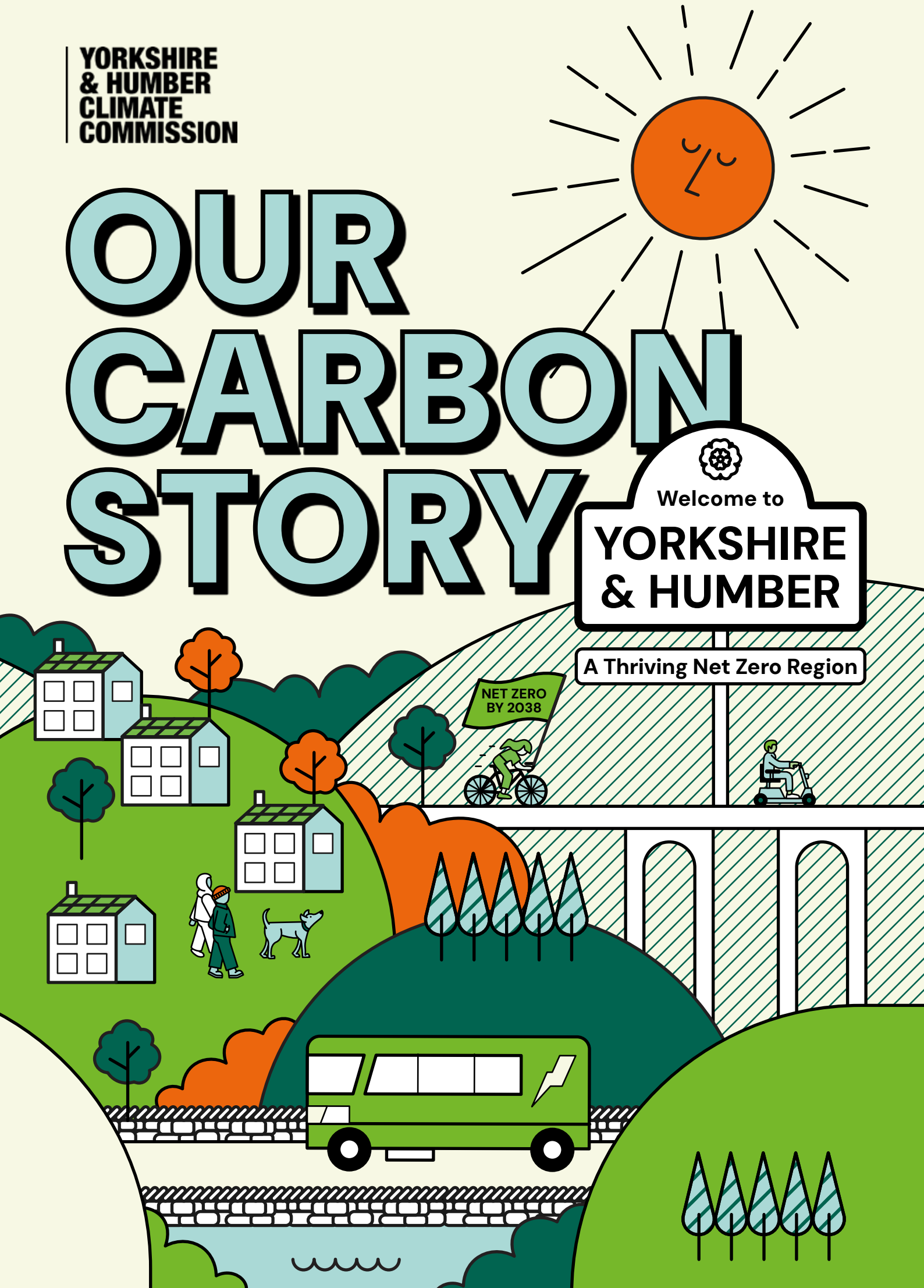
YORKSHIRE & HUMBER CLIMATE COMMISSION

OUR CARBON STORY



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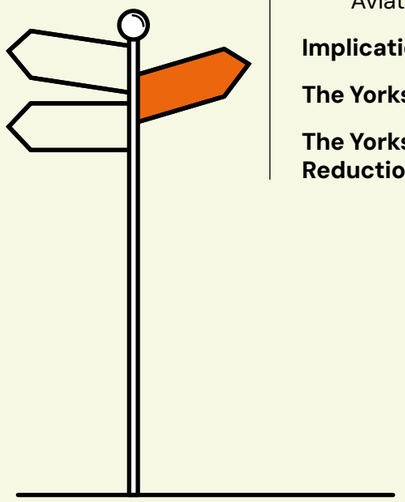

FOREWORD

It is important to acknowledge the context that we are all now living and working in. Early this year, the first year-long breach of 1.5C warming was confirmed, and global sea surface temperatures reached and remain at their highest ever.

Across the UK, including several areas of our region, crop and livestock production have been severely impacted by the prolonged warm wet winter. Across Yorkshire and Humber, we have experienced many extremes in recent years, from extensive flooding during the winters of 2019/2020, 2021 and 2023, through to heat waves, drought and wildfires in 2022 and 2023. And in early May this year, flash flooding caused by a month's rainfall landing within just three hours affected people, cars, and trains in many urban areas.

Climate impacts are already being felt, here and now in Yorkshire and Humber, and around the world. We must reduce our impact on the planet, our home. It is imperative that we all act, that we act together, and that we do so with urgency and ambition.

We know we need to go further and faster. We have a regional target to become Net Zero by 2038, with many organisations in the region committing to earlier targets. We also know that we will only achieve the change at the pace and scale that is needed by working together across political, social, and economic boundaries. Helping us all to do exactly that is one of the core aims of the Yorkshire and Humber Climate Commission.

Our Carbon Story, produced by the Commission, draws on evidence and analysis of emissions in the Yorkshire and Humber region by leading academics in our region and is supported by sectoral briefings. A Carbon Reduction Assessment is used to tell us how we are doing sector by sector and where we stand the most to gain by aligning and focussing our efforts. We also consider the emissions that come from our consumption – an important but often overlooked aspect of the carbon reduction challenge. The sectoral briefings provide more detail and celebrate successes across the region. Together, they challenge us to do things differently.

> **"We know we need to go further and faster. We have a regional target to become Net Zero by 2038"**

We hope that people from all walks of life will embrace the priorities set out here and that we can work together to deliver the economic, environmental and social benefits for the people of Yorkshire and Humber that will come from living in a cleaner, safer world.

Cllr Claire Douglas

Cllr Jack Hemingway

Mayor Oliver Coppard

Cllr Paul West

Vice Chairs, Yorkshire & Humber Climate Commission, June 2024

THE HEADLINES

Decisive, mission driven action is needed to align policy, regulation and investment to enable deeper and faster changes.

Yorkshire and Humber needs to reduce its carbon emissions rapidly, approximately four times faster than the business as usual pathway. Whilst it is good news that our region's emissions have halved in the 34 years since 1990, it means that we only have 14 years to address the remaining half to meet the regional Net Zero target of 2038.

We can technically meet our 2038 Net Zero target.

The interventions are known and available, and the investments are economically sound, with over a third more than paying for themselves.

We need to rapidly scale up investment.

This will require integrating carbon reduction metrics and outcomes into all decision-making processes projects/programmes/ planning and policy development. To reach the 2038 target the investment needed is £7.3bn annually for the next 15 years, totalling £110 billion.

We need to be able to account for the economic benefits over the longer term.

Whilst some savings and benefits will be realised in the short term, most investments will need to be evaluated with longer payback periods. The annual investment needed over the next 15 years equates to just under 3% of the regional Gross Domestic Product (GDP). In 2038, the total value of energy savings (£4.6 bn) alone would rise to just under 3% of regional GDP.

The measures we need to implement to achieve Net Zero also provide substantial co-benefits for people, the environment and the economy.

By 2050, we could save around £250 billion by realising the co-benefits assessed, with approximately half of these savings coming from increased physical activity. The technical assessment models don't include important and valuable co-benefits like improved biodiversity, so this so this is a conservative estimate.

We can achieve Net Zero 2038 whilst providing a significant boost to nature's recovery.

Coarsely, the most carbon effective ways to achieve this is by improving farming practices, changing some land use away from animal agriculture to broadleaf woodlands, and protecting and restoring our region's wetlands and peatlands. However, this is a complex area and is less well modelled and understood than other sectors. We explore this more in the sectoral briefing on land use.

What we consume in Yorkshire and Humber adds approximately 28% onto our regional carbon footprint.

There are some consumer choices that we have very little control over in the region. However, organisations can have a direct impact on what is consumed here through local procurement policies, by supporting community wealth-building and through circular economy initiatives. These approaches enable more of the goods and services consumed in the region to be produced locally and sustainably, giving greater control over their emissions and retaining wealth within the region.

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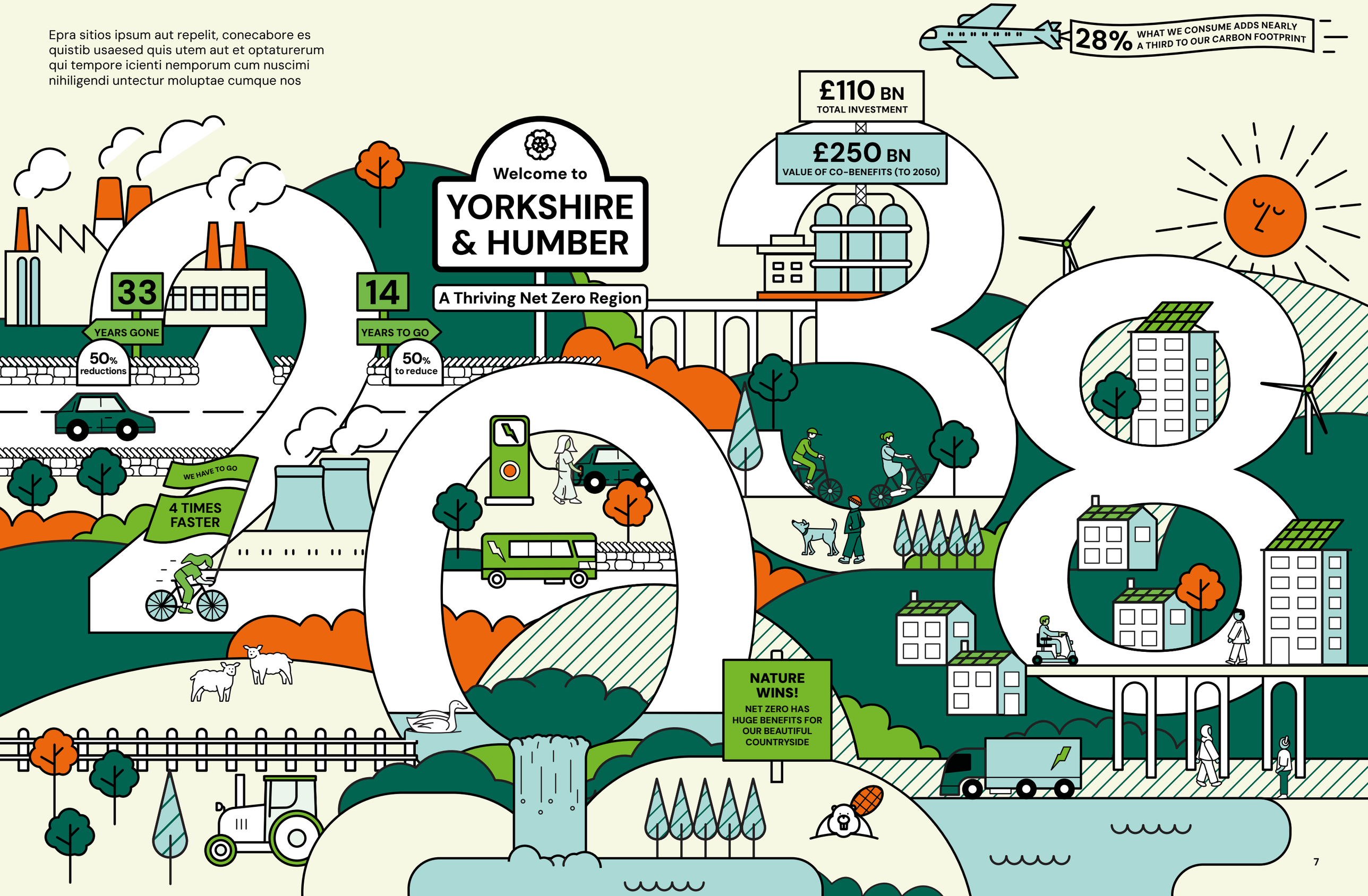


INTRODUCTION

The challenge we face, to decarbonise the way we live, is huge.

It would be easy to say that this is a global issue and we're too small to make a difference, but that would be to opt out of our responsibilities. Yorkshire and the Humber is a region of 5.5 million people; our population is larger than countries like Ireland or Norway, and the same size as Scotland or Finland. We are internationally relevant, and we must act accordingly.

Herein lies an opportunity: what we learn in Yorkshire and the Humber can be scaled up and applied elsewhere. The size and diversity of our region offers an important test bed for developing new approaches and innovations, as well as for adopting best practice from others and collaborating to develop scaled investable propositions. We can lead the way.

There is also much for us to be proud of. Despite incredibly and increasingly challenging times, all our local and mayoral authorities are committed to rapidly reducing their carbon emissions and are working across their areas to enable, encourage and guide others to do the same, rightly taking different approaches for different places and scales. Similarly, organisations and companies of all sizes across our region are challenging themselves and others to do better, quicker. And from my experience leading the Yorkshire and Humber Climate Commission, there is huge appetite to collaborate, pool knowledge and share expertise across all sectors, including our 12 universities and further education institutes.

Yorkshire and Humber has both so much to offer and many opportunities to do and make things better. It has several cities each with a strong identity, including the youngest city in Europe (Bradford); many market towns surrounded by rural areas with approximately 70% of the region's land area utilised as farmland ; and some of the widest gaps of health inequalities, with the region having the third lowest life expectancy in England, affecting not only economic productivity but also people's day-to-day quality of life.

Reducing our carbon emissions does mean we will need to make changes. But, unlike the stories peddled all too prevalently in the media, those changes do not need to be threatening or negative. Done well, with the principles of a fair and just transition in heart and mind, these changes stand to improve the quality of life for all; to reduce health inequalities, thereby increasing productivity and wellbeing; and to create a vibrant place where our young and talented people want to stay, and where all can thrive.

In Our Carbon Story, we identify the sectors and actions that we must meaningfully and rapidly reduce carbon emissions from, and we provide confidence that these changes and investments will be economically beneficial in the long term. And this is a crucial point. We know that the investments need to come from both public and private sources, and to do this effectively we all need to be able to work with longer timeframes. There are many reasons why it is hard to do this, but we must if we are to achieve the tipping points where the investments pay economic dividends. This longer-term way of thinking unlocks another win-win that is otherwise unattainable: that by making lives and livelihoods better now whilst also reducing our carbon emissions, we are also reducing the future risk of worsening climate impacts on people, nature and those investments.

Changes within the financial sector are needed to enable investment to flow. The Cities Commission for Climate Investment (3Ci) has recently published a report in which Catherine McGuiness CBE states, "whilst our aim may be to retrofit homes, we are also trying to retrofit a financial system and its models to a purpose for which they were not created. A rapid evolution is required, creating an investment ecosystem that will help the market to adapt and new models to emerge".

Throughout our work with around 300 specialists and experts during the first three years of the Commission, the calls for consistent, pro-active regulatory frameworks have been passionately and consistently made, informed by real-life experiences, regardless of the sector. Stability and clarity are needed to give confidence to investors, businesses and decision makers. For example, if the regulatory frameworks for new and upgraded buildings to achieve the highest standards of energy efficiency were already well-established, we would be adopting technologies proven in other countries, like heat pumps, and we would naturally unlock the investment in skills that we desperately need for delivery to happen at scale.

Importantly, the findings from the Carbon Reduction Assessment show that the same measures are required to reach the national and statutory Net Zero deadline of 2050, so the decision-making challenges remain, regardless of the target date. Whilst accelerating delivery to achieve the 2038 target increases the urgency of up-front investment in some measures, it should also allow the co-benefits and savings to take effect sooner – presenting a perfect opportunity to 'level up', unlocking the potential of the region, and so benefiting the UK economy as a whole.

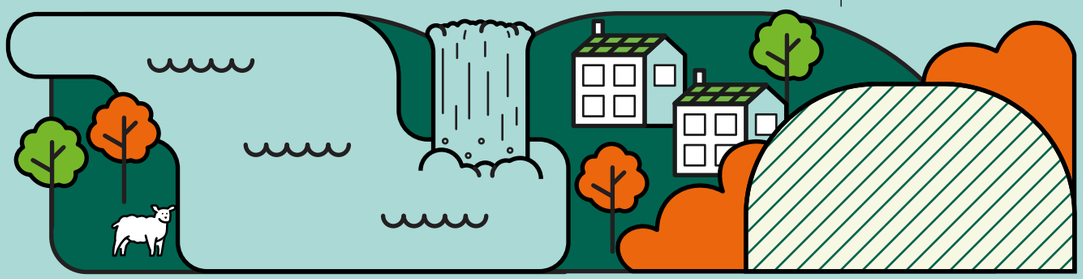
In this report we also look at consumption emissions and the implications for Yorkshire and Humber. Most carbon emission reduction pathways focus on the emissions that are produced by activity within the place the pathway is for. This means that what we consume is often not captured, leaving the responsibility of the carbon emissions related to those goods resting with countries that produce them. Calculating and understanding the carbon emissions that come from what people buy and consume is difficult, but it is an important way of understanding how our collective choices impact the climate. For example, if every person in the world consumed as much carbon as the average UK person, we would collectively emit enough greenhouse gases to warm the planet by 1.5C in just nine years.

In Yorkshire and Humber, our consumption emissions add an additional 28% onto the regional footprint. In Our Carbon Story we share the regional consumption patterns with the aim of starting an informed system level exploration of this important area, something that is often put in the 'too hard to do' box.

"A rapid evolution is required, creating an investment ecosystem that will help the market to adapt and new models to emerge"

Catherine McGuiness CBE The Cities Commission for Climate Investment (3Ci)

Rosa Foster Director, Yorkshire & Humber Climate Commission



SECTORAL HEADLINES

“deterioration of the UK’s natural environment could lead to an estimated 12% loss to GDP, according to new analysis.”

Overview

81% of our emissions come from three sectors: industry (33%), transport (29%) and buildings (25%). Land use and agriculture emissions contribute a further 9%. Under a business-as-usual scenario, these will continue to be the dominant sectors, with emissions from housing and from land use increasing between now and 2038.

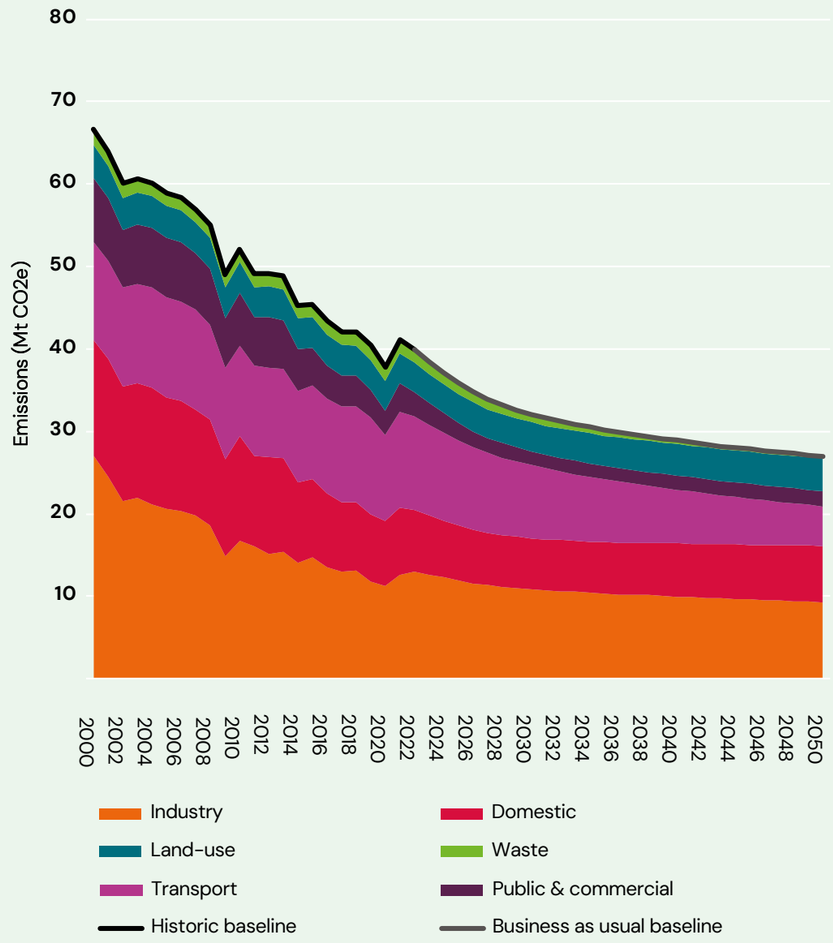


Figure 1 – Yorkshire and Humber carbon emissions (2000 – 2050)

Industry

As a region we can become a globally significant success story of a zero-carbon industrial sector. The Carbon Reduction Assessment (the technical assessment) shows that industry is the sector with the highest emissions in the region, and that the majority (97%) of our industrial emissions arise from the Humber Industrial Cluster (HIC). As the largest cluster in the UK, the HIC has its own Net Zero Plan and the successful delivery of this plan is critical to the region’s carbon reduction success.

Transport

The transport sector offers the biggest opportunity for unlocking significant co-benefits, especially for people’s health, and to do so with interventions that are low-cost, financially attractive and straightforward in principle. The changes needed here are about enabling different travel choices that seem surprisingly modest, such as replacing some short car journeys with walking. This sounds simple, but we know it isn’t. To enable these changes, the infrastructure needs to be improved to provide safe and attractive routes and crossings, and to make more walkable amenities available to neighbourhoods. The improvements developed also need to be inclusive of those who have different accessibility needs. Real improvements to public transport are key to increasing productivity and social inclusion across the region. The potential for this to happen in the timeframes needed is very real, with public transport and connectivity being a top priority for all our local authorities and the three recently elected Mayors.

Buildings

Retrofitting the region’s building stock is the single biggest area where investment is needed. Whilst all our building stock ultimately needs upgrading to become both low carbon and climate ready, a deep retrofit programme targeted at pre-1930s semi-detached housing and pre-1919 terraced housing would reduce housing emissions by 44%. This would also have the greatest benefits in terms of people’s needs for decent homes, lower energy bills and a better quality of life. The technical assessment indicates that approximately £77 billion needs to be invested in building retrofit across the region over the next 15 years. Over time this investment will be economically beneficial because of both the direct energy savings that will accrue and realising the significant co-benefits available.

Land use and Agriculture

Our region urgently needs a strategic partnership approach to land use, and land use change, developed with those who are likely to be most affected. If we continue failing to protect and restore nature, the results are unavoidably grave. The most recent analysis of the financial implications by the Green Finance Institute states that: “the deterioration of the UK’s natural environment could lead to an estimated 12% loss to GDP, according to new analysis. In comparison, the financial crisis of 2008 took around 5% off the value of the UK GDP, while the Covid-19 pandemic cost the UK up to 11% of its GDP in 2020”.

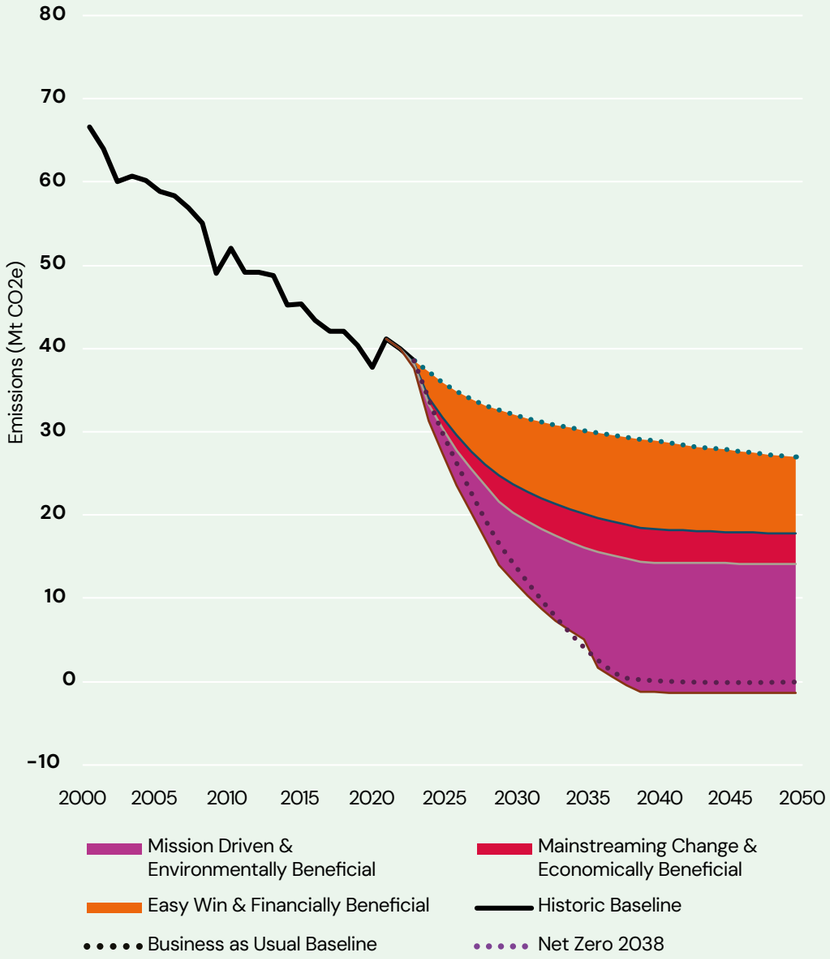
The technical assessment shows that it is possible to move the agricultural and land use sector from being a net emitter to net negative by the early 2030s, and to do so in a way that would support the region achieving a ‘30 by 30’ Biodiversity Target. The most carbon effective ways to achieve this are by improving farming practices, changing approximately 37% of the land currently used for animal agriculture in Yorkshire and the Humber to broadleaf woodlands, and protecting and restoring our region’s wetlands and peatlands.

This requires us to think and work differently. It is important to recognise that some land use change is required to enable nature’s recovery, and that we need to be able to meet food production needs whilst making the region more resilient to the changing climate, regardless of carbon emissions. There are some excellent examples of the leadership and changes we need to see across these sectors already, where organisations have clear ambitions to reduce emissions and improve yields in sustainable ways. Strong partnership working and collaboration are needed to provide a firm strategic foundation, including policies and interventions that complement and enable the diverse local-scale changes that can deliver progress.

PROGRESS AND TARGETS

Ultimately, our success in cutting carbon emissions hinges on how boldly we can pursue that mission.

Yorkshire and Humber has set a target to reach Net Zero emissions by 2038. Whilst it is good news that our region's emissions have halved in the 34 years since 1990, it means that we only have 14 years to address the remaining half to meet this regional target.



Taking the year 2000 as a baseline, and assuming we carry on with current trends (business as usual), our emissions will only have reduced by 56% by 2038 and by 60% by 2050.

Figure 2 – Yorkshire and Humber's Business as Usual Baseline with 'Easy Win and Financially Beneficial', 'Mainstreaming Change and Economically Beneficial' and 'Mission Driven and Environmentally Beneficial' potential scenarios.

We can technically meet our 2038 Net Zero target. The interventions are known and available, and the investments are economically sound, with over a third more than paying for themselves.

As illustrated in Figure 2, we can confidently implement carbon reduction measures that will reduce our emissions by 50% by 2038, knowing that they are both financially ('easy win') and economically (mainstreaming change) beneficial. We need to progress these without delay.

It also shows that the region cannot achieve its 2038 Net Zero target – nor the UK's 2050 target – without a mission driven and environmentally beneficial leadership approach. Ultimately, our success in cutting carbon emissions hinges on how boldly we can pursue that mission.

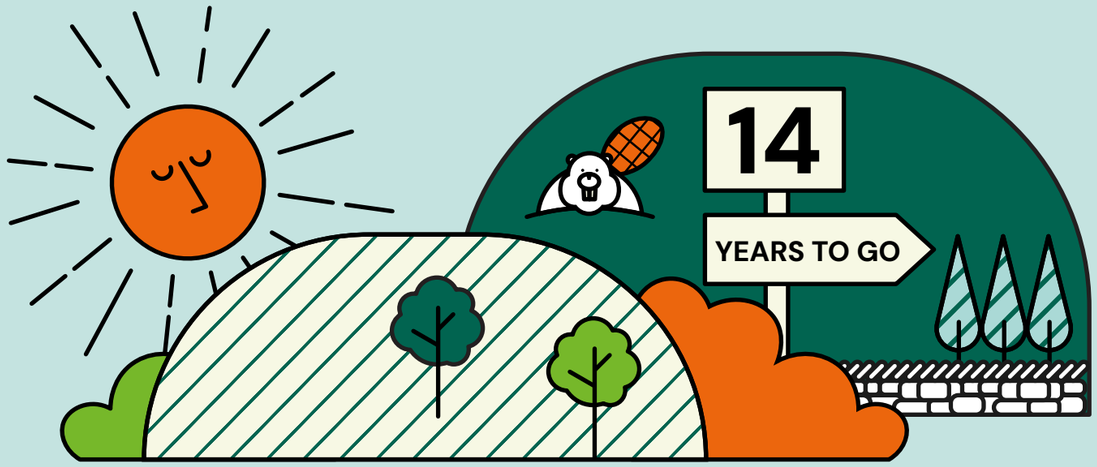
We only have 14 years to address the remaining half to meet this regional target.

INVESTMENT, SAVINGS AND BENEFITS

To reach the 2038 target the investment needed is £7.3bn annually for the next 15 years

We need to rapidly scale up investment. This will require integrating carbon reduction metrics and outcomes into all decision-making processes projects/programmes/planning and policy development. To reach the 2038 target the investment needed is £7.3bn annually for the next 15 years, totalling £110 billion. This would have the immediate benefit of creating 242,000 years of extra employment (i.e. 12,000 jobs for 20 years) whilst also reducing the region's energy bill by £4.5billion a year from 2030 onwards.

Taking positive and early action to reduce our carbon emissions, with a focus on enabling a fair and just transition through our planning and delivery of interventions, will enable us to generate considerable social and environmental benefits that also provide wider economic benefits. The table below summarises the total investment, anticipated savings and predicted co-benefits for each of the carbon reduction pathways assessed.



Level of Change	Description	Emission reduction by 2038	Savings from every £1 invested (direct financial – wider benefits)		Total investment required (annually for next 15 years)	Energy Bill Saving (annually from 2030)	Wider Co-Benefits (Total savings 2024 – 2050)	Jobs Created (a job = 20 years)
Easy win + Financially Beneficial	The 'no regrets' measures that would more than pay for themselves through the energy savings they would generate.	36%	£3.10	£7.50	£1.6bn	£2.4bn	£175bn	2,100
Manistreaming challenge + Economically Beneficial	The 'no regrets' measures and the technically viable options that collectively would break even through their direct returns.	50%	£1.50	£4.00	£2.7bn	£3.2bn	£221bn	5,400
Mission Driven + Environmentally Beneficially	The 'no regrets' measures, technically viable options and the measures that could be challenging to justify if investors focus narrowly on financial returns.	102%	£1.10	£2.30	£7.3bn	£4.5bn	£250bn	12,000

Table 1 – Key data for the levels of change in the Carbon Reduction Assessment Report. All savings information undiscounted.

These findings clearly show that we need to do everything to reach Net Zero by 2038. It is important to note the challenge that this technical assessment highlights: that the measures that will get us all the way to and even beyond Net Zero will require us to develop investment cases differently.

Recent research shows that, following a comprehensive review in 2020, HM Treasury's Green Book provides a good basis for better evaluation of investment cases for complex transformational projects such as those needed to achieve Net Zero. The review said that appraisal of value for money at local, regional and national level is too focussed on measurable monetary quantities, leading to the Benefit Cost Ratio (BCR) becoming the aspect of appraisals that dominates decision making. The research concludes that HMT's approach since the review in late 2020 encourages strategic technical assessments of transformational change benefits and that they recommend that this should precede the cost-benefit analysis, using a robust, mixed-method and interdisciplinary process of evidence review, stakeholder engagement and deliberation.

Ultimately, this is good news – with the right support, tools, skills and capacity, it should be possible to access public funding to support the delivery of these schemes. However, the tools, capacity and skills needed to support such new and innovative processes are not consistently available, and schemes are often invested in at risk locally. Managing the complexity of linking this emerging approach to unlock public investment with private sector investments, which do still focus on narrow and short-term financial returns on investments, is a considerable barrier to accelerating delivery and realising the benefits available. Tackling this complex challenge is a key focus of the 3Ci Partnership.

Benefits

Climate action can bring a wide range of co-benefits or 'win-wins', such as homes that are more affordable to heat, improved health and air quality, and improved energy security.

As decisions for communities are rarely made with just carbon reduction in mind, it is important to highlight the range of co-benefits to show the wider value of taking climate action and to build support. At a whole-economy scale, the benefits include improvements in public health, thus reducing pressure on the NHS, greater energy security, growth in the low-carbon jobs market and a reduction in poverty and inequality.

As with investment, the co-benefits to acting on climate change are not always adequately considered or valued in policy decision-making processes. Cities and devolved administrations are best placed to capitalise on the co-benefits of carbon reduction actions as they hold relevant budgets (e.g. health, transport, housing) and understand how different policy priorities impact on each other. By achieving Net Zero by 2038, we could generate over £250 billion in co-benefits between 2024 through to 2050. It is worth noting that the technical assessment didn't include important, widely recognised and valuable co-benefits like improved biodiversity, so this is a conservative estimate.

Figure 3 shows the estimated co-benefits arising from each modelled pathway.

- Delivering the 'Easy Win' actions could generate a huge £175 billion of co-benefits and reaching Net Zero by 2038 could deliver an additional £75 billion.
- Delivering the 'Mission Driven' action could generate over £100 billion of value in health benefits from physical activity by increased walking and cycling and almost £60 billion of co-benefits from reduced accidents and reduced congestion.

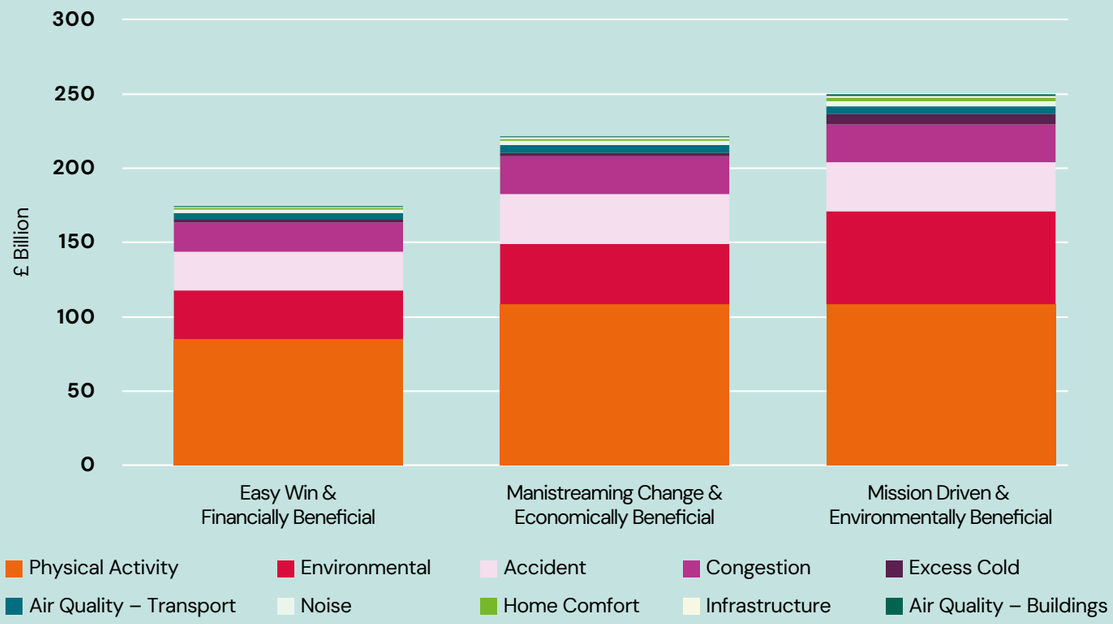


Figure 3 – Yorkshire and Humber's potential co-benefits (2024-2050)

CONSUMPTION EMISSIONS

What we consume collectively matters and has a global impact.

There are two ways we can talk about emissions responsibility. If we drew a line around Yorkshire and Humber, we can measure the carbon emissions produced within our borders (territorial emissions). However, this neglects the emissions associated with goods and services consumed where the supply chain for these is beyond our borders across the rest of the world (consumption emissions). We are part of a global economy, with the demand in the UK importing just under 50% of emissions. What we consume collectively matters and has a global impact.

In this section of Our Carbon Story we put the focus on the consumption emissions for the region. We use the Local Authority Consumption Accounts (Carbon Footprints) tool, which allows you to compare carbon footprints for localities around the UK. It has been developed by disaggregating national data produced for DEFRA using spend profiles. The data is linked to local authority boundaries but, as we are taking a regional overview, we have presented summaries of the overall picture for all areas within Yorkshire and Humber.

When we include carbon emissions from what we are consuming, as well as what we produce directly within the region, it increases our emissions by 28%. Yorkshire and Humber has a very large industrial sector (the Humber Industrial Cluster), which means our territorial emissions are higher than the national average. This makes the regional percentage increase from our consumption appear smaller than it is. That said, Yorkshire and the Humber is the third lowest region for per capita emissions from consumption (Figure 4).

The pie chart in Figure 5 shows the consumption categories, although we can't directly compare emissions produced within our boundaries against what we are consuming due to different calculation methods and to avoid double counting. We can clearly see that in both accounts, the emissions from transport (notably private transport as 60% of total transport) and homes (notably the use of gas in 66% of housing) are the most significant contributors.

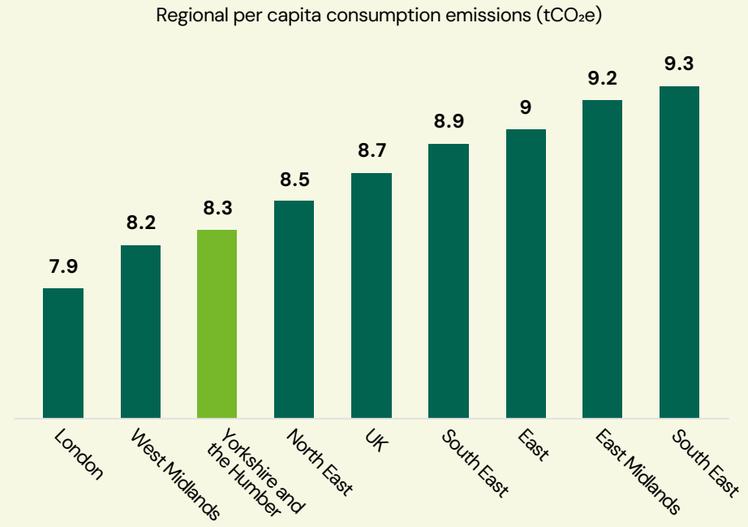


Figure 4 – Regional per capita consumption emissions (tCO_2e)

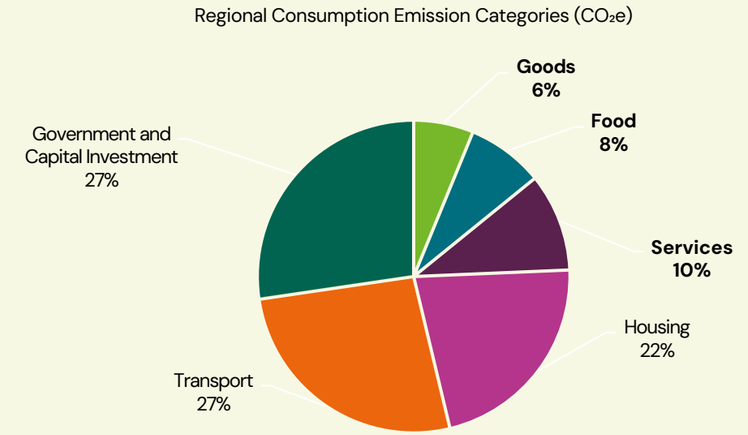


Figure 5: Yorkshire and Humber's Consumption Emissions (2019)

Figure 5 shows that 'Government and Capital Investment' (government expenditure on health, defence and infrastructure) contributes to 27% of our region's consumption emissions. This is the only category that is not broken down further here, due to data availability. However, as it is nearly a third of the region's consumption emissions it demonstrates how national and local government policies impact on carbon emissions, and that we have influence over this through our democratic processes.
The areas of emissions not covered directly by the Carbon Reduction Assessment are Goods, Services, Food and Aviation. Combined, these make up almost a quarter of consumption emissions. The sections below outline the significant high carbon activities within these categories.

28%

increase in carbon emissions by including what we consume.

~30%

contribution by Aviation emissions to total transport emissions

60%+

of food and drink emissions come from meat

Goods

The Goods category includes the indirect supply chain emissions associated with making goods purchased by final consumers. The highest emissions contributing to almost 80% are 'Hobbies, Pets and Sports' at 42%, 'Clothes' at 16% and 'Furniture and Homeware' at 21% (Figure 6).

Services

The Services category covers the indirect supply chain emissions associated with providing a service purchased by final consumers. The highest emission service, contributing almost 50%, is 'Restaurants and Cafes', followed by 'Finance and Insurance' at 18% and Hotels at 10% (Figure 7).

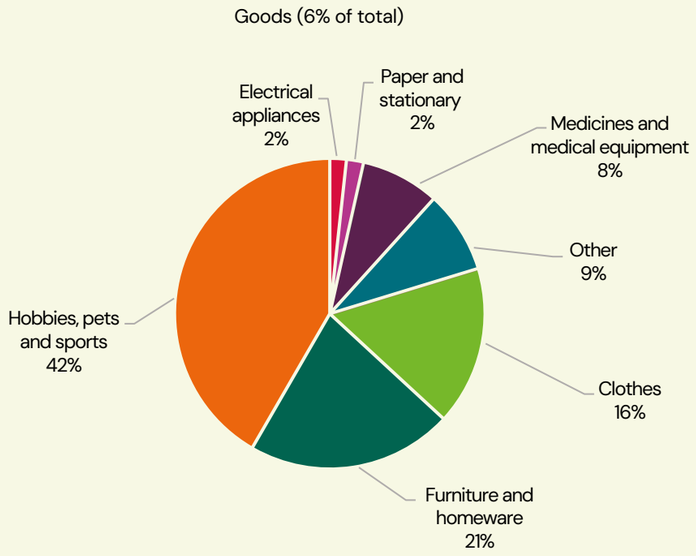


Figure 6: Yorkshire and Humber's Goods Emissions (2019)

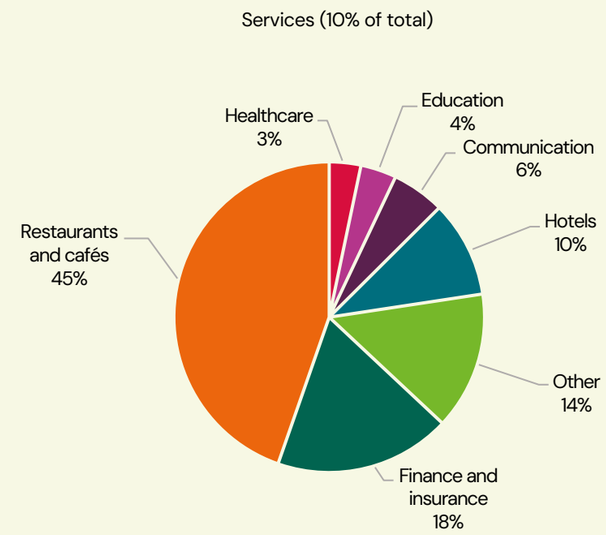


Figure 7: Yorkshire and Humber's Services Emissions (2019)

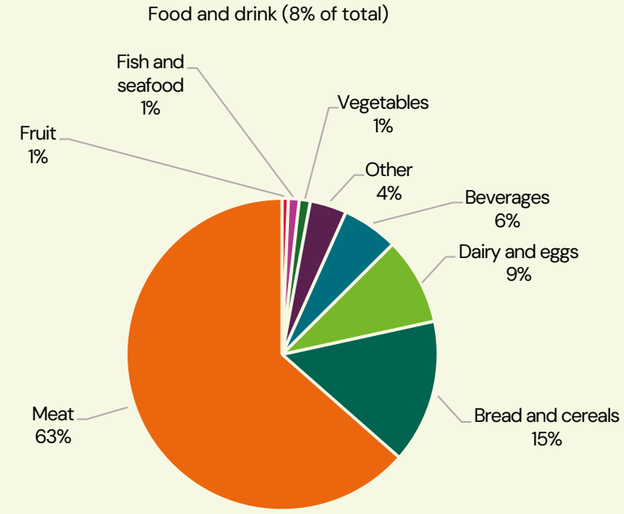


Figure 8: Yorkshire and Humber's Food Emissions (2019)

Food and Drink

The Food and Drink category includes the emissions associated with producing, transporting and selling food products to final demand consumers. The food category only includes food purchased for preparation in the home (this would not account for food consumed outside of homes in restaurants or cafes). Meat forms the over 60% of emissions for all the food and drink we are consuming, and we know that beef is the major contributor to emissions within the meat sector (Figure 8).

Aviation

Aviation emissions contribute nearly 30% of total transport emissions and 8% of the average resident's carbon footprint. This equates to 8% on top of our territorial emissions. Whilst the UK's Jet Zero Strategy aims to achieve a Net Zero aviation industry by 2050, there are concerns about whether this can be delivered.

Yorkshire and Humber Climate Commission have advocated for a National Aviation Strategy, and we would wish to see emissions reduction and demand management in line with the Sixth carbon budget as central objectives of that strategy.

Implications of consumption evidence

Consumption emissions are often seen as personal or business choices, but some aspects are influenced by policies, communication, and financial levers. Further work is needed to understand how consumption data could help shape decision-making within the region. We need to know more about how different aspects of consumption are influenced by regional decisions. We can break this down as follows:

- Regional actors (public sector and private business) can have a direct impact on what is consumed, through local procurement policies, community wealth-building and circular economy initiatives. These can enable more of the goods and services consumed in the region to be produced locally, giving greater control over their emissions and retaining wealth within the region to stimulate climate-ready business activity.
- Some consumer choices depend heavily on regional-scale interventions to enable them indirectly, such as reduced energy consumption through take-up of heat networks or switching from car journeys to active and public transport through improved infrastructure.
- There are some societal-scale behaviour changes, such as flying less or buying more sustainable clothes, that are significant individual choices, but which local and regional decision-making has little influence over.
- Regional and local policy and investment may also need to respond to changes driven by changing consumption patterns at a national or global scale, which have local implications. For example, reduced meat-eating and greater take up of electric vehicles will affect the farming industry in the region, and the need for vehicle charging infrastructure.

THE YORKSHIRE AND HUMBER CLIMATE COMMISSION

The Yorkshire and Humber Climate Commission ("the Commission") is an independent advisory body that has brought together a wide range of people from the public, private and third sector to support, facilitate and enable the delivery of ambitious climate action across Yorkshire and Humber. It is the largest climate commission within the UK and the only one operating at a regional scale.

The Commission has four inter-related aims:

- to foster climate resilience and adaptation to climate risks and impacts
- to support rapid progress towards net zero carbon emissions
- to encourage a just and inclusive transition that helps reduce inequalities and that leave no-one and nowhere behind
- to promote action that protects and restores nature and biodiversity.

The Commission is committed to working towards its goals by creating a positive and enabling culture where:

- existing capacity is mobilised through effective engagement
- constructive debate is supported
- our collective evidence base is strengthened
- best practise is promoted and adopted
- capacities are built
- progress is regularly reviewed and analysed.

The Commission is also working to create a more stable policy environment that builds confidence and attracts investment in action on climate and nature within the region.

THE YORKSHIRE AND HUMBER CARBON REDUCTION ASSESSMENT

In mid-2023 the Commission commissioned independent academics to complete a technical assessment of Yorkshire and Humber's carbon reduction pathways, identifying how to achieve Net Zero by 2038. The Yorkshire and Humber Carbon Reduction Assessment (the technical assessment) is based on the methodology developed for the Leeds Net Zero Roadmap and a series of 'Mini-Stern Reviews' conducted for other places around the UK. The research models a suite of hundreds potential interventions, both for their carbon effectiveness and their cost effectiveness, and examines how combinations of these measures can contribute to meeting decarbonisation targets.

It aims to provide an objective basis for comparing different measures to inform policy analysis, decision-making, and communications and engagement.

In addition to previous, similar studies, the technical assessment includes modelling of land-use interventions, such as conversion of some livestock farmland to forestry; and provides analysis of the co-benefits of decarbonisation measures, for example the health benefits of increased physical activity and better air quality arising from non-motorised transport.

The assessment acknowledges that it has only considered the technical and economic aspects of the measures it has modelled and not, for example, any political or ethical obstacles.

The assessment is based on assessment of the region's territorial emissions, meaning those produced within the region's borders. This is because the UK's target of Net Zero by 2050 is based on territorial emissions and the Department for Energy Security & Net Zero publishes progress biannually. Exclusions from this data are aviation and shipping, imported goods and services, and biomass. In Our Carbon Story we address this gap by drawing on other research that uses consumption-based data.

For full details, including data tables and graphs please refer to the technical report. (LINK to come) Research data on consumption emissions can be found here: localfootprint.uk/

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