELM scheme in the 2-year Payment by Results trial managed by Natural England and the Yorkshire Dales National Park and involving over 30 farmers, an ELM test and trials project involving our Forest of Bowland, Nidderdale and North Pennines AONBs and a further test and trials project in the North York Moors National Park (NYMNP). Building on this and drawing on our vision, established relationships with our farming sector and strong partnership working with DEFRA, we want to provide an exemplar which can drive change across the UK.

The case for change

As we look to the future, and our ambition to be England's first carbon negative region, the way we farm and manage the land must form a key part of our carbon negative transition. Whilst YNY has the potential to sequester an additional 2.9MtCO_2e through environmental measures[55], projections show that our agricultural sector will struggle to decarbonise, with emissions from the sector predicted to increase by 2% with existing policies under BAU.[56]

Each year our region's farmers benefit from £140m from EU's Common Agricultural Policy (CAP), whilst the farming sector in our region is worth £210m, meaning this public subsidy is essential to the profitability of 70% of our farms.

We support Government's view that the UK's departure from the EU and the CAP provides us with a unique opportunity to redesign our agricultural policies to allow us to meet our environmental ambitions, while supporting the sustainability and growth of our farming sector.

We see this as a critical pillar to enhancing our natural capital assets and ambition to become a circular, carbon-negative economy, with effective land management underpinning extensive supply chains and networks of consumption which supports both local and national economic growth.

As a region, we have the ideal conditions to drive and create change in agriculture, owing to our:

- Diverse agricultural mix encompassing all types of agriculture;
- Nationally significant share of the agricultural sector, which represents 5% of the sector's GVA nationally[57]
- Large areas of high value natural environments - some46% of our geography is designated as either National Park or AONB - supporting a significant tourism sector worth £919 million annually;
- Significant food manufacturing sector - 42% of our manufacturing is Food and Drink; three times more concentrated here than nationally; and
- Distinct specialism in agri-food innovation – our region has received 40% of all Innovate UK funding for agri-tech since 2004.

[55] Eftec (2020) North and West Yorkshire Natural Capital Study
[56] Element Energy (2020) North and West Yorkshire Emissions Reductions Pathways
[57] https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry)

Building on these assets, we want to be at the forefront of the opportunity offered by the ELM scheme and work with Government to inform the design of the scheme to be rolled out in 2024. As part of this, we want to launch a Tier 2 and Tier 3 trial in our region which helps DEFRA in its pilot phase to identify what actions can have the most success locally, and drive change not only in YNY, but across the rest of the UK in the long term.

We are uniquely positioned to work with DEFRA on this owing to our vision, established relationships with our farming sector, and existing partnership working with DEFRA.

We bring an **informed understanding of the local challenges that farmers are looking to address** as they take their business forward in this time of change. Through a survey of our farming businesses conducted in 2019, one of the main challenges identified related to how to develop new income streams from conservation and environmental improvements. This links to the scope of the ELM scheme and demonstrates an appetite to embrace new ways of working. We have an engaged farming community that is open to change, and a route to engage with these via our established relationships with relevant organisations such as the NFU, CLA, Yorkshire Agricultural Society, Farmer Network and many more.

We also have **extensive experience in the delivery of environmental outcomes associated with land management interventions and partnership working**, which can inform the development of ELMs locally and nationally. Examples include:

- An **ELM trial managed for DEFRA by Natural England and the Yorkshire Dales National Park, compares the effectiveness of the 'Payment by Results' approach** in two different areas and for different environmental outcomes: grassland in the Yorkshire Dales (on species-rich meadows and grassland for breeding waders) and arable land in East Anglia (delivering plots of winter bird food and flower-rich mixes for pollinators). The trial involves over 30 farmers, is taking place over two years and has been running since September 2018.

- An **ELM test and trial managed for DEFRA by the North Yorkshire Moors National Park Authority**, which builds on the Authority's experience of developing and delivering previously successful land management schemes. The project comprises two tests and one trial. Firstly, the project will identify which public goods farmers and land managers within the NYMNP want to deliver and consequently identify which public goods are less popular and/or more demanding to deliver. The Authority will demonstrate how this relates to the 25 Year Environment Plan. Secondly, a tool will be developed that models the economic impact of attaching different values (payments) to the delivery of different public goods and the impact this has on different farming sectors active within the NYMNP. Finally, the project will identify and develop a range of delivery mechanisms that allow for the appropriate delivery of public goods.

- The **Forest of Bowland, Nidderdale and North Pennines AONBs are involved in an ELM test and trials project** that aims to lay the foundations for a resilient, profitable and environmentally sustainable agricultural sector by building on long-standing collaborations with farmers and land managers to create a locally configured and locally delivered agri-environment programme alongside wider rural development funding and business support.

- With the North Pennines AONB, the Yorkshire Dales National Park Authority is about to start the largest nature recovery land management project in England (*Tees-Swale: locally connected*). Using lessons learned from the 'Payment by Results' trial, the project is working with clusters of farmers to support high-nature value farming to restore, expand and connect priority habitats on an unprecedented super-landscape-scale. At the same time, this work will deliver multiple other

public benefits including climate change mitigation, flood-risk management and increasing people's well-being.

- Well established collaborative working amongst regional and national partners. A prime example is the Foss Catchment Project. On behalf of the Environment Agency, NYCC is managing a project delivered by the Yorkshire Wildlife Trust that aims to address a wide range of water quality and environmental objectives on largely intensively farmed land along the River Foss which feeds into York. The Foss has a history of contributing to serious flooding within York. The project aims to deliver additional public benefits by helping to reduce flood risk.

Finally, and demonstrated in part to the examples listed above, we have already **established a strong working relationship with DEFRA**. Initially this took the form of hosting regional consultation events on the future of agricultural subsidy via the LEP. This working relationship subsequently developed, with senior DEFRA representation in the launch of the Grow Yorkshire initiative, which aims to bring together key local farming and land management bodies to inform national policy making and agricultural and behavioural change on farms. The Grow Yorkshire programme gives us a strong platform from which to roll out a successful Tier 2 and Tier 3 trial in our region in collaboration with DEFRA.

Our offer and proposals to Government

We are seeking to work with DEFRA to co-design and test the national support programme alongside a targeted spatial Tier 2 and Tier 3 trial in our region. Through this joint working we also hope to discuss how national and local delivery can work in collaboration.

We have carried out much of the groundwork in building relationships with local farmers and land managers, meaning **we are ready to start co-design work right away in 2020 with a view to establishing a Tier 2 trial at scale and a transformational landscape scale Tier 3 trial in 2021**. This would inform the full roll out of ELMS from 2024 onwards.

We recognise at this stage it is too early to clarify the exact scope of a trial. This needs to be taken forward in a collaborative co-design approach with our local farmers and institutions. However, we envisage a trial, or trials, which works at landscape or catchment scale to achieve environmental impact and economic benefit at scale. To achieve significant behavioural change requires close engagement with local stakeholders to buy into and shape the nature of a trial.

From a policy perspective, the key challenges we are looking to address through a Tier 2 trial include:

- **Behavioural change** – perhaps the most important factor in changing farming practices, is changing the behaviour of our farmers and land managers. There has been some great work on this already within the region via the Wensleydale Payment by Results Trial, which has demonstrated marked increases in the impact by empowering farmers and making use of their understanding of how to optimise their landscape.

- **Making the ELM scheme work for different types of farming** – with a diversity of agricultural landscapes in the region, YNY has an opportunity to test the ELMs model in both high value landscapes such as AONBs and National Parks, as well as arable areas.

- **Relationship between land management and tourism** – the region is already making real steps forward to understand how agriculture and land management relates to the tourism industry. For example, Fountains Abbey and Studley Royal World Heritage Site, operated by the National

Trust, is looking to work with farmers in the River Skell upstream catchment to manage flooding of the site through better land management practices.

- **Shortening agri-food supply chains and connecting farming to communities** – which can increase the value that is accrued to growers and producers and connect local communities to their surrounding agricultural environment.
- **Connection to sustainable and circular supply chains** – as a sector which creates significant bio-wastes and by products, we will seek opportunities to increase the utilisation of these and create added value from these resources. Reducing overhead costs and increasing incomes is a key issue that our farmers are interested benefitting from.
- **Regenerative farming** – the role that farming plays in regenerating our natural ecosystems will be fundamental, and something we expect will be supported via the ELM scheme, both in terms of livestock and arable farming. Within the region we have some developing expertise around the emerging practice of regenerative farming which we are keen to develop and expand as a key part of a more sustainable approach to agriculture.
- **Soil, water and air quality** – the reduction in environmental disbenefits of agriculture will be a key element that we look to take forward and optimise via the ELM scheme. The region benefits from some specific innovation assets that can support this, such as the Centre for Crop Health and Protection (CHAP), which has the world's largest mesocosm for simulations in natural aquatic environments under controlled conditions to test and demonstrate how practices impact on water quality, along with testing sites such as the Stockbridge Technology Centre.
- **Climate adaptation** – establishing a more resilient region is particularly important to our strategic planning for the future. Farming and land management practices are a key element of how our green and blue infrastructure are managed, and farmers potentially have a key role in terms of water management to slow the flow and mitigate the impact of downstream flooding events.
- **Climate mitigation** – whilst the agricultural industry is currently a net emitter of carbon emissions, our local ambition to become carbon negative means it is essential that we support the industry to reduce emissions, particularly methane from livestock which can have an immediate effect on cooling the climate, along with carbon sequestration through increased organic matter in soils, tree planting and new carbon capture crops.

Examples of projects we would consider trialling for a Tier 3 trial include:

- **Significant carbon capture through a pan Yorkshire woodland creation project** increasing deciduous woodland cover in Yorkshire by 49,000ha (increasing woodland cover from 6% to 12% by 2040) and capturing 392,000 tonnes CO2 per year. This would significantly progress the Northern Forest development.
- **The restoration of 30,000 ha of upland peat** (blanket bog) across Yorkshire by 2040 (30% of total proportion of NY's peat) storing 1,320,000 tonnes CO2 per year

This along with the measures outlined above would contribute to our ambition of becoming the first carbon negative region by 2040.

3. Natural Capital Innovation Challenge Fund

Summary:

DEFRA's 25 Year Environment Plan recognises the critical need to increase private sector investment in order to enhance our natural capital. However, as public goods, the market undervalues natural capital, leading to under investment and natural capital degradation which generates negative externalities such as water pollution, deforestation and poor soil quality.

More innovative policy and public sector intervention are required to create market mechanisms which capture and monetises the financial benefits to businesses from investing in the natural environment.

We are seeking £10m over five years (FY22 to FY26) to operate an Innovation Challenge Fund to increase private investment in our natural capital. The Fund will:

i. Support engagement and set-up costs to establish a Landscape Enterprise Network in our region; and

ii. Support two forms of funding competitions: small scale grants of up to £25,000 for smaller projects to develop new concepts over a short timescale; and up to 50% match-funding for of between £25,000 and £500,000 for larger projects. These funding competitions will be open to businesses, NGOs and public bodies, however all proposals will be specifically targeted at identifying and demonstrating new models for increasing private investment in natural capital.

The case for change

Research has shown that there is no easy way for private investment to take place to support issues affecting businesses like flood alleviation or increasing resilience in the supply chain.[58] It is challenging for individual businesses on their own to impact the performance of landscapes and hence see benefits of natural capital improvements to their own business. This contributes to under-investment in natural capital and results in negative externalities, such as water pollution, deforestation and poor soil quality.

DEFRAs 25 Year Environment Plan recognises the critical need to increase private sector investment in order to enhance our natural capital. More innovative policy and public sector intervention are required to create market mechanisms which capture and monetises the financial benefits to businesses from investing in the natural environment.

Through our work to date we have identified a range of opportunity areas for catalysing private sector investment in our natural capital, these include:

- **Supporting businesses to co-invest in landscapes to improve performance** – this would include new commercial models that aggregate demand and enable multiple businesses to invest in natural capital to deliver benefits to their own business and the wider landscape e.g., improve flood resilience, better quality natural capital assets to attract and retain talent.
- **Developing local carbon offsetting schemes that cover a range of habitats** - including woodland, peatlands, wetlands, grasslands, hedgerows, and kelp forests. These can be linked to existing and

[58] 3Keel (2019) The case for doing business with Yorkshire's landscapes

planned local initiatives, e.g. Northern Forest, Yorkshire Peat Partnership, catchment partnerships, Yorkshire Marine Nature Partnership.

- **Developing and delivering green infrastructure pilots** – for example, to retrofit industrial estates, business parks, large housing sites with green infrastructure which promotes climate change adaptation and mitigation, such as green roofs, walls, hedgerows, rainwater harvesters, etc.
- **Improving the coastal environment and increasing value from coastal assets** – this could include growing of seaweed and other marine assets that could also provide opportunities for carbon sequestration. This work would link well with activity being developed by the recently established Yorkshire Marine Nature Partnership.
- **Improving quality and access to natural capital for public health –** this could include models which link the relationship between natural capital and health benefits, such as projects which improve access and/or quality of specific areas.

Our offer and proposals to Government

We are seeking £10m over five years (FY22 to FY26) to operate an Innovation Challenge Fund for natural capital, which will:

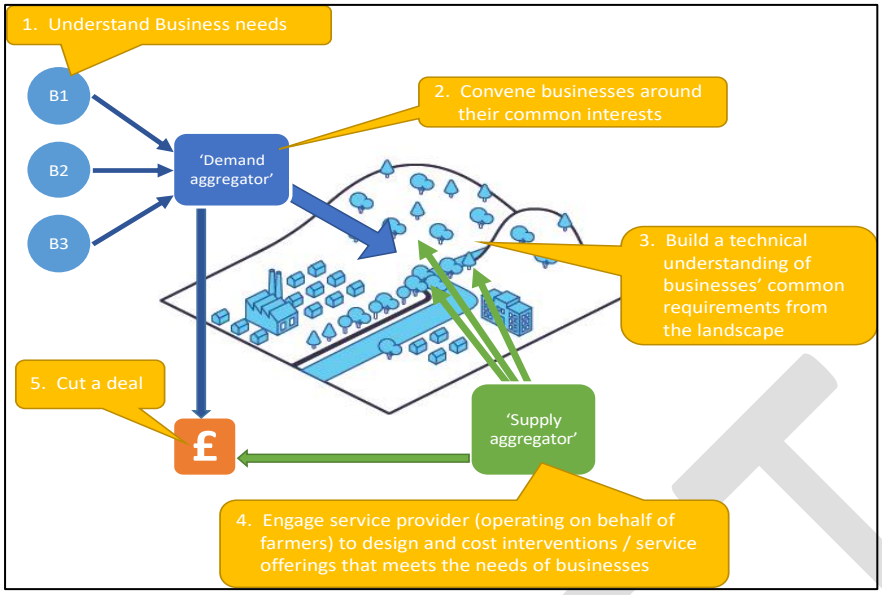
1. Support engagement and set-up costs to establish a Landscape Enterprise Network (LEN) pilot in our region; and
2. Support two forms of funding competitions, covering smaller and larger projects.

The details of each of these are outlined below.

I Landscape Enterprise Networks pilot

DEFRA highlighted the potential of the LENs approach for catalysing private sector investment in natural capital in its 25-year Environment Plan, and there are now around seven LENs pilots being developed and delivered across the UK. LENs is designed to link businesses in a region with a common commercial interest to invest in the landscapes that influence their ability to operate. These investments are then delivered by farmers and land managers. Figure 16 provides an overview of the LENs process and concept.

Figure 16. Overview of Landscape Enterprise Networks

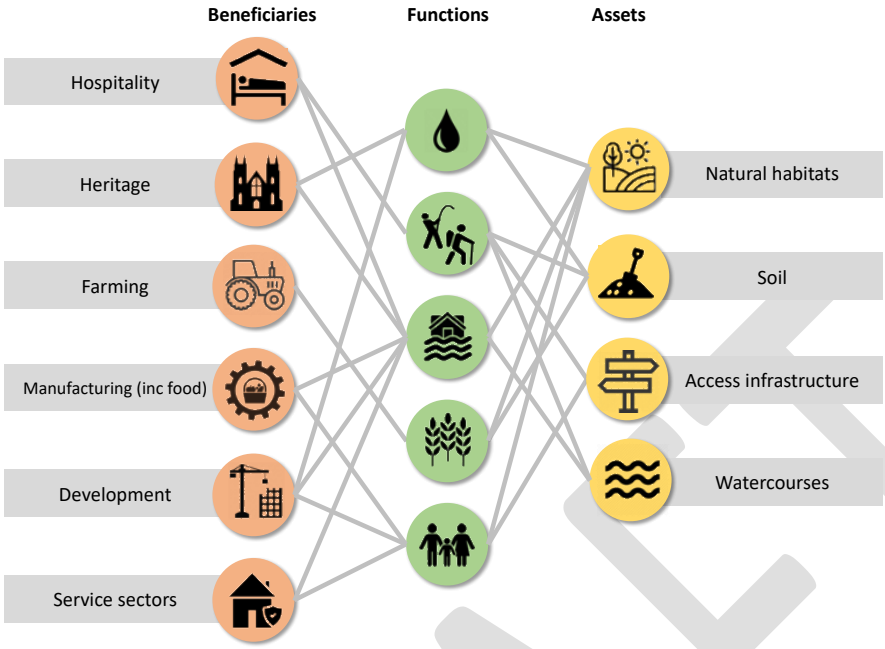


Through the LEP and in partnership with our LNP, Nestle and the Woodland Trust, we commissioned a study in 2019 to investigate the potential of the LENs in our region.

Our research identified several opportunities where organisations in our region could share a common interest in forming a LENs. An example includes the area around Ripon and Fountains Abbey, linked by the river Skell (See Figure 17). This is a quintessential Yorkshire landscape; characterised by mixed farming, sporting estates and historic monastic ruins. The quality and performance of the landscape plays a role in the success of many local businesses, from local SMEs to larger businesses downstream in York.

YNY LEP, alongside NYCC colleagues, the National Trust, and 3Keel are undertaking initial work to engage businesses in the Ripon area and identify business needs in the landscape. We have started to engage with a recently formed Ripon Business Improvement District (BID) and exploring the opportunity for business within the BID to be part of the first cohort of businesses to invest.

Figure 17. Example of Ripon and Fountains Abbey's natural capital assets providing a range of functions to local beneficiaries



We will use funding from the Challenge Fund to pilot LENs in our region. Funding will cover the initial LENs 'set-up' costs, comprising revenue funding for undertaking network opportunity analysis, engaging commercial organisations, identifying focus areas/common interests, developing the proposed interventions, and establishing delivery models.

The pilot will include a small number of 'transactions' or 'deals' between organisations and land managers. Public capital funding will be used to match fund the investment from businesses to increase impact. This blended model of public and private finance is currently being trialled in Cumbria via an ELMs test and trial with the National Trust and Green Alliance. We would use lessons learnt from the trial to develop an approach which ensures that the public funds are deployed in a way, and at scale, that is complementary to business interests and their willingness to invest. Through the existing LENs pilots in the UK, we have seen that public funds can act as a catalyst or confidence-builder in transactions. We want to test this approach and understand how a blended model can increase investment in landscapes and hence improve its performance and associated benefits.

Aligning public funds with private sector investments provides the opportunity to maximise impact and ensure interventions do not compete. In relation to peatland restoration, 3Keel's research has shown that to realise the full potential of the ranges of funding sources for peatland restoration, and to match the scale and urgency of peatland restoration, mechanisms will be required to ensure different funding sources are at least additive, and do not compete, block, or cancel each other out[59]. Furthermore, they found that a lack of integration between public and private schemes can also lead to unrealistic carbon prices for the market (as happened with the Woodland Carbon Guarantee) and lead to lasting damage to the market if sellers believe these prices may be offered again by Government at some future date.

[59] 3Keel, Forest Carbon and Newcastle University (May 2020) Funding Peatland Restoration: Options analysis for optimising public-private funding of peatland restoration, for carbon and other ecosystem functions

II Challenge Fund Competitions

We are seeking to run innovation funding competitions to encourage private sector investment in natural capital assets. We envision setting specific 'challenges' to the market to which businesses, NGOs and public bodies would be eligible to respond and apply for funding for their proposed solution. Examples of challenges include green infrastructure pilots, increasing value from coastal assets, improving quality and access to natural capital for public health. The funding process would be designed and administered by the MCA.

All proposals will be expected to focus on identifying and/or demonstrating new commercial models for increasing private investment in natural capital.

We envisage two elements to the Challenge Fund:

- **Small scale grants up to £25,000 (no match funding required).** The focus will be on smaller projects designed to trial new concepts/initiatives over shorter timescales or to provide pieces of equipment/support that might be required to deliver part of an existing project. In order to remove barriers to uptake of the grant, no match funding would be required. These grants are expected to be taken up by community groups, local authorities and consortiums of small businesses for relatively small-scale projects. It is expected that for these types of projects match funding would be difficult to obtain due to lack of commercial return on investment. For example, when benefits may be public goods, and/or when land is used for environmental value, rather than commercial value. These grants would require a less complex application process.

  Through our past experience[60] we have seen offering small-scale funding with no match required encourages smaller entities to apply for funding, resulting in applications becoming oversubscribed when active. A recent example in North Yorkshire for an environmental partnership fund received £62,590 worth of project applications for a £25,000 grant fund. The grants supported small charities, schools, parish councils and small businesses to carry our habitat creation projects, enhance green spaces and school grounds for wildlife and people, expand rare plant nurseries to become more commercial, and invest in specialist machinery for management of specialist habitats. The grants also led to projects with the involvement of large numbers of volunteers and local communities.

- **Match funding between £25,001 and £500,000 (50% match funding required - cash and/or in kind).** These larger grants would require a more detailed application process and a commitment to more comprehensive monitoring processes. At the lower end of the grant size these grants might support specific projects of modest scale by a single organisation but at the upper end, the funding stream is designed to allow for supporting much larger consortium projects. Larger funding amounts would allow pilots to be delivered at scale, testing innovative approaches with a variety of actors. For example, a large-scale strategic pilot to improve the coastal environment, delivering a package of measures to reduce coastal erosion, support seaweed farming and marine biodiversity.

  A prospectus will be developed setting out the specific challenges and their objectives. Applicants will need to identify how their proposals support these, as well as the specific market failure/challenge the project is seeking to address, why public funding is required and an options analysis that evidences why their proposed project is the best solution to address the identified

[60] 2018 North Yorkshire and York LNP Community Fund (applications up to £5000); 2020 East Riding of Yorkshire Year of Green Action Fund (applications up to £1000).

challenge. Applicants will also be required to provide the costs/funding structure, assessment of the deliverability of the project and proposed timescales, with key milestones. This process will build upon the appraisal process established for YNY's effective delivery of our LGF allocation and LEADER programme.

We have the capacity and capability to deliver this fund, as evidenced by our LEP's two LEADER programmes between 2015-2020 (funded through the European Agricultural Fund for Rural Development) in the Yorkshire Dales and North York Moors, Coast and Hills. The North York Moors, Coast and Hills programme delivered £2.23m of funding across 68 projects, and the Yorkshire Dales programme delivered £2.33m of funding across 79 projects.

The Innovation Challenge Fund will build on lessons learnt from the delivery of the LEADER Programme, for example the importance of having a project officer to support applications and develop a robust appraisal process that ensures pilots deliver against emerging priorities within the Natural Capital Investment Plan.

Appendix 1. Transport challenges and proposed solutions/indicative pipeline of interventions

Table 6. ***Transport challenges and proposed solutions/indicative pipeline of interventions***

Transport challenge	Devolution proposals
Reliance on petrol and diesel vehicles,	**Funding for a roll out of publicly available EV charging facilities across our region** **Funding to deploy ultra-low emission public transport across our region**
Urban congestion	**Revenue funding settlement for bus services to support COVID-19 economic recovery** **Devolved 5-yearly Integrated Transport Settlement for the YNY region** Five Year Indicative Programme • Harrogate Transport Improvements Programme (£50m) • Scarborough Transport Improvements Programme (£30m) • York Park & Ride and Public Transport Capacity and Route enhancements (£20m) • Smarter Travel improvements in York, e.g. traffic signal management (£10m) Longer Term Aspiration • Connectivity improvements on key radials: Selby – York, Harrogate –York (£50m)
Poor interurban connectivity (especially east-west)	**Revenue funding settlement for bus services to support COVID-19 economic recovery** **Devolved 5-yearly Integrated Transport Settlement for the YNY region** • Five Year Indicative Programme • A59 Harrogate to Skipton Journey Time Reliability Improvements (£20m) • A1237 York Outer Ring Road Dualling • Phase 3 £20m) • Improvements to A59 and A1079 routes into York (£50m)
Poor rural connectivity and lack of	**Revenue funding settlement for bus services to support COVID-19 economic recovery** **Funding to deploy ultra-low emission public transport across our region**

Transport challenge	Devolution proposals
alternatives to the private car	
Poor resilience of our road network	**Devolved 5-yearly Integrated Transport Settlement for the YNY region** Longer Term Aspiration • Swaledale landslips (£20m) • Key transport pinch points in York during flood events (£20m)
Poor access to the rail network	**Devolved 5-yearly Integrated Transport Settlement for the YNY region** Longer Term Aspiration • Stations at Thirsk, Seamer, Crosshills, Haxby (£50m) • Improved sustainable access and interchange to York Station (£30m) • Improved interchange within York Station (£50m)

Appendix 2. Indicative pipeline of Mayoral Towns Fund projects

Table 7. ***Indicative pipeline of Mayoral Towns Fund projects***

Area of investment	Phase 1 (FY22 - FY26)	Phase 2 (FY27 and FY31)
Smart and Enterprising Towns	• Scarborough: FAbLAb+ which comprise digital labs, learning resource and co working centre • Whitby: Establishment of Whitby Digital Co-working Hub in flower gate centre.	• Skipton: Phase 2 Skipton Triangle, an incubation space and live/work development
Active and Transformed Towns	• Phase 1 LCWIP plans in Harrogate, Knaresborough, Selby, Northallerton, Bedale, Stokesley, Skipton, Settle, Malton and Norton, Pickering and Scarborough • Phase 1 congestion reduction schemes in Harrogate and Knaresborough • Harrogate to Knaresborough Cycleway • Harrogate Station Gateway improvements • Scarborough Rail station improvements. • Selby Places and Movements Study • Bedale and Thirsk: public realm improvements - including improved pedestrian areas and central events space • Phase 1 - Green Transport Links Catterick Garrison – Feasibility Study • Malton and Norton, Pickering: infrastructure and connectivity study • Scarborough Market Square and borough wide green/ blue space network to include reduction in vehicles and increased pedestrianisation of resorts • Scarborough and Whitby wayfinding infrastructure • Skipton, Settle: Outdoor Town, walking and cycling links from town to Dales	• Phase 3 LCWIP in Malton and Norton • Ryedale: Bus/Rail interchange redevelopment

Area of investment	Phase 1 (FY22 - FY26)	Phase 2 (FY27 and FY31)
	• Phase 2 LCWIP plans Harrogate, Knaresborough, Selby, Northallerton, Bedale, Stokesley, Skipton, Settle, Malton and Norton, Pickering and Scarborough • Knaresborough congestion reduction schemes Phase 2 • Selby station improvements • Selby: implement remainder of highway and public space projects from Selby Places and Movement Study • Thirsk Railway Station improvements • Phase 1 - Green Transport Links Catterick Garrison • Scarborough transport interchange	
Cultural and Heritage Towns	• Selby: street dressing e.g. heritage shop wrappings, interpretations, Street and pavement marking, street art and enhancement of public realm • Thirsk cultural offer • Northallerton and Thirsk Virtual heritage trails • Richmond: Phase 1 street dressing • Malton and Norton: High Street Regeneration • Malton and Norton: Support re-building and recovery of tourism and hospitality sector • Malton and Norton: Support re-building and recovery of cultural, creative and heritage sector • Craven: Otley Street Arts House • Phase 1 Scarborough Fair • Whitby and Filey: Cultural events programmes • Craven: Youth Market • Craven: New public square • Skipton: CCTV, footfall, market sales and visitor augmented reality tours	• Selby Abbey Visitor Centre £3m

Area of investment	Phase 1 (FY22 - FY26)	Phase 2 (FY27 and FY31)
	• Remodelling and development of Northallerton Forum • Richmond: Phase 2 street dressing • Malton/Norton High Street Regeneration Project (continuation) • Milton and Assembly Rooms Cultural Centre and Creative Economy Hub • Remodelling and development of Northallerton Forum • Richmond: Phase 2 street dressing • Malton/Norton High Street Regeneration Project (continuation) • Milton and Assembly Rooms Cultural Centre and Creative Economy Hub • Phase 2 Scarborough Fair	
Living and Circular Towns	• Land management agreements across all towns • Zero Waste Richmond and Catterick • Catterick Garrison expansion project 'green initiatives' • Leeds Liverpool Canal green route Skipton to West Yorkshire • Malton and Norton: business grant schemes for zero carbon/waste employment sites • Scarborough: Mere and Olivers Mount Masterplan • Malton and Norton Anaerobic Digestor • Malton and Norton: business grant schemes for zero carbon/waste employment sites	
Growing Towns	• Settle: Anley Crag, business park, access and infrastructure - • Richmond: Strategic acquisition of designated employment land at Colburn	• Selby: Crosshills Access Road and flood mitigation

Area of investment	Phase 1 (FY22 - FY26)	Phase 2 (FY27 and FY31)
	• Richmond: feasibility study on Scotch Corner and Catterick Centrals junctions. • Richmond: feasibility of Catterick Shute Road Redevelopment • Selby: Park access road • Richmond: continued feasibility studies and preparing funding bids • Malton/Norton: A64 – Musley Bank Junction • Malton/Norton: A64 – New Junction with B1257 Broughton Rd • Scarborough Sap investment	• Richmond: Colburn Business Park, Shute Road • Malton – Norton link road and bridge • Skipton: Phase 1 Skipton Triangle infrastructure • Settle: Enabling infrastructure to Whitefriars housing and business units

Appendix 3. Housing Proposals – case study sites which illustrate our viability challenges

Table 8. ***Case Study Housing Sites in YNY***

Site	Policy context (including affordable housing requirement)	Outcome/Affordable Homes Delivered	Affordable Homes lost or stalled
Riccall, Selby (rural)	High scheme costs on this rural site are in part associated with the need for an entrance road. Requests for a higher grant rate to cover these costs have been refused by Homes England (HE) on the basis that the LPA has access to Section 106 money. The Council is using the S106 money to fund alternative affordable housing investment locally in its own stock, which is not eligible for HE funding.	Stalled site; no homes delivered to date.	12 units stalled
Airton, Yorkshire Dales National Park	A site of four shared ownership homes, a product which does not currently attract Homes England funding. The site does not attract private developers (too small, also National Park local occupancy rules deter developers) and has been on the market for several years. In 2018, Craven DC agreed to purchase the site and was encouraged by Homes England to apply for grant based on new flexibilities and the site having exception site attributes. However, the bid was unsuccessful, the site was unviable due to a mains water pipe running through it, and the site languished. A site immediately adjacent, but outside of the development limits and which is therefore a genuine RES, has now come forward and should be eligible for grant funding.	Stalled site; no affordable homes delivered to date.	4 shared ownership delayed
Former Austin Reed site, Thirsk	On a brownfield site delivering 112 homes in Hambleton, no affordable units are being delivered due to the vacant building credit, despite early intentions to attempt to broker a deal for 6 units on behalf of HE. Despite **Local Plan policy requiring 45 units of affordable housing** (40% on a	112 market homes under construction; no affordable homes.	45 lost

Site	Policy context (including affordable housing requirement)	Outcome/Affordable Homes Delivered	Affordable Homes lost or stalled
	market town site) no affordable housing is being delivered on this site.		
Ingleby Arncliffe	Rural village site of 18 units, which has numerous access, utilities, energy, and drainage issues which will increase development costs and reduce viability. There will be a section 106 attached, related to local lettings, but this may jeopardise the ability to obtain Homes England grant for the scheme.	Site delayed; progress very slow. We have been working this scheme up over an 8-year period, throughout this period we have had full support of the community.	18 stalled units
North Northallerton	Local Plan policy should have resulted in **116 units of affordable housing (40%)** being delivered as part of Phase 1 (291 units overall). However, infrastructure requirements led to a reduced affordable housing requirement of 39 units (13.4%) being agreed for Phase 1 due to viability issues. Subsequent viability issues, and other significant abnormal costs, have meant that **no affordable homes were delivered through the Section 106 agreement on Phase 1**. The issues were exacerbated by higher than anticipated land values, but on a strategic site necessary to be brought forward. These pressures have arguably also affected the design and quality of homes delivered. It is understood that Heylo used Homes England grant to purchase 16 units to sell as shared ownership, however their model does not meet the primary need identified in the area, which is social and affordable rented.	16 grant funded affordable shared ownership homes at 50% of OMV or over. No affordable rent. No unsubsidised affordable housing delivered on a site of 291 market homes.	100 lost
Sowerby Gateway, Thirsk	Infrastructure requirements associated with delivering a new road junction, school and other requirements on this strategic site meant that the final phase of the development delivered no affordable housing.	No affordable housing units delivered in Phase 3	This should have delivered 40% affordable homes.

Site	Policy context (including affordable housing requirement)	Outcome/Affordable Homes Delivered	Affordable Homes lost or stalled
Scarborough – various rural schemes	There are a small number of schemes locally which Scarborough Borough Council have topped up using commuted sums in order to improve their viability. This then means that the amount of section 106 funds available to use to support delivery of more affordable homes which would not be eligible for Homes England funding is reduced	Homes delivered but local resources to invest in additional affordable housing elsewhere depleted.	£110k of commuted sums was committed to 2 schemes to date. This would potentially result in the loss of at least 4 affordable homes elsewhere as we would normally apply a max. of £25K grant per unit for schemes requiring commuted sum monies.
Heworth Gas Works, York	Site for 607 apartments. Local Plan affordable housing requirement for 20% (121) on site provision for affordable housing although reduced to 104 due to Vacant Building Credit. District Valuer appraisal identified significant abnormal costs for items such as removal of gas infrastructure and ground remediation.	Affordable housing provision equivalent to approximately 10% total approved: 40 apartments and £2.715m contribution (subject to viability review if no reserved matters application).	Equivalent of 43 affordable homes lost, taking commuted sum into account.
British Sugar, York	Site for 1,100 homes. Local Plan affordable housing requirement for 20% (220) affordable housing provision on site. District Valuer appraisal identified significant abnormal costs for items such as provision of new infrastructure and ground remediation.	3% affordable housing approved (33 homes) but subject to on-going viability review.	187 lost

ANNEX 2

Appendix 4. Phased delivery of Low Carbon Skills Programme

Profile of projected activities against the revenue and capital spend from the National Skills Fund to up-skill the existing workforce, returners and jobseekers to gain the vocational skills required by a low carbon economy.

Table 9. ***Phased delivery of Low Carbon Skills Programme***

Year	1	2	3	4	5
Maturity phase	Development and Design Local low carbon market is small and new	Implementation Low carbon pathfinder businesses are in operation market is still immature	Consolidation Local low carbon market is growing	Managed Local market is maturing national low carbon market is in growth mode.	Optimised and sustainable Local and national low carbon market is maturing and competitive
£10m funding from the National Skills Fund	Expanding existing programmes. e.g. Skills Village to deliver short-term programme Developing a collaborative programme for delivery in Years 2-5 Building capacity through the development of regional provider workforce for the priority programmes Enhancing payments to trainers from Industry	Deliver collaborative Low Carbon Skills programme across the region Building training capacity through the development of training providers workforce. Implementing co-designed dual professional approach Provision of a training premium for inefficient delivery	Working with industry to understand the medium-term skills and workforce needs to collaboratively identify needs and gaps and plan provision Regional delivery model created for additional low carbon programmes Established dual professional approach Establishment of the CoE within region and development of	Implementing regional delivery plan to meet industry workforce needs Reviewing capacity Efficiency and effectiveness reviews of provision Monitoring efficacy KPIs with Employers. Evaluation of cross subsidy model for out of region income generation Development of out of regional ow carbon services	Review and enhancement Refining efficacy KPI's Development of longer-term programme (beyond year 5)

Year	1	2	3	4	5
	Co-design of dual-professional approach Enhanced engagement, communication and support for the low carbon opportunities	Embedding existing programmes and creating new delivery models Enhanced training opportunities targeted at SME's willing to re-skill to low carbon technologies Evaluation of business low carbon requirements	out of region services Creating new programmes in new delivery models Establishing efficacy KPIs with Employers Providing low carbon transformation case studies and building the low carbon community	Providing low carbon businesses insight into the low carbon business demand	
CoE for Low Carbon Training	Feasibility study and options evaluation Development of Strategic Outline Business Case (SOBC)	Development of Outline (OBC) and Full Business Case (FBC)	Dynamic supply and demand platform for low-carbon economy	Developing the UK low carbon community through collaboration initiatives	Supporting the international Low carbon community through innovative partnerships and communities of practice

Appendix 5. BioYorkshire 10-year programme

Table 10. ***Ten-year BioYorkshire programme (£ millions)***

Capital											
Year	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**	**FY31**	**Total**
Innovation central	25	89	37	10	9	0	0	0	0	0	**170**
District innovation hubs	4	8	8	9	9	6	0	8	8	4	**64**
Innovation accelerator	0	0	0	0	0	0	0	0	0	0	**0**
Total	**29**	**97**	**45**	**19**	**18**	**6**	**0**	**8**	**8**	**4**	**234**

Revenue											
Year	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**	**FY31**	**Total**
Innovation central	0	11	13	15	15	12	9	9	8	8	**100**
District innovation hubs	0	2	3	1	3	3	0	0	2	2	**16**
Innovation accelerator	1	5	9	7	12	6	12	12	8	8	**80**
Total	**1**	**18**	**25**	**23**	**30**	**21**	**21**	**21**	**18**	**18**	**196**

Total											
Year	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**	**FY27**	**FY28**	**FY29**	**FY30**	**FY31**	**Total**
Innovation central	25	100	50	25	24	12	9	9	8	8	**270**
District innovation hubs	4	10	11	10	12	9	0	8	10	6	**80**
Innovation accelerator	2	5	9	7	12	6	12	12	8	8	**80**
Total	**30**	**115**	**70**	**42**	**48**	**27**	**21**	**29**	**26**	**22**	**430**

Note: costs of the programme for FY25 and beyond are indicative estimates.

Table 11. ***BioYorkshire Innovation Central – Phase 1 costs and funding requirements (£ millions)***

		FY22	FY23	FY24	Total
Bioeconomy Institute at the University of York					
	Capital funding proposal	5	50	25	80
	Revenue funding proposal		5	5	10
	Subtotal - funding proposal	**5**	**55**	**30**	**90**
	Expected match funding			**5**	**5**
Biorenewables Development Centre					
	Capital funding proposal	4	6		10
	Revenue funding proposal	0.5	2	2.5	5
	Subtotal - funding proposal	**4.5**	**8**	**2.5**	**15**
	Expected match funding			**2**	**2**
Research Cube and new Packaging Hub					
	Capital funding proposal	7	19	6.5	32
	Revenue funding proposal		1	1.5	2.5
	Subtotal - funding proposal	**7**	**20**	**8**	**35**
	Expected match funding	**3**	**1**	**2**	**6**
Sustainability Learning Centre					
	Capital funding proposal	5	8		12
	Revenue funding proposal		1	1	2
	Subtotal - funding proposal	**5**	**9**	**1**	**15**
	Expected match funding	**1**	**0.2**	**0.2**	**1**
BioYorkshire Agriculture Incubator Hub					
	Capital funding proposal		5	5	10
	Revenue funding proposal		0	0	1
	Subtotal - funding proposal		**5**	**5**	**10**

		FY22	FY23	FY24	Total
	Expected match funding		**3**	**0**	**3**
Bio-science data eco system hub					
	Capital funding proposal	5	1	1.0	6
	Revenue funding proposal		2	2	4
	Subtotal - funding proposal	**5**	**3**	**2**	**10**
	Expected match funding	**1**	**1**	**2**	**3**
TOTAL FUNDING PROPOSAL		**25**	**100**	**50**	**175**

Table 12. ***BioYorkshire District Incubator Hubs – phase 1 costs (£ millions)***

		FY22	FY23	FY24	Total
District Incubation Hubs					
	Capital funding proposal	4	8	8	20
	Revenue funding proposal		2	3	5
TOTAL FUNDING PROPOSAL		**4**	**10**	**11**	**25**
	Expected match funding		**4**	**2**	**6**

Table 13. ***BioYorkshire District Incubator Hubs – phase 1 costs (£ millions)***

		FY22	FY23	FY24	Total
Innovation Accelerator					
	Revenue funding proposal	2	5	9	15
TOTAL FUNDING PROPOSAL		**2**	**5**	**9**	**15**