West Yorkshire Combined Authority

Tracy Brabin Mayor of West Yorkshire

West Yorkshire Climate and Environment Plan

2021 – 2024

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Mayor's Foreword

As Mayor of West Yorkshire, I am fully committed to leading our region's response to the climate emergency and protecting our environment. I am pleased to share with you West Yorkshire's ambitious climate and environment plan for action.

The climate and environment emergency is a real and present danger, affecting our health and wellbeing today. We can't have a fair, just and inclusive recovery from COVID-19 unless we address the impact of climate change and nature in decline. West Yorkshire's five councils and the West Yorkshire Combined Authority have all committed to reach net zero carbon emissions well before the Government's target date of 2050.

I know this challenge will require urgent and long-term collaborative action across all sectors of our economy and communities - and there is no simple and single solution.

However, there is also great opportunity to empower our region to build a modern and sustainable economy, with vibrant communities, free of air pollution, rich in green spaces and biodiversity and supported by an efficient low emission transport network and world class infrastructure.

I want everyone to be able to share the benefits of homes that are healthy, economical, and warm; workplaces that are more energy efficient; energy supply which is more local, clean, flexible and affordable; transport that is sustainable, integrated and low emission; nature and landscapes that are rich, diverse and improved; and places and people using resources efficiently whilst being ready and resilient to a changing climate.

We have an ambitious Plan to achieve this, creating a roadmap and policies, setting the groundwork for future emission reductions, delivering action and making the investments so West Yorkshire's economy is net zero carbon, fair, inclusive and sustainable.

Prioritising good, green jobs, and investing in skills and training for young people to do them have been some of my key pledges as Mayor for our region's economic recovery. Both will be vital to achieve our commitment to a fair, just and lasting recovery for all of West Yorkshire.

This is the key moment for Government, West Yorkshire businesses, communities, local authorities and citizens to work alongside each other and play their part in tackling the climate and environment emergency. We have no time left. Now is the time to act.

Tracy Brabin

Mayor of West Yorkshire

Introduction

Context

The Mayor of West Yorkshire and West Yorkshire Leaders have declared a climate emergency, going further and faster than national Government, and set an ambitious science-based target for the region to be net zero carbon by 2038, with significant progress by 2030. Our strong partnerships are critical to deliver the ambition and scale of the Plan, backed up by local and national investment and funding.

Reducing harmful carbon and air quality emissions, helping nature to recover and improve long-term climate resilience is critical and action across all parts of the economy and society is required.

The mayor and West Yorkshire Combined Authority ('Combined Authority') will ensure the West Yorkshire Climate and Environment Plan ('Plan') and transition to a net zero carbon economy is fair, just and reduces inequality in West Yorkshire. It cannot be the cause of further inequality for our most excluded and deprived groups and communities. Inclusive growth, equality and diversity goals and outcomes will be delivered through this Plan.

Delivering a fair, just and lasting recovery will ensure the region takes advantage from the transition to a sustainable and net zero carbon economy, boosting good jobs, training and upskilling opportunities across West Yorkshire. The construction industry, manufacturing, and transport, are the sectors where most focus is needed both to seize the employment boost of a sustainable and net zero economy and in terms of skills and retraining (LSE, University of Leeds, 2019, 2020).

Across West Yorkshire, 235,000 jobs could be affected by the transition to a net-zero carbon economy, with around 119,000 workers in high demand because of their skills and experience, and 116,000 workers requiring upskilling and support. However, 828,000 jobs will not be significantly affected by the transition (LSE, University of Leeds, 2019).

Progress to date to deliver at the pace and scale necessary has been hampered by a lack of resources to develop and deliver actions and have the right opportunities in place to secure the investment and funding we need. These obstacles must be overcome to tackle the climate and environment emergency.

The actions in the plan and the impact they can have is taken from the science-based reduction pathways study and responds to the carbon budget for the region. Consistent with the objectives of the UN Paris Agreement on Climate Change (Paris Agreement) and the Intergovernmental Panel on Climate Change (IPCC).

The Plan is focused to deliver a sustainable and net-zero carbon economy with the costs and benefits equally shared. It is critical that our response to COVID-19 is to invest in a new and different economy that lays the foundations for a healthy, sustainable and resilient future. To achieve this requires engagement and partnership working our communities and businesses across West Yorkshire.

The Plan lays the groundwork to allow significant carbon dioxide emission reductions to be made later this decade and in the 2030s.

A sustainable, nature rich and climate ready West Yorkshire requires significant public and private investment. Mobilising the finance will be a collaborative effort by the mayor and West Yorkshire leaders, Combined Authority, local authorities, government, lenders, investors and people of West Yorkshire. The finance required to deliver this three-year Plan is up to £4.4 billion. Furthermore, to deliver the priority programme of flooding schemes over the period 2021-2026 will require £120 million.

As is evident the financial implications of delivering the mayor's pledge, the Plan and its future iterations are significant. The financial investment will be through a mix of sources including the Combined Authority in partnership with public and private finance and funding.

Bringing together partnerships and collaborations between the public, anchor institutions and private sectors will help to secure the funding, finance and investment opportunities. This will make a significant contribution to the region's Strategic Economic Framework and shared ambitions for a modern, clean and inclusive economy and communities.

The Combined Authority will work with the mayor and Local Authority leaders to prioritise funding available through the Single Investment Fund

Securing the finance required to deliver this Plan is critically important. Financial investment will be through a mix of sources including the Combined Authority in partnership with public and private funding. Work is ongoing to identify potential funding sources, including the Single Investment Fund, and how to use local funding to secure investment from other partners, including government.

The mayor is committing to bring forward a Climate and Environment Fund, for which the Combined Authority will work with our partners to design the delivery mechanisms. So far, £800,000 has been committed by the mayor and Combined Authority to a Net Zero Region Accelerator programme to bring forward finance and funding for climate and environment projects that support delivery of the West Yorkshire Climate and Environment Plan.

This level of investment delivers significant financial savings to the region, both for individuals and organisations. For example, large savings are likely to be made through fuel cost reductions that occur because of efficiency improvements across buildings and industry and the transition from petrol and diesel to electric vehicles.

Our strong partnerships are critical to deliver the mayor's and West Yorkshire leaders' pledge to tackle the climate emergency and the region's climate and environment ambitions.

Mayor of West Yorkshire
Combined Authority
Local Authorities
Large Public Sectors: Health, Education, Emergency
West Yorkshire Housing Partnership
DEFRA Family
Yorkshire Water
Northern Powergrid
Northern Gas Network
Businesses, Lenders, Investors
West Yorkshire Local Nature Partnership
Yorkshire & Humber Climate Commission
Academia
Third Sector
People of West Yorkshire
Government
Net-Zero
Thriving Nature
Healthy Landscapes
Climate Ready

Progress to Tackle the Climate and Environment Emergency

Across West Yorkshire investment and action is underway to tackle the climate emergency, restore and enhance nature, be ready for a changing climate and create sustainable communities and businesses. West Yorkshire Combined Authority and partner councils are delivering projects and initiatives across the themes of this Plan and it complements local authority plans and action to address the climate and environment emergency. The following examples highlight the breadth of progress underway throughout our region

City of BRADFORD METROPOLITAN DISTRICT COUNCIL	Bradford Council is demonstrating local leadership by connecting social, economic, cultural and environmental wellbeing, resilience and COVID-19 recovery within their sustainable and inclusive district and clean growth framework. The Council has invested over £300,000 in community climate action across all five Constituencies and with over 50 grass roots initiatives supporting citizens, children and young people in addressing climate challenges. Over £200m investment is planned to 2030.

Calderdale Council	Calderdale Council's Natural Flood Management Landowner Grant Scheme is working with landowners and farmers to undertake natural flood management to build up Calderdale's resilience to heavy rainfall events. The Council are also directly delivering natural flood management projects elsewhere including installing heather bunds and blocking channels to retain water on moorland, delivering flood mitigation and enhanced wildlife habitats.

Kirklees COUNCIL	The White Rose Forest is a local authority Joint Venture Agreement covering North & West Yorkshire that includes partners such as the Forestry Commission, Woodland Trust and Natural England. It represents North and West Yorkshire's contribution to the 'Northern Forest'. Kirklees Council is the accountable body and has primary responsibility for running the 'White Rose Forest Delivery Pathway' which aims to work with willing landowners and partners to deliver landscape-scale tree planting, green streets and landscapes for water. Tree planting will improve the health and wellbeing of residents, reduce flood risk, support wildlife and absorb carbon emissions.

Leeds CITY COUNCIL	Leeds City Council has committed to investing £100 million in measures to improve the energy efficiency of council housing by 2025. This commitment will help thousands of Leeds residents save energy, protect residents from cold-related illnesses and deliver significant carbon savings. Work announced as part of this commitment so far include: £24m to connect 26 tower blocks to 'district heating clusters' connected to ground source heat pumps; £9m works to deliver whole house retrofits to 190 flats in the Holtdale estate including air source heat pumps, solar PV, upgraded ventilation systems, insulation measures, and LED lighting.

wakefieldcouncil working for you	Wakefield Council is planning to deliver its climate neural 2030 pledge by: political leadership, decarbonise their corporate estate, buildings, street lighting, and fleet; switch to renewable electricity – developing Energy Parks to meet organisational demand; off-set remaining carbon emissions through tree-planting under the White Rose Forest and Woodland Carbon Code; raise awareness and incorporate into decision-making including carbon literacy training.

West Yorkshire Combined Authority	West Yorkshire Combined Authorities £12 million CityConnect programme works in partnership with a range of public, private and community organisations to encourage more people to take part in active travel - such as cycling or walking – by creating high quality cycling infrastructure alongside engagement initiatives such as cycle training, cycle challenges, business and school support and behaviour change campaigns.

Roadmap 2038

State of the Region

To fully understand how to address emissions to achieve net zero by 2038, secure recovery of the natural environment and be ready for a changing climate it is important to know where we are starting from. Our West Yorkshire State of the Region Report provides a handy snapshot of where we currently are in terms of tackling the climate and environment emergency.

West Yorkshire State of the Region Report
Tackling the Climate Emergency Priority – Summary

West Yorkshire has committed to becoming a net zero carbon economy by 2038.

The latest data indicate that CO_2 end-user emissions in West Yorkshire stand at around 10.8 Mt CO_2. This equates to 4.7 tonnes per capita, slightly below the national average of 4.9 tonnes.

Carbon dioxide emissions have fallen less quickly in West Yorkshire than nationally over the last decade for which we have data, but West Yorkshire's starting point was lower in per capita terms.

A continuation of current rates of emission reduction in West Yorkshire will not be sufficient to achieve the target of net zero by 2038. It is projected that current policies will only achieve a fraction of the further reductions required to meet the net zero target.

Emissions from the industry, commercial and domestic sectors of the regional economy fell substantially over the last decade, but transport emissions did not register a sustained reduction in the period to 2019.

The emissions intensity of the West Yorkshire economy, in terms of CO_2 emissions (kt) per £m of GVA, is slightly above the national average and is higher than most of the comparator areas. The region's emissions intensity fell by 40% between 2005 and 2019.

National data shows that there was a significant fall of around 11% in CO_2 emissions in 2020, linked to the effects of the pandemic. This was manifested in a large reduction in the use of road transport and a fall in emissions from the business sector.

Engagement with the natural environment is key to quality of life. Currently, around 23% of West Yorkshire residents have local natural greenspace within easy access of their homes (defined as within 5 to 10 minutes walking distance depending on walking speed). Within the region, there is a variation between districts: in Leeds and Calderdale the proportion is slightly higher, at around 26%; in Bradford it is 23%; but it falls to less than a fifth in Kirklees (18%).

The average Energy Performance Certificate rating for domestic properties in West Yorkshire is D (using a scale of A – most efficient to G – least efficient). This

is like the national average, but significant progress is required to meet the government's target to upgrade as many homes as possible to EPC Band C by 2035.

Around 169,000 households in West Yorkshire (17% of all households) are in fuel poverty, a prevalence that is above the national average. Fuel poverty is the problem faced by households living on a low income in a home which cannot be kept warm at reasonable cost.

Around 4% of residential properties in West Yorkshire fall within a flood zone, rising to more than 6% in Calderdale. A significant proportion of neighborhoods' in Bradford and Calderdale are acutely vulnerable to the effects of flooding.

Emission Reduction Pathways

Background

Once we had calculated current emissions, we wanted to understand the different ways in which the region could meet its net zero carbon target by 2038[1]. To do this we commissioned independent experts to model four different versions of the future in relation to emissions – our emission reduction pathways.

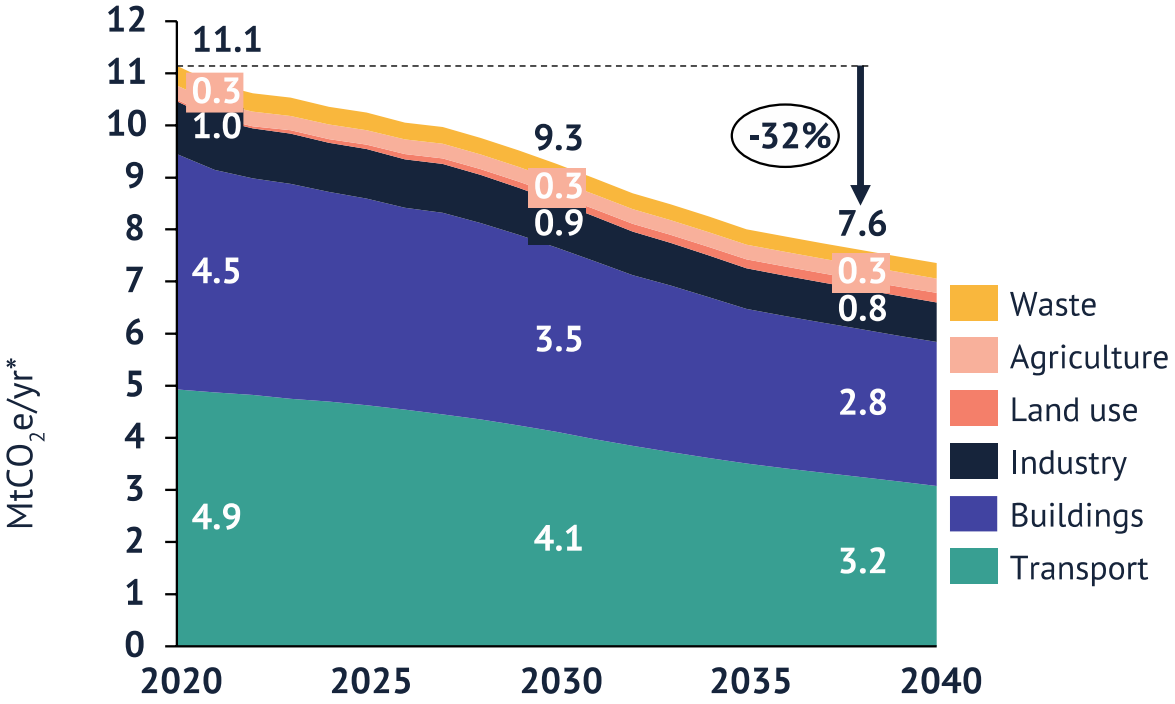
Our first pathway considered the emission reductions that we could expect to see in the region because of interventions that were already committed or in train, for example government policies. This was termed the Baseline Pathway and was helpful in providing us with an understanding of the level of interventions that would need to be implemented above and beyond existing commitments.

The remaining three pathways, our Maximum Ambition, High Hydrogen, and Balanced Pathways, all build on the Baseline Pathway to illustrate the realistic levels of emission reductions that could be delivered in the region in the context of the 2038 target.

Baseline Pathway

As referenced above the Baseline Pathway sets out the likely emission reductions, we could expect to see the in the region because of current policies. In the absence of new policies, incentives, and regulations the Pathway suggests there will be a relatively low uptake of most technologies beyond 2025.

The Baseline Pathway estimates a 32% reduction in emissions could be achieved in the region if we did not implement interventions beyond current policies. Under this Pathway emissions would be 7.6 MtCO2 in 2038, a long way short of our ambition.

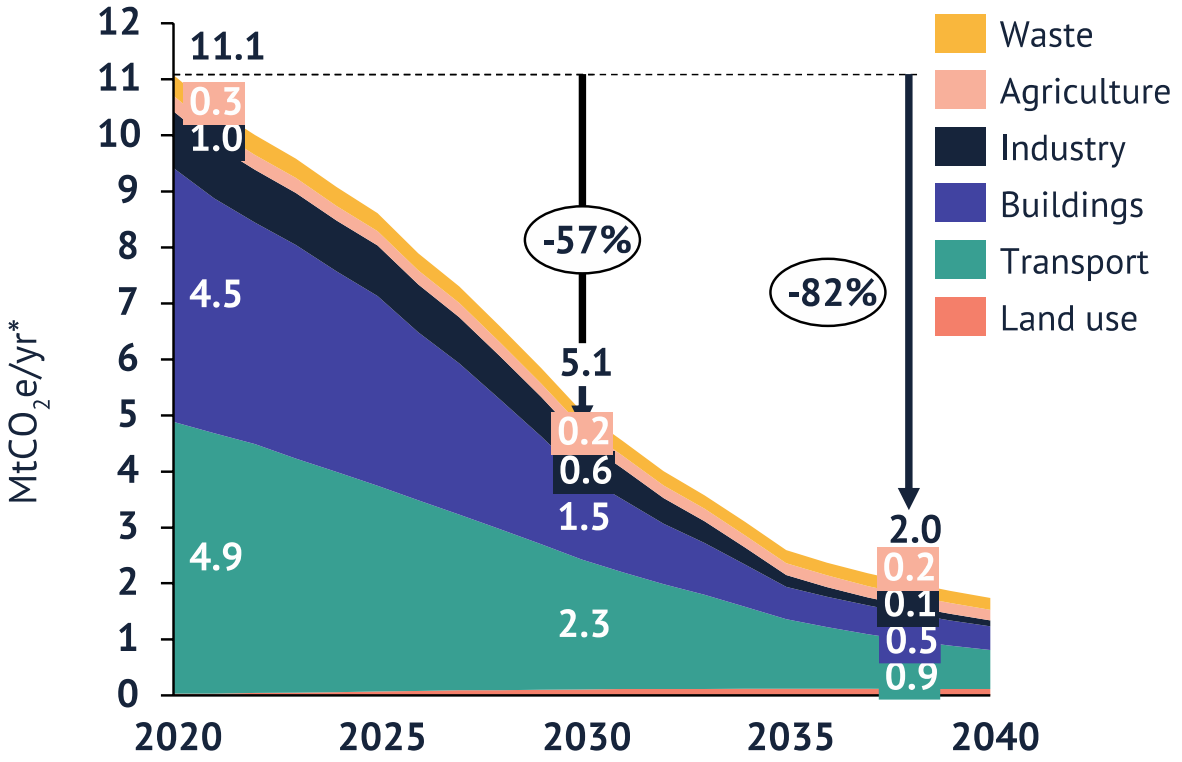


Across transport, reductions would occur through wider adoption of cleaner, more cost-effective technology such as electric vehicles. National efforts to decarbonise electricity and increase energy efficiency would result in reductions in emissions from buildings and industry. However, we would see a growth in emissions from agriculture and land-use as our population rises increasing food production and urban spread.

Maximum Ambition Pathway

This Pathway considered the emission reductions that could be achieved in the region if a predominately electricity led approach to decarbonisation was taken. This would mean significant electrification of heat, transport and industry supported by enabling technologies such as flexible demand and energy storage.

The Maximum Ambition Pathway estimates that an 83% reduction in emissions could be achieved in the region through the interventions modelled. 1.9 MtCO2 would remain in 2038 under this Pathway primarily from transport and buildings.



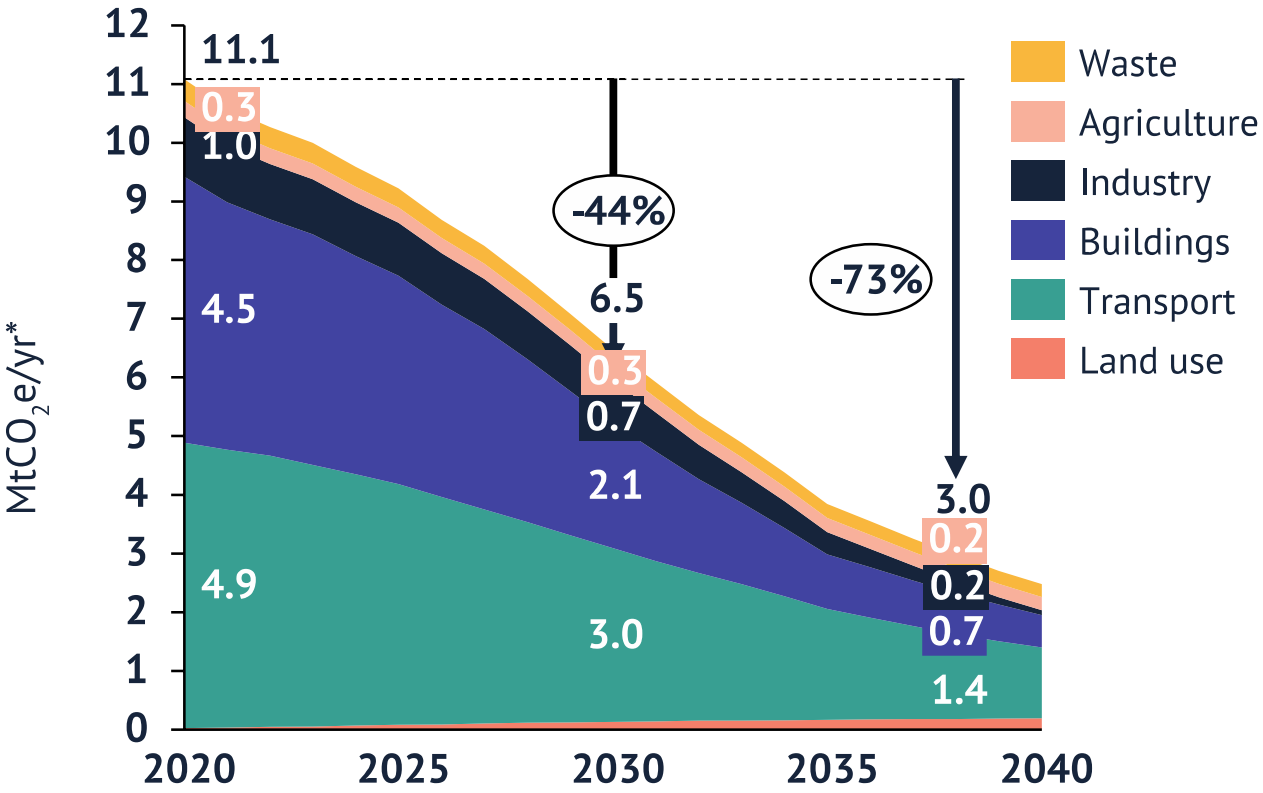
To achieve the emission reductions set out in the Pathway would require a significant acceleration of the deployment of technology and rapid behaviour change from consumers, industry, and business. Among other things the Pathway would require:

- a rapid uptake of electric vehicles, alongside significant consumer, and industry / business behaviour change;
- a large shift from private car use to cycling, walking and electrified public transport;
- a wide-scale retrofit of buildings with ambitious rollout of heat pumps and heat networks;
- a significant upscaling of solar, onshore wind, smart and flexible energy solutions and potentially carbon capture and storage;
- development of new technology and switching to low carbon fuels within industry; and
- forestry planting to offset emissions from new urban development.

High Hydrogen Pathway

The approach taken for this Pathway was to understand the emission reductions that could be achieved if large-scale hydrogen and carbon capture and storage was available for heating homes and businesses, delivering industrial processes, generating electricity, and transporting goods and people.

The High Hydrogen Pathway estimates a 76% reduction in emissions could be achieved in the region through the interventions modelled. 2.7 MtCO2 would remain in 2038 with a large proportion of remaining emissions from transport.



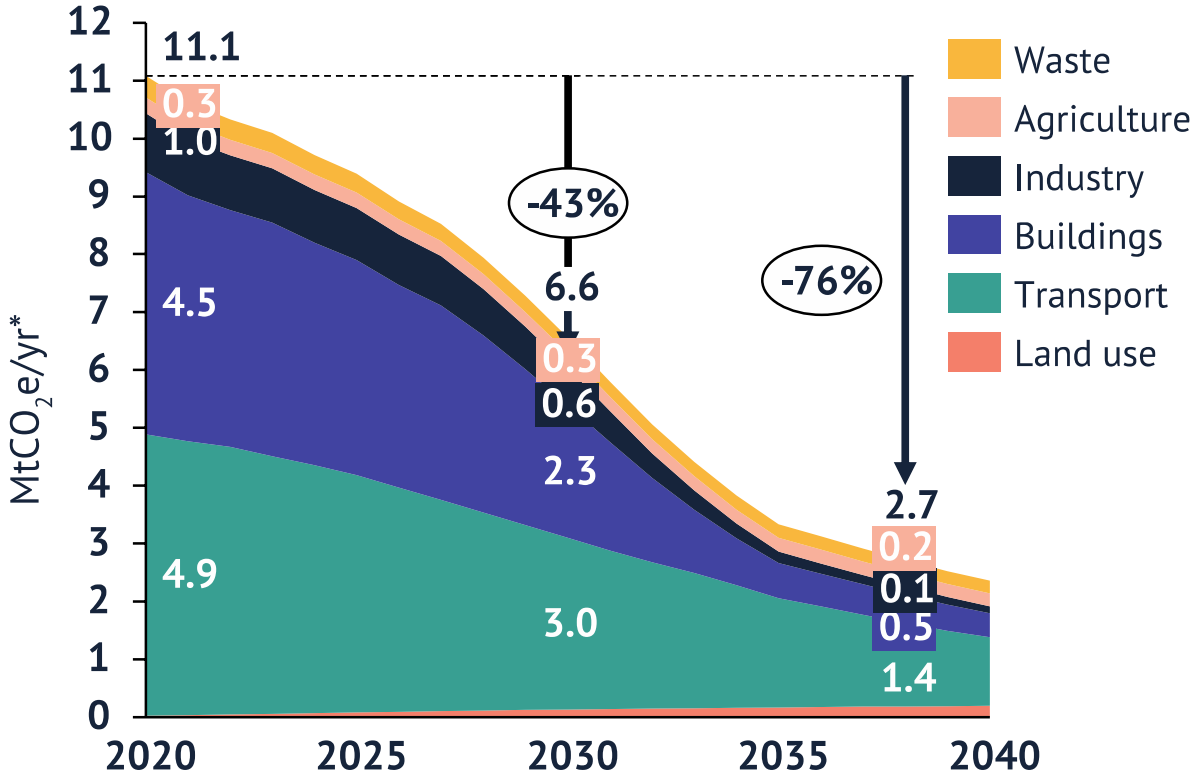
Measures that would need to be deployed as part of this Pathway include:

- a significant development and uptake of hydrogen fuel-cell vehicles, particularly in the heavier vehicle classes such as buses and HGVs;
- a conversion of the natural gas grid to hydrogen and for nearly half of the regions' homes to be heated by a hydrogen boiler; and
- installation of hybrid heat pumps and energy efficiency measures in advance of hydrogen being available.

Balanced Pathway

A balanced approach to decarbonisation was investigated as part of this Pathway. A mix of technologies were applied across the economy with contributions from electrification, hydrogen, bioenergy, carbon capture and storage, and decentralised energy production. This illustrated a scenario where technologies are deployed in parallel, with differing factors impacting on adoption, from location to price or consumer comfort.

The Balanced Pathway estimates a 75% reduction in emissions could be achieved in the region through the interventions modelled. 2.8 MtCO2 would remain in 2038 with the Pathway differing from the Maximum Ambition and High Hydrogen Pathways in estimating significant remaining natural gas usage in building boilers and industrial sites.



Measures that would need to be deployed as part of this Pathway include:

- a significant shift from petrol and diesel to electric and to a lesser extent hydrogen vehicles;
- heating of buildings and the provision of heat to industry via a mixture of electric and hydrogen heating technologies; and
- high-levels of solar PV and onshore wind roll-out, as well as energy from waste carbon capture and storage and combined heat and power facilities.

Reaching Net Zero Carbon for Decarbonisation

None of the Pathways that the Combined Authority modelled illustrate a complete decarbonisation of the economy of West Yorkshire. Depending on the Pathway we will need to achieve an additional 25% to 17% reduction in emissions by 2038 on top of those measures that have identified in our modelling work.

To fully achieve the regional target, the Combined Authority will need to explore additional decarbonisation options that could be implemented to further mitigate emissions. Some of these options will require increased ambition around the deployment of measures, others are speculative options from less mature technologies or concepts.

The government's Net Zero Strategy must provide new options for West Yorkshire to decarbonise, with the right roles, responsibilities, powers and finance from government that allow the Combined Authority and West Yorkshire local authorities to play our part to deliver the government's agenda.

Examples of measures we could look to implement to generate additional emission reductions include:

- even more ambitious renewable electricity generation to offset remaining electricity related emissions;
- offsetting emissions through negative emissions methods such as bioenergy carbon capture and storage and direct air capture;
- quicker lifestyles change e.g., following the COVID-19 pandemic, the shift to remote working and decrease in business trips which includes reduced demand for aviation;
- circular economy system changes, for example to reduce material consumption, processing and disposal;
- Over the coming years we will consider the measures where we will look to increase our ambition or investigate in more detail with a view to increasing our knowledge of how we can fully decarbonise the region; and
- For more information on the evidence underpinning the roadmap please see our technical report.

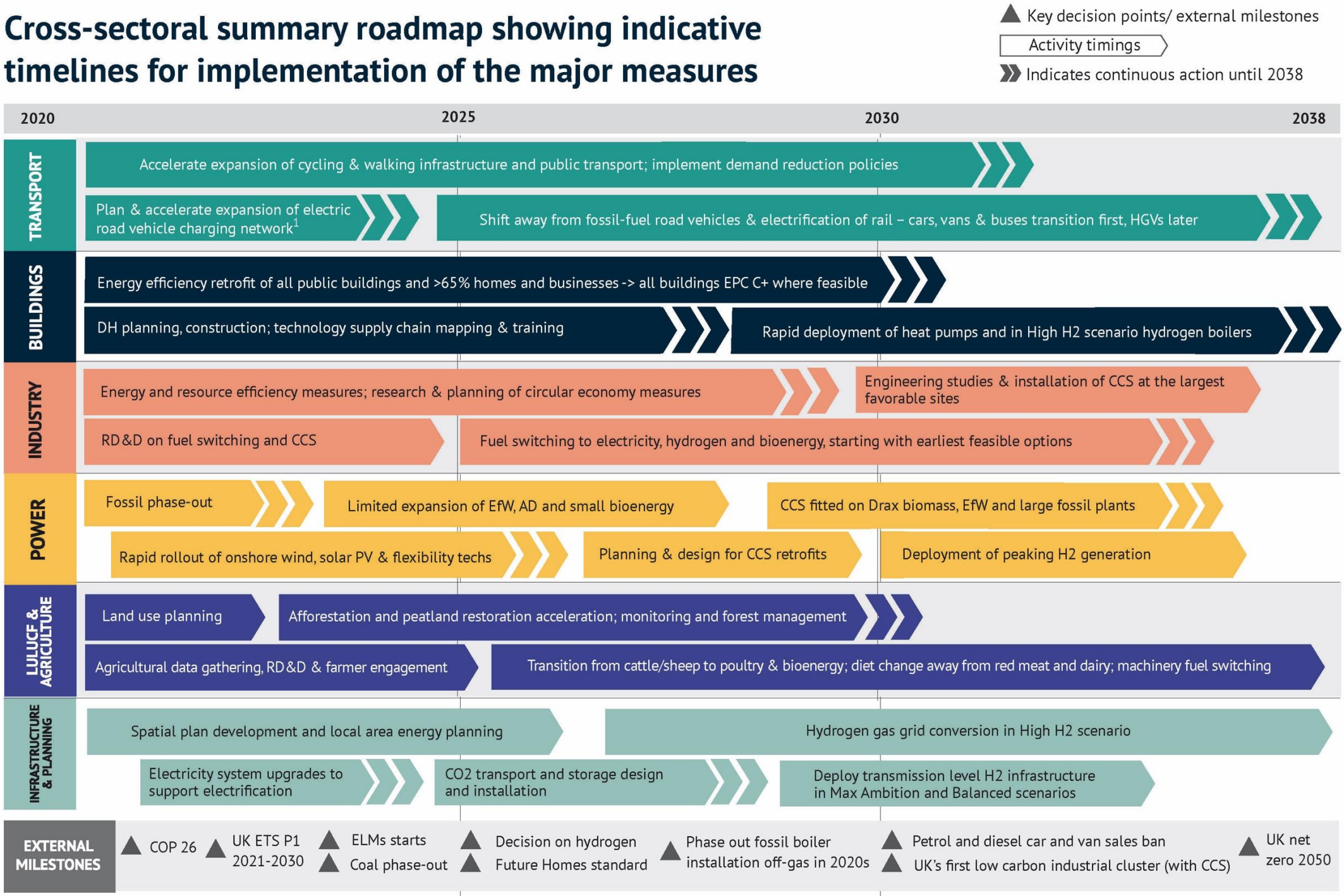
Roadmaps

Our shared approach will require large-scale ambitious action to deliver a wide range of decarbonisation measures across the five areas of transport, buildings, industry, power, and land-use and agriculture. This will need to be integrated with and contribute to place-shaping across the region, and steer business and investor decision making and use of public funds.

To understand how the measures could be achieved and to assist in planning and monitoring activity we have produced modelled roadmaps for the five areas referenced above. They provide information on the timeline of key activities and technology rollout, key decision points along each of the Pathways, and key implementation milestones to monitor progress by.

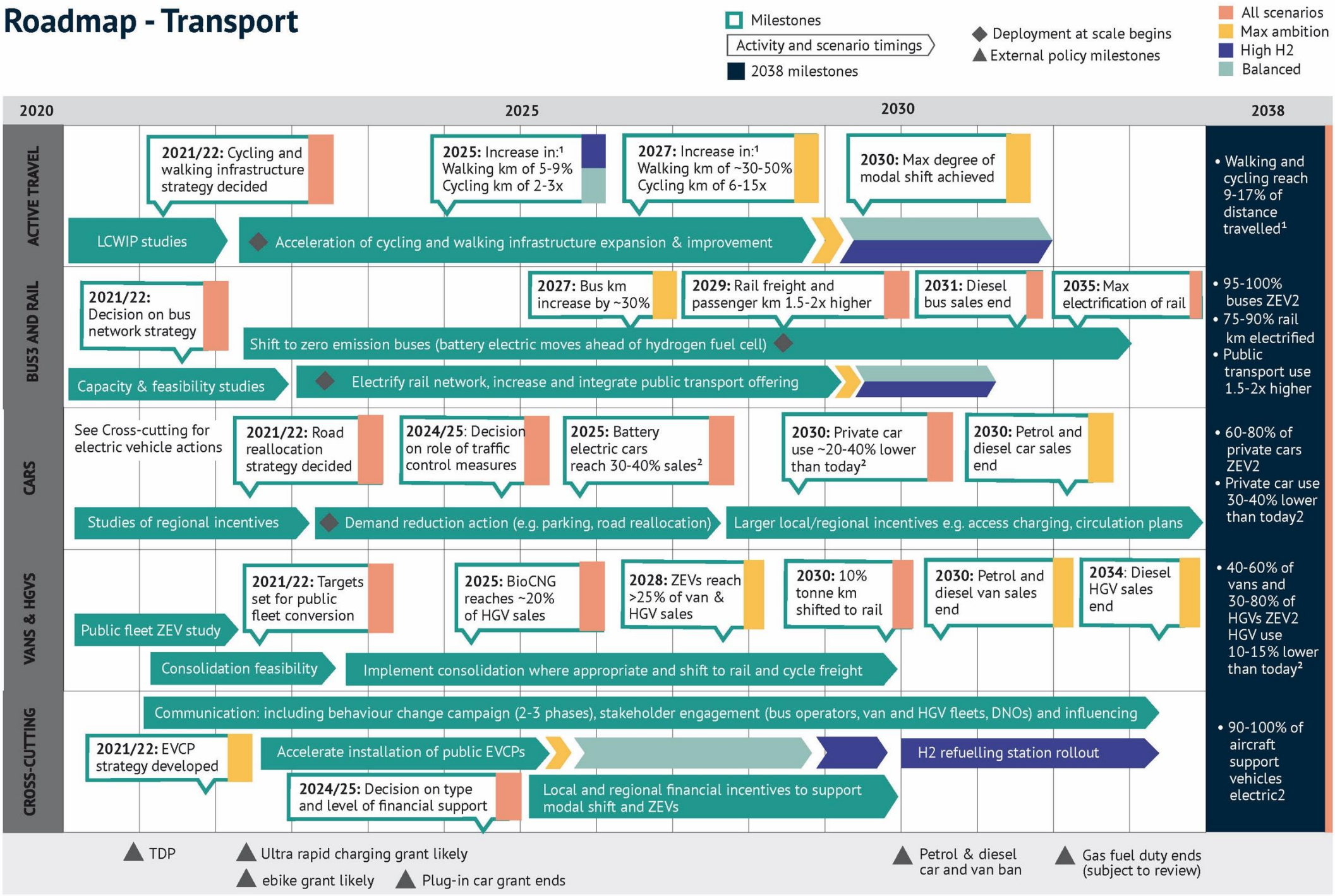
Each roadmap reflects the inherent uncertainty and differences between the three modelled Pathways to reach net zero by 2038 and provides a range of timescales associated with deployment where a measure is common across all the Pathways. We have used the outputs of the roadmaps to inform the Plan and we will also use the outputs to inform our longer-term approach to sustainable development to achieve net zero carbon, wellbeing, resilience and healthy nature and landscapes in West Yorkshire.

Cross-sectoral summary roadmap showing indicative timelines for implementation of the major measures



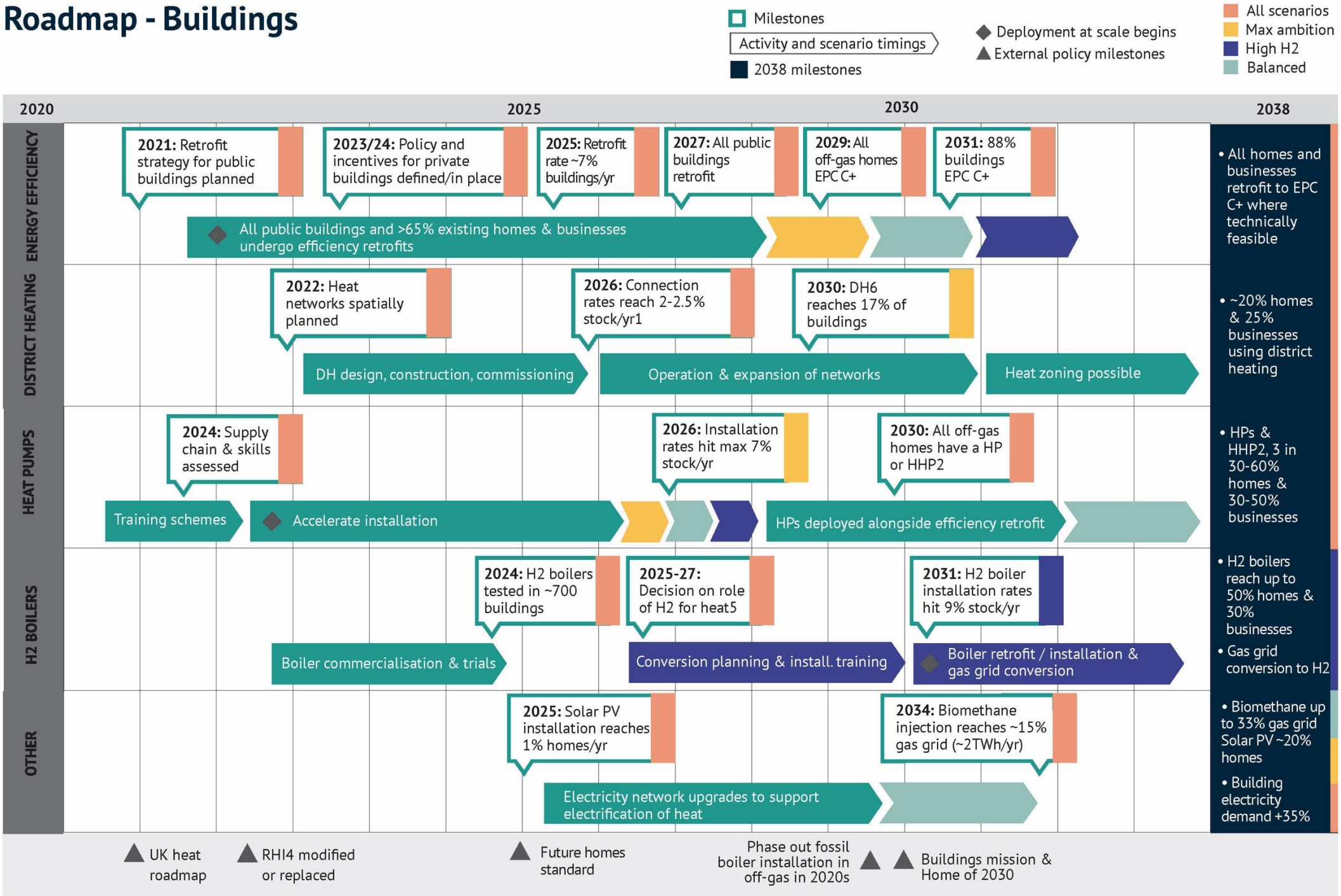
Acronyms: CCS: carbon capture and storage; H2: hydrogen; DH: district heating; EfW: energy from waste; AD: anaerobic digestion; ICE: internal combustion engine; HGV: heavy goods vehicle; EPC: energy performance certificate; RD&D: research development and demonstration; ETS: emissions trading system; ELMs: environmental land management scheme
Note: timings are indicative due to simplification – please see sectoral roadmaps for more detail; 1. Expansion of charging network will continue beyond 2025

Roadmap - Transport



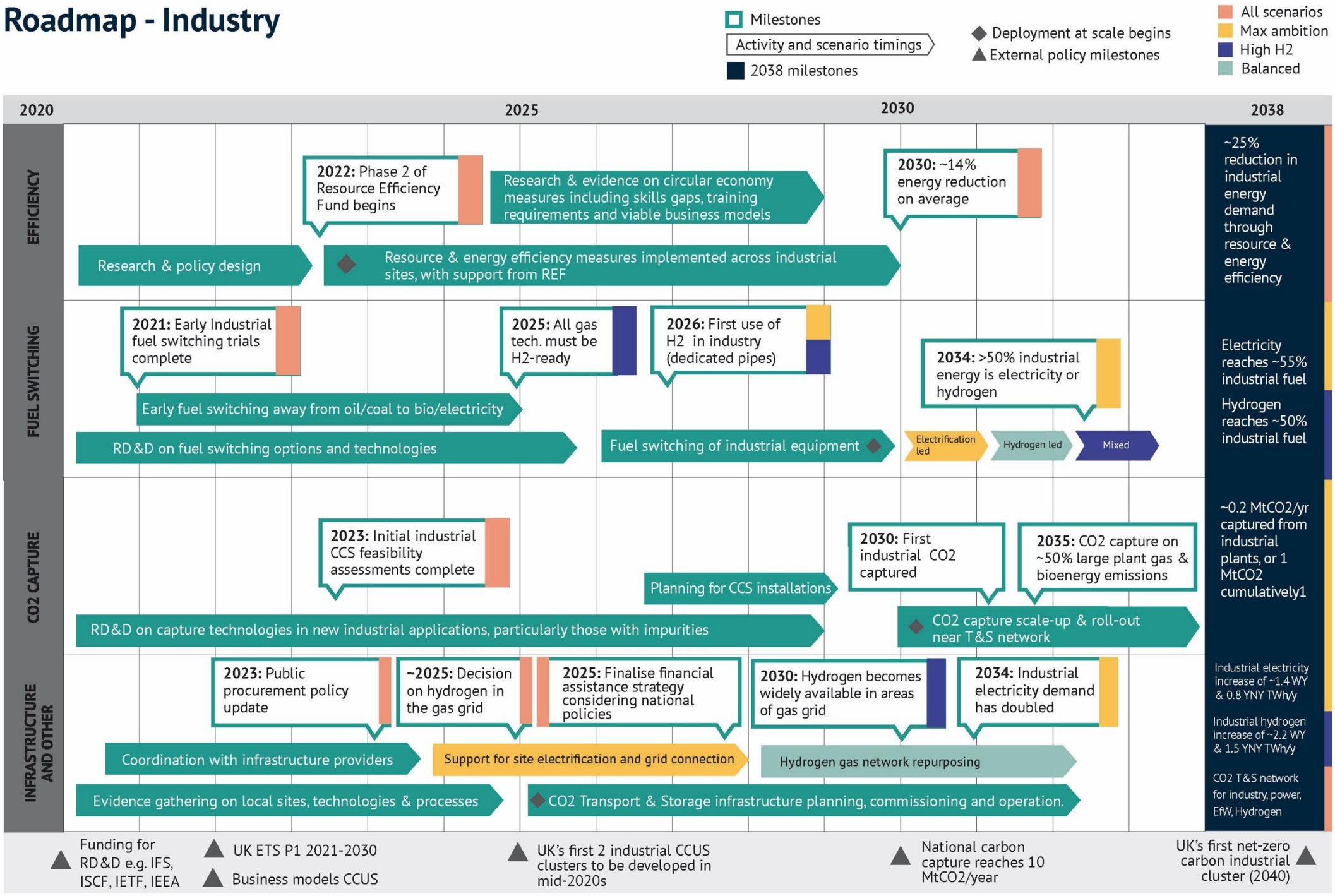
TDP = Transport Decarbonisation Plan; EVCP = Electric vehicle chargepoint; ZEV = zero emissions vehicle; CWIP = Cycling and Walking infrastructure Plan; 1. Higher value refers to WY, lower value YNY; 2. Higher value Max ambition, lower value High H2 and Balanced; increases relative to modelled 2020 values; 3. See WYCA Zero Emission Bus Roadmap (2019) for more detailed actions and milestones for bus decarbonisation

Roadmap - Buildings



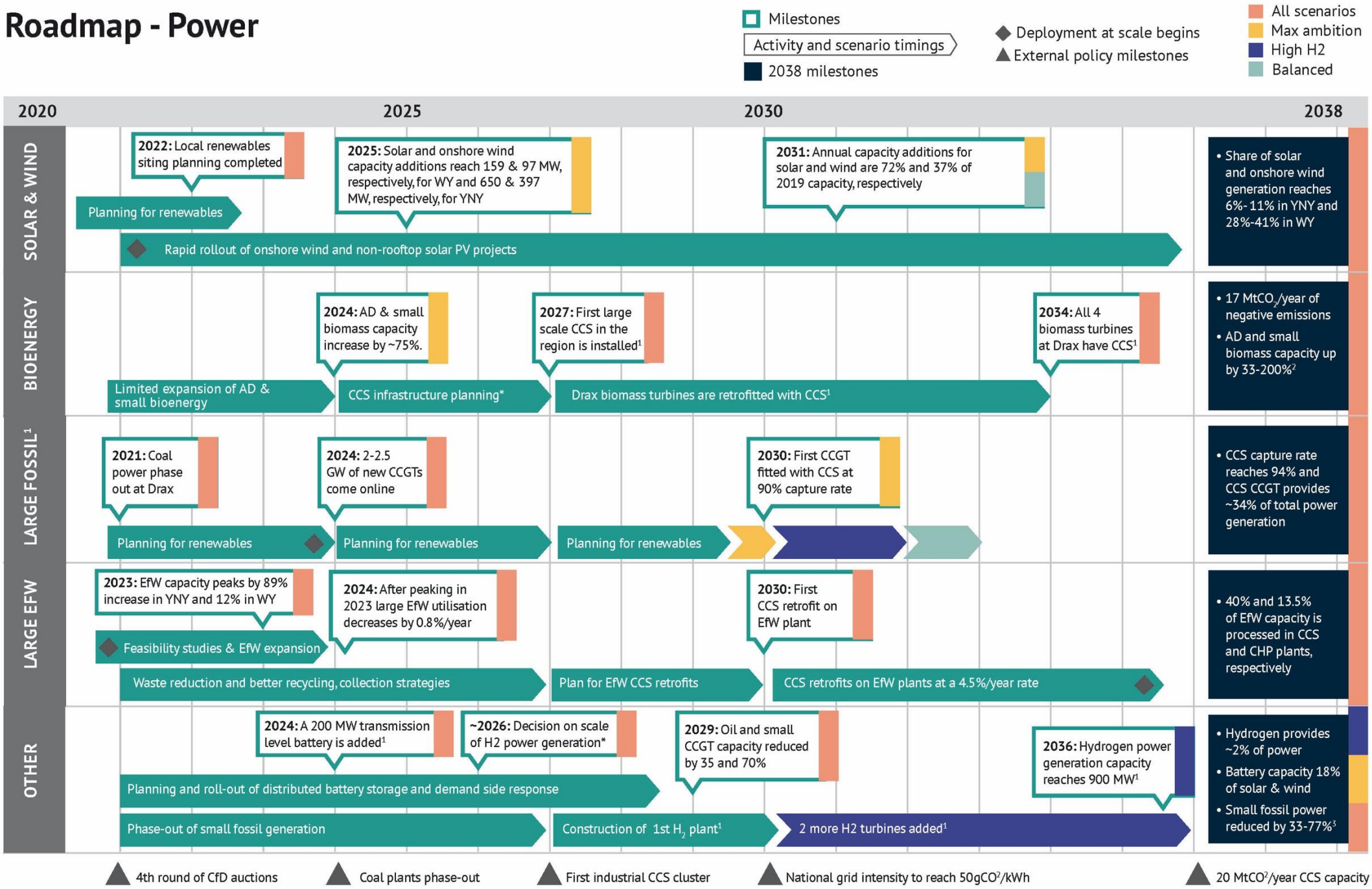
1. Higher value Max ambition, lower value High H2 and Balanced; 2. HP = heat pump, HHP = hybrid heat pump (heat pump plus boiler); 3. Higher value Max ambition, lower value High H2; 4. RHI = Renewable Heat Incentive; 5. Largely dependent on national decisions 6. District Heating

Roadmap - Industry



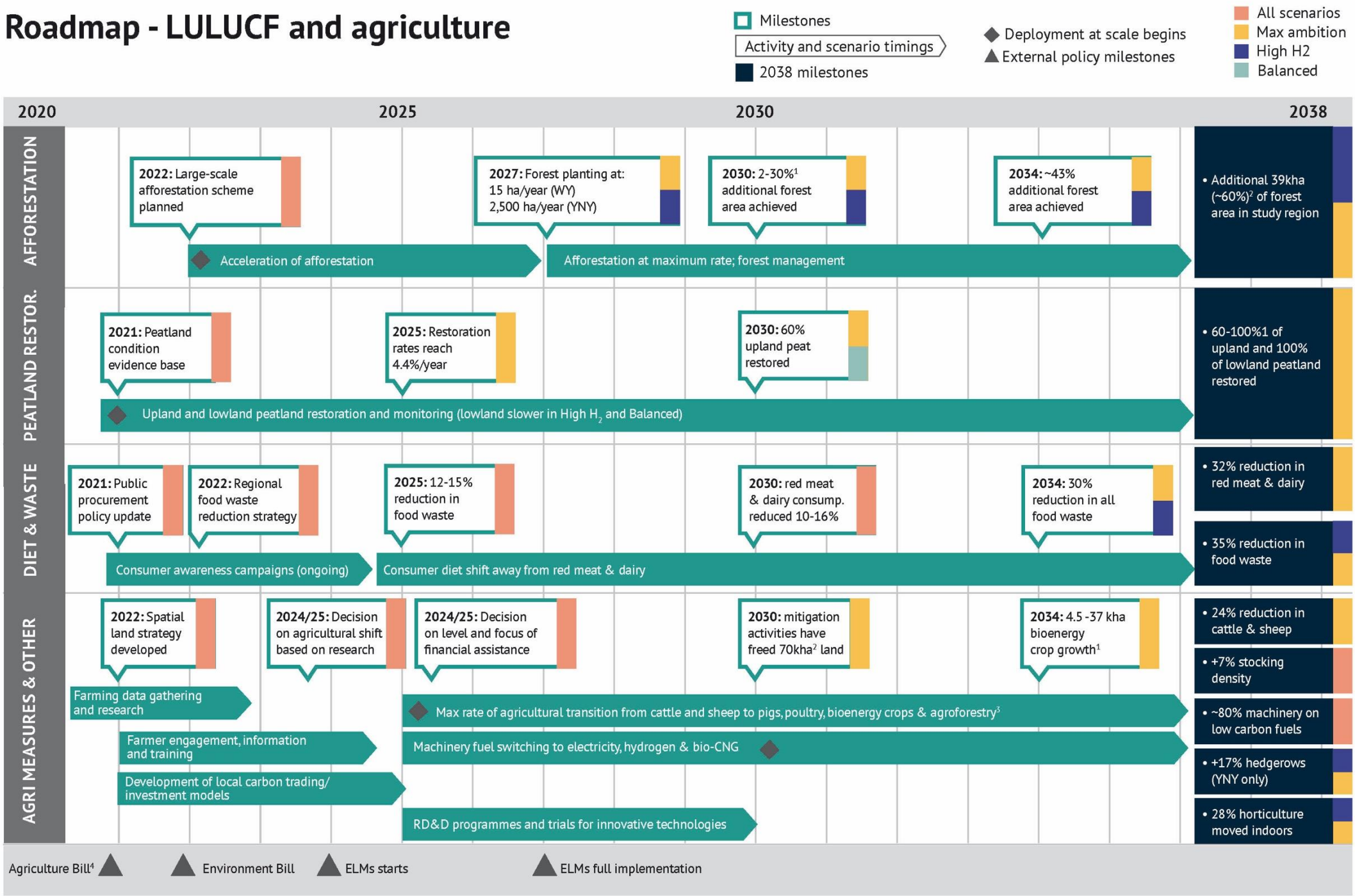
1 For the whole study region Acronyms: T&S: transport and storage; IFS: industrial fuel switching ISCF: Industrial Strategy Challenge Fund; The Industrial Energy Transformation Fund; IEEA: industrial energy efficiency accelerator; ETS Emissions trading system; CCS Carbon capture and Storage

Roadmap - Power



1- BECCS, CCS CCGT, Hydrogen turbines and one 200 MW transmission level battery are only installed in the York & North Yorkshire region.
2- Variation due to scenarios and technologies over the whole study region. 3- Savings are constant across scenarios with higher values representing WY and lower values YNY.
CCS: carbon capture and storage, BECCS: bioenergy with CCS, CCGT: combined cycle gas turbine, EfW: energy from waste, AD: anaerobic digestion, H2: hydrogen, CHP: combined heat and power

Roadmap - LULUCF and agriculture



1 Lower value is for WY, higher value YNY; 2. For the whole study region; 3. Agroforestry only in YNY, reaching 17-68 kha by 2038 (lower value Balanced scenario, higher value Max ambition)
4. Agriculture Bill passed into law Nov 2020; 5. ELMs = Environmental Land Management Scheme

Action Plan 2021 – 2024

Overview

The roadmaps identify the long-term routes we could take if we are to achieve net-zero carbon by 2038. The Action Plan is focused on the 'no-regrets' activity that will be taken over the next three years. Its primary aim is to put the partnerships and programmes in place that enable significant emission reductions to be made in future years. It also aligns with the Mayor of West Yorkshire's term of office.

The Plan sets out what the mayor, West Yorkshire leaders, Combined Authority and local authorities will do over the next three years, reflecting our crucial role in providing leadership in meeting our regional target. We all, our local authority partners, the mayor, West Yorkshire businesses and people who live and visit our region, have a role to play in delivering this Plan. The Plan sets out high-level actions over the next three years to maximise emission reductions, improve nature and get ready for a changing world and climate.

We have structured the Action Plan around eight logical themes for action, reflecting independent advice provided to us on the policies and actions that need to be implemented over the coming years to enable good progress to be made towards the 2038 target. It also addresses gaps that we will need to bridge if we are to ensure the region is prepared for the impacts of a changing climate and to address wider social, economic and environmental threats and opportunities.

Leadership

The mayor, Combined Authority and local authorities want to lead by example with our efforts to tackle the climate and ecological emergencies. We firmly believe that we have a key leadership role given our unique position in the region of having a mayor, a devolution deal, and direct involvement in the issues of strategic significance.

Leadership is about being acting responsibly and with evidence of our impacts and contribution in the assets we all own, the way we operate, the policies we implement, and the investments we direct. It's about demonstrating leadership and our commitment to addressing climate challenges and the decline in the quality of our natural environment to stakeholders, including Government, regional businesses, and West Yorkshire residents.

LE01 Policies and Decision-Making

We will implement policy and decision-making that considers the issues and needs to tackle the climate and environment emergency.

We will do this by:

- Requiring all funding under our control to show how it is addressing carbon emissions, economic, social and environmental impacts.
- Requiring project sponsors seeking West Yorkshire Combined Authority funding to account for and mitigate the emissions and environmental impacts of projects. Developing and implementing tools to support this.
- Requiring all tendered bus services under the Combined Authority control to be net zero emission, or with a comprehensive plan to move to be net zero emission as soon as possible.
- Requiring all existing and future Combined Authority policies and strategies to demonstrate how they will contribute to addressing the climate and environment emergencies, legislation and required environmental performance of infrastructure and services.
- Developing options for a carbon offsetting scheme, recognising that for some schemes with multiple benefits seeking Combined Authority funding will be unavoidable.
- Purchasing clean energy for all our operations, considering the value of take up of power purchase agreements.
- Implementing sustainable travel policies and supporting measures.
- Developing a roadmap and implementation plan for the conversion of the vehicle fleet directly under the control of the Combined Authority to low and zero emission vehicles.

LE02 Environment and Energy Management

We will take greater control over the environmental impact the Combined Authority has as an organisation, publicly committing to challenging targets and actively monitoring and managing our impacts.

We will do this by:

- Making a public commitment to being net-zero carbon as an organisation by 2038 at the very latest.
- Declaring an ecological emergency, acknowledging that our ecosystems, habitats, and species are under increasing threat.
- Becoming a member of UK100, the UK network for locally elected leaders who have pledged to reach net-zero.
- Developing and implementing an organisation environment and energy management programme, incorporating our corporate actions for addressing climate change from our own operations.
- Developing a carbon reduction hierarchy to guide investment decisions and business operations.
- Disclosing our carbon footprint via the Carbon Disclosure Project (or similar) to increase transparency over our contribution to regional emissions.
- Developing an understanding of our Scope 3 emissions and implementing a plan to reduce them.

LE03 Monitoring and Evaluation

We will monitor and evaluate our organisational and regional progress to ensure we are on track to meet the targets that we have set and to accelerate action where progress is off-track.

We will do this by:

- Developing and implementing a monitoring and evaluation framework.
- Integrating metrics on climate and environmental performance into our annual State of the Region report.
- Updating our climate pathway model to enable us to run new climate scenarios based on local trends and new data that becomes available.

LE04 Influencing Strategy

We will clearly articulate our asks of Government and other stakeholders in terms of what is needed in the region

We will do this by:

- Producing an Influencing Strategy that clearly sets our asks and use it as the starting point for discussions with relevant Government departments and other stakeholders.

LE05 Pension Fund Divestment

We will use influence as a significant investor to start the process of developing options for West Yorkshire Pension Fund divestment from fossil fuel companies and other environmentally damaging activities.

We will do this by:

- Asking the West Yorkshire Pension Fund to provide an annual statement to the mayor on its divestment action.
- Working with the West Yorkshire Pension Fund to identify climate, clean energy and environmental investment opportunities that support delivery of the Plan.

Cross-Cutting

There are some areas of activity to address the climate and environment emergency that serve all the themes covered by this Plan, for example skills, research, and development, planning and neighbourhood approaches. In recognition of this, we have framed this theme around those actions that are applicable and cut across multiple themes, avoiding duplication.

CC01 Communications, Engagement and Marketing

We will deliver communications, marketing and engagement campaigns and actions focused on how partners, businesses and residents of West Yorkshire can work together to benefit from tackling the climate and environment emergency. This will be the start of sustained and productive engagement and conversations leading to meaningful long-term action and beneficially outcomes.

We will do this by:

- Building on existing activity across the region and look to enhance and add value where required.
- Outlining the ambition and plan for delivery to raise awareness and understanding of what is happening and how to get involved.
- Providing information and resources on technologies and behaviours that support people to move towards lifestyles and businesses that are safe, clean, ethical and low carbon.
- Advertising local and national schemes, incentives, and initiatives available to assist different groups, including businesses, to decarbonise.
- Conversations with partners, stakeholders and the public on our activities and the progress being made.

CC02 Strategic Planning

We will develop the spatial evidence base to tackle the climate and environment emergency and use this to inform and influence Local Plan policy and a potential West Yorkshire Strategic Spatial Plan.

We will do this by:

- Developing a Zero Emission Infrastructure Investment Framework (ZEIIF) that provides an evidence base on the infrastructure needed for the region to support net zero, nature recovery and climate ready.

CC03 Green Skills and Training

We will build on existing relationships and develop programmes and partnerships that ensure the region has the workforce and jobs that it needs to enable a transition to a sustainable net-zero carbon economy.

We will do this by:

- Integrating green skills and training into the mayor's pledge to deliver '1,000 well paid, skilled green jobs for young people.
- Establishing a Green Skills Partnership to deliver a roadmap and actions for the just and inclusive transition to a net-zero carbon economy and society.
- Undertaking an assessment to identify skills shortages, gaps, and demand in workforce (current and future).
- Implementing training programmes to address skills shortages and gaps and build the local skills base ready for the future.
- Creating careers and inspirational activities to ensure a future pipeline of talent.
- Considering how any existing programmes and skills delivery can contribute towards addressing the climate and environment emergencies, including commissioning of adult training and careers materials.
- Working with key partners to ensure that training aligns with labour market demand and provision can meet future demand in the growing green economy.

CC04 Green Finance

We will bring together existing funding, release new green finance, and leverage partner and private capital, to accelerate delivery.

We will do this by:

- Capitalising on the concentration of financial institutions located in the region, including the new National Infrastructure Bank, to develop partnerships and investment opportunities that increase finance and financial products.
- Considering the case for providing financial incentives for low emission transport technologies and encouraging behaviour change which supplements funding available at the national level where this is insufficient to accelerate the uptake of these measures.
- Bring forward the finance and funding for energy efficiency measures and low carbon technologies by households and measures, technologies, waste and material efficiency, and circular economy solutions by businesses through financial incentives and products.
- Considering the financial mechanisms which enable new homes being built in the region to be sustainable the point of construction.

- Considering the case for proving low-cost loans to developers of small and medium scale low carbon energy generation and flexibility technologies.
- Establishing a Climate Ready Financing Task Force that can work together to investigate the development of financial products for climate resilience and adaptation, for example resilience bonds.

CC05 Better Neighbourhoods

We will support a Better Neighbourhoods programme, bringing people, investment and funding together for greatest impact.

We will do this by:

- Launching a Better Neighbourhoods programme that support the best community proposals for greener, cleaner and climate ready neighbourhoods.
- Prioritising local, clean, and flexible energy solutions, healthy, affordable, and efficient buildings, walking, cycling and public transport, green and climate ready nature solutions.

CC06 Innovation for Net-Zero, Nature Recovery and Climate Ready

We will capitalise on the academic knowledge and expertise in the region to develop and support innovation that increases the ability of the region to meet its net zero carbon target and contribute to nature recovery and climate readiness.

We will do this by:

- Capitalising on the international expertise in the region to develop the solutions, share the results with partners and stakeholders, and integrate into our planning and activity.
- Prioritising net zero, nature recovery and climate ready through our Connecting Innovation Programme and influencing others in the innovation ecosystem to do the same.
- Exploring improved mechanisms for knowledge sharing and exchange between Higher Education Institutes and businesses across both research and development (ideation and development of new technologies) and innovation diffusions (adoption and exploitation of new technologies).
- Exploring the feasibility of focusing on net-zero, nature recovery and climate ready challenges as part of a new Mayors Challenge competition.
- Exploring a partnership arrangement with UK Research and Innovation on a region innovation programme with local and national expertise.
- Including net-zero, nature recovery and climate ready in existing innovation activities, for example the entrepreneur’s package of support, Made Smarter Pilot.

CC07 Digital Infrastructure

We will support the delivery of digital infrastructure (gigabit capable broadband and 4/5G mobile connectivity) to enable greater opportunities for smarter and flexible activities and to increase the application of digital enabled technologies to reduce emissions and improve the environment.

We will do this by:

- Focusing on the public sector supporting delivery in hard-to-reach and/or rural areas that are unlikely to receive connectivity commercially.
- Delivering the West Yorkshire and York Superfast Broadband Programme (Contract Three) providing gigabit capable broadband to areas.
- Delivering the Wakefield Gigabit Voucher Top-Up Programme subsidising broadband connectivity to clusters of premises.
- Engaging with the Department for Digital, Culture, Media, and Sport (DCMS) on Project Gigabit which will support delivery of gigabit-capable broadband to the ‘final 20%’ of premises in the region.
- Refreshing the Digital Framework to reflect the role digital can play in addressing the climate and environment emergency.

Transport

The transport sector is the highest emitting sector of carbon emissions within West Yorkshire and is dominated by road-transport and the private car. To reduce emissions to virtually zero within the sector will require a fundamental change in the need and how we travel, with fewer journeys enabled by digital technology and and more of the journeys made being undertaken by public transport, cycling and walking.

This theme is focused on the activity that we will undertake over the next three years to address emissions from transport in the region and represents a combination of accelerating schemes that contribute to net zero and establishing the groundwork for significant emission reductions in the years to come.

TR01 Connectivity Infrastructure Plan

We will accelerate the delivery of the West Yorkshire Connectivity Infrastructure Plan.

We will do this by:

- Leading programme development for the City Region Sustainable Transport Settlement (CRSTS), working with West Yorkshire local authorities as the highway authorities and industry partners, and ensuring sustainable transport measures are included within the programme.
- Commencing planning on a range of mass transit routes across the region and making early progress on developing and delivering a Phase 1 route.
- Accelerating substantial investment in sustainable transport infrastructure, for example bus corridors, priority, and facilities; rail infrastructure; strategic Park and Ride; highways investment addressing road space reallocation for walking, cycling and public transport.
- Accelerating substantial investment in walking and cycling interventions with a focus on places and neighbourhoods and access to the public transport network.
- Delivering a substantial behaviour change programme.

TR02 Road Space Reallocation

We will investigate road space reallocation on key corridors for cycling, walking and public transport as a key mechanism for reducing travel by the private car.

We will do this by:

- Developing an overarching strategy for road space reallocation.
- Scrutinising the case for the construction of new roads through the funding that we control and only move schemes forward where they demonstrate significant benefit in delivering our priorities.

- Engaging with Highways England to support the mitigation of the impacts from the Strategic Road Network (SRN) to address environmental, safety and segregation issues e.g., using Highways England's Designated Funds Programme.
- Ensure road space reallocation forms part of bus reform (TR06) activities with the Bus Service Improvement Plan including better bus priority measures and integration across public and active travel modes.

TR03 Highways Demand Management

We will, in partnership with our West Yorkshire local authorities, examine the evidence and blend of policy options required to reduce car trips and encourage a mode shift to public transport and active travel, while recognising that ultimate control for parking related measures rests with West Yorkshire local authorities.

We will do this by:

- Consider measures that reduce parking supply to manage demand for car trips and show how the space can be reallocated to other uses such as car clubs, active and sustainable transport infrastructure, parklets, wider resident and business use, and micro-consolidation.
- Considering how banded parking charges could be implemented, for example by incorporating both tailpipe and other emissions, safety standard scores, dimensions incorporating weight, height, width, length etc., and on-street / off-street public parking.
- Considering how travel planning and other measures could be implemented to manage demand for business related travel.
- Work in partnership with West Yorkshire local authorities as the responsible bodies for the regulation of parking on the development of highways demand management measures.

TR04 Cycling and Walking Infrastructure

We will accelerate the development and implementation of Local Cycling and Walking Infrastructure Plans (LCWIPs), looking to expand their reach beyond town and city centres.

We will do this by:

- Utilising the CRSTS to accelerate the implementation of measures identified in LCWIPs.

TR05 Electric Vehicle Charging

We will accelerate the deployment of electric vehicle charging points across the region through direct funding or utilising our devolved powers with a focus on ensuring equity in provision.

We will do this by:

- Establishing an electric vehicle charging point framework to facilitate the procurement of electric vehicle charging points for public sector organisations.
- Considering the allocation of funding, possibly through the CRSTS, to support the roll-out of electric vehicle charging points for the public sector and communities.
- Investigating the need and business case for using the mayor's devolved powers to mandate the installation of electric vehicle charging points and/or hydrogen fuel at large refuelling stations.
- Collaborating with Northern Powergrid to ensure grid capacity, their investments and smart network management can support electric vehicle charging points in the areas proposed for installation.

TR06 Bus Reform

We will develop a Bus Service Improvement Plan which sets the ambition for the future of bus services regardless of the regulatory framework and includes activity such as the decarbonisation of the bus network and encouraging modal shift.

We will do this by:

- Supporting the transition of the bus fleet to zero emissions.
- Requiring all tendered services under our control to be zero emission, or with a comprehensive plan to move to zero emission as soon as possible.
- Investigating mechanisms to encourage and incentivise people to make sustainable travel choices such as ticketing offers and rewards schemes.
- Improving the supporting infrastructure for buses to increase patronage and decrease private car use, for example improved punctuality and reliability, consistent bus priority offer, better integration into the wider public transport system.

TR07 Future Rail Provision

We will set out rail's role as the backbone, alongside mass transit and bus and supported by active travel, as an attractive integrated sustainable and low carbon network that allows seamless, straightforward, swift, and reliable journeys throughout the region and beyond.

We will do this by:

- Completing the production of our Rail Strategy, including a variety of supporting studies to establish a roadmap to the delivery of our Rail Vision.

- Setting out the network interventions needed to accommodate the future demand for passenger and freight rail services to ensure rail can deliver the modal shift required to meet the net-zero carbon target, and how this should be delivered.
- Considering the case for reopening lines and stations.
- Seeking to influence existing schemes to ensure that they reflect our priorities and vision, for example Trans-Pennine Route Upgrade, Northern Powerhouse Rail, High Speed 2.
- Entering a Strategic Rail Partnership of the Mayor with Network Rail ahead of the constitution of the new Great British Railways.

TR08 Shared Mobility

We will explore opportunities for shared mobility models that we can support and undertake Demand Responsive Transport (DRT) trials.

We will do this by:

- Exploring opportunities for shared mobility transport (including micro-mobility) to support the objectives of the Connectivity Infrastructure Plan.
- Undertaking shared mobility trials to explore business models, public acceptance, impacts and the ability of services to help meet our goals.
- Identifying suitable trail sites to develop the West Yorkshire mobility hub concepts in different settings, including engaging with and securing buy-in from local stakeholders.

TR09 Better Active Mobility Neighbourhoods

We will, in partnership with stakeholders, deliver better, active mobility neighbourhoods with programmes that acts as catalysts to deliver co-benefits across transport, energy, green infrastructure and public health (see CC05).

We will do this by:

- Deliver neighbourhood programmes, that change the infrastructure and support communities in favour of walking, cycling and high quality, green and climate ready public realm for people.

Sustainable Homes

There are over a million homes in West Yorkshire contributing nearly a third of all emissions related to buildings in the region. There are hundreds of thousands of properties that require upgrading and refurbishment to be healthy, affordable, decent and resilient.

We estimate that just less than 700,000 homes across West Yorkshire will need some form of energy efficiency retrofit to be undertaken to bring them up to a level that contributes to significant emissions reductions. An equivalent number of the existing housing stock will also need some form of low carbon heating to be installed, especially given our need to transition away from natural gas as a heating source.

In addition to the existing housing stock, we cannot ignore the thousands of homes that will need to be built in the region over the coming years. To ensure these homes do not contribute to further emissions and require expensive retrofits in the future it is important to ensure energy efficiency and low carbon heating and power is built into their design at the construction stage.

This theme is focused on the activity that we will undertake over the next three years to ensure homes are healthy, affordable, more energy and water efficient and ready for a changing climate, both existing and new build. We will focus on the necessary actions to ensure the scale of this challenge is met over the long term.

HO01 Energy Advice Service

We will establish, in partnership, a one-stop-shop for energy and water efficiency, clean energy and climate resilience information and advice for West Yorkshire residents.

We will do this by:

- Designing the options for delivering a regional one-stop-shop and securing the resources and funding to implement the preferred option.
- Developing a preferred list of trusted local suppliers to build consumer confidence and ensure high-quality installation.

HO02 Better Homes Yorkshire Hub

We will establish a Better Homes Yorkshire Hub for better, net zero, neighbourhoods, Delivering home improvement solutions for healthy, affordable, efficient and net zero homes across all tenures.

We will do this by:

- Establishing the Better Homes Yorkshire Hub, including a task force to steer the customer journey, technical, commercial and finance activities.
- Look to the West Yorkshire Housing Partnership to create a market for better homes through their influence and assets.

- Developing a housing energy stock model, with enhanced data collation and analysis, to quantify and spatially plan the retrofit pipeline, costs, timescales, and solutions.
- Procuring a framework of high-quality repair, refurbishment and retrofit suppliers.
- Supporting the building of 5,000 affordable and sustainable homes.
- Requiring the performance of new build homes meet energy, water efficiency, climate resilience and and space standards.
- Testing retrofit customer journeys through our Community Renewal Fund project or alternative funded demonstrations.
- Making the case, and submitting proposals, to government for sustainable long-term funding for West Yorkshire.
- Exploring the most appropriate solutions for hard-to-decarbonise, hard-to-treat, hard-to-reach homes in West Yorkshire, including consideration of innovative solutions such as PassivHaus.
- Piloting a home retrofit loan to unlock funding for ‘able-to-pay’ residents to enable mixed tenure, scalable neighbourhood schemes.

Business and Industry

West Yorkshire is a region with a small number of energy intensive industries. This is reflected in the relatively small emissions from this sector of the economy when compared to our largest emitting sectors of transport and buildings. Emissions are small but we do have concentrations of energy intensive industries in the glass, chemicals and food and drink sectors. It will be important to provide support to these industries to enable them to decarbonise and continue to provide vital employment for the people of West Yorkshire.

We have several Small Medium Enterprises (SMEs) within the region that contribute significantly to overall emissions of the building sector. Meeting net zero carbon by 2038 will require us to provide the flexible support that allows SMEs to decarbonise and enhance their competitiveness.

Creating a clean, safe and inclusive economy, as we recover and move beyond COVID-19, creates significant opportunities for firms, investors and innovators to shape the new economy of West Yorkshire.

We are focussed on the activity that we will undertake over the next three years to address emissions from our businesses and industry and builds on the support that we already provide to SMEs in the region for energy and resource efficiency.

BI01 Business Sustainability Support

We will build on the success of our existing programmes for businesses with the support and advice they need to make their operations more sustainable, including support for decarbonisation and circular economy activity.

We will do this by:

- Investigating options for expanding our existing team providing sustainability support to businesses.
- Undertaking a bottom-up analysis of business sector size, value and needs to enable our support provision to be tailored to areas of greatest benefit and potential.

BI02 Industrial Decarbonisation

We will consider the support for regional industrial sites to assist with the decarbonisation of their operations.

We will do this by:

- Considering the options for support for industrial sites to carry out audits and feasibility studies for developing decarbonisation plans and roadmaps.
- Utilising our partnerships and contacts to identify and engage with large industrial site operators.

- Commissioning regional surveys of small industrial sites to understand current technologies on all sites and the applicability of low carbon options.
- Gathering the evidence for the feasibility of decarbonisation options at small industrial sites and develop archetypal decarbonisation plans.

BI03 Business Energy Efficiency & Renewable Energy

We will build on the success of our ReBiz scheme to provide further advice, funding and access to finance for energy efficiency improvements and renewable energy technologies across SMEs in the region.

We will do this by:

- Developing the business case for the continuation of the ReBiz programme beyond 2023.
- Expanding our existing support to businesses in the region, for example ReBiz, to be a universal offer across all SMEs, social enterprises, and charities.

  Work with local authority and other partners like Universities and Colleges to create shared spaces for commercial eco-innovation and investment opportunities.

BI04 Circular Economy, Waste and Material Efficiency

We will provide support, advice and funding for circular economy and material efficiency activity in the region and support the work of West Yorkshire local authorities responsible for local waste management services.

We will do this by:

- Undertaking research and coordination of schemes to progress the circular economy within the West Yorkshire region through industrial recycling, remanufacturing and the introduction of alternative circular business models (including closed loop recycling, repair, rental / leasing etc.).
- Working with West Yorkshire local authorities to identify opportunities to introduce a circular economy,
- Working with businesses to develop links between those with unwanted resources that can be utilised by other businesses.
- Working with the business communities to investigate how the integration of circular economy business models could be used to strengthen the local economy.
- Working with businesses to identify any gaps which might prevent involvement with the circular economy.

Energy Generation, Supply and Flexibility

Regardless of our pathway to reaching net zero by 2038 it will require a fundamental change to how the energy system currently operates and what it does in the future. The system will need to be ready for increasing amounts of renewable electricity generated by wind, solar and other low carbon sources while also balancing and meeting changing demands for energy.

This theme is focussed on the activity that we will undertake over the next three years to support the transition of the energy system (including transport) away from fossil fuels to low carbon sources, technologies and services. Playing our part in the rapid transformation of the energy system, accelerating the deployment of technologies that will help to deliver the clean and flexible energy system of the future.

EG01 Local Area Energy Planning and Delivery

We will develop, in partnership, Local Area Energy Plans (LAEPs) for the region that meet the needs of our communities and businesses. To inform, shape and enable the transition to a net zero carbon energy system and share this intelligence and information for the business planning and investments of our partners, including energy and water network companies.

We will do this by:

- Consulting with local authority partners about their interest in and commitment to LAEPs.
- Providing regional coordination and action, supporting our local partners with their energy planning.
- Complete at least one LAEP.
- Seeking funding to roll out LAEPs across West Yorkshire.

EG02 Community Energy

We will explore the potential for providing support to communities to develop their renewable and low carbon energy aspirations, plans and projects to deliver change for their communities.

We will do this by:

- Considering the case for providing financial support for community energy to fund feasibility work and capital investment.

EG03 Heat Decarbonisation

We will identify the suitable locations for the implementation of different heat decarbonisation technologies and explore mechanisms to accelerate their implementation.

We will do this by:

- Considering the case for establishing a dedicated team focussed on the decarbonisation of heat across homes and businesses.
- Refreshing our approach to the delivery of district heat networks.
- Establishing new programmes relating to heat pumps.
- Developing and implementing a heat decarbonisation hierarchy for inclusion, as appropriate, in Local Plans across the region.
- Developing heat zoning plans for West Yorkshire that could be applied to new and existing developments via local planning policy.

EG04 Solar Photovoltaics & Storage

We will explore opportunities to support identifying and installing solar Photovoltaics (PV) and storage on buildings across the region.

We will do this by:

- Undertaking research across the region identifying the potential for solar PV and storage across domestic and business properties.
- Quantifying and mapping where the greatest opportunity exists to enable support and advice to be targeted.
- Considering the development and implementation of resource for residents and businesses for them to use to help identify if their property is suitable for solar PV.
- Considering the development of an offer to homes and business to support take up solar PV and storage.

Natural Environment

Our natural environment has a critical role to play in underpinning a healthy and resilient population helping to reduce emissions and providing climate ready services and solutions. A high-quality and accessible natural environment is vital for humans, biodiversity and sustainable places. The COVID-19 pandemic has clearly demonstrated the value of having green spaces easily accessible to peoples' homes, particularly in terms of both physical and mental health.

While some of the regions natural environment is in a good condition, this is by no means true for all West Yorkshire. Our biodiversity and ecosystem services are coming under increasing threat, and this is impacting on many areas of our economy, resulting in us not deriving the fullest value from the full range of natural environment assets we have.

This theme is focussed on the activity that we will undertake over the next three years to maximise the emissions savings that can be achieved from our natural environment whilst delivering multiple other benefits to our communities, businesses and visitors with nature-based solutions.

NE01 Local Nature Recovery Strategy

We will work with partners to produce a Local Nature Recovery Strategy (LNRS) for the region (as set out in the Environment Bill) which drives a more coordinated, practical and action investment focussed approach to helping nature and people flourish together, whilst delivering wider nature-based environmental, social, and economic benefits.

We will do this by:

- Utilising existing partnerships and stakeholder groups to establish the principles and scope for the LNRS, shape its evidence and content, and provide oversight for the development of the work.
- Mapping and valuing existing (and potential new) natural environment assets, ecosystem services, and natural capital of the region.
- Integrating the outcomes of the LNRS into regional planning and development considerations.

NE02 Land-Use Data and Evidence

We will undertake data and evidence collection activity to further our knowledge and understanding of the role land-use and agriculture can play in addressing the climate and environment emergencies and delivering regional sustainable development benefits.

We will do this by:

- Undertaking research with partners on the current peatland condition in the region and potential for restoration.

- Developing an understanding of the carbon intensity of local farming techniques.
- Identifying optimal livestock stocking densities that can be supported by the different landscapes of the region.
- Developing carbon sequestration measurement and monitoring techniques.
- Determining the extent of food waste quantities along supply chains in the region as a start to reducing food waste.

NE03 Green Infrastructure and Access for Health

We will work with the West Yorkshire and Harrogate Health and Care Partnership to expand schemes that provide nature-based activities for communities in the region.

We will do this by:

- Working with the West Yorkshire and Harrogate Health and Care Partnership to extend their existing scheme and adapt criteria alongside wellbeing outcomes.
- Considering the case for providing additional funding to green social prescribing.

NE04 Regenerative Nature Recovery Schemes

We will support those responsible for land restoration and production schemes, for example tree planting, peatland restoration, and local food systems that deliver and demonstrate sustainability including net zero, nature recovery and public health outcomes.

We will do this by:

- Support the White Rose Forest (WRF) Action Plan 2021 – 2025, formalising our involvement by becoming a joint venture signatory, getting behind the development of the WRF Plan 2025 – 2050, and utilising the WRF Delivery Pathway for our work with landowners and communities to increase tree canopy cover in the region.
- Consider the case for establishing a regional grants programme for land-use activities being progressed by communities, for example community greening and food growing in urban areas, community tree and hedgerow planting schemes, and supporting outlets for local healthy produce that does not meet supermarket standards.
- Support partners such as Yorkshire Water, National Trust, Moors for the Future, South Pennines Park, local authorities and others to restore nature, landscapes, and the peatland of the region.

NE05 Farmer & Landowner Information and Support Service

We will work with farmers and landowners on the information and support they need to make decisions that are good for their business and environment and consider the provision of funding to help them achieve these goals.

We will do this by:

- Considering the case for resources that provide information about options and interventions available, best practice examples and sources of funding and support.
- Developing a database of trusted, impartial advisors.
- Establishing knowledge networks to ensure best practice and latest evidence is shared, and to support a shift in culture among local stakeholders towards sustainable, climate friendly practices.
- Considering the development of a programme of grants and financial incentives for farmers and landowners to deliver measures that complement the new Environmental Land Management Scheme (ELMS) and fairly reward rural businesses for actions that contribute to sustainable development and clean growth achieving the net zero, nature recovery and climate ready ambitions.

Climate Ready

We accept a changing climate is already locked in and consequently we will need to be prepared for the increased risks, and opportunities, that this brings to the region. Efforts to reduce emissions and co-exist with nature on a global scale will have an impact on how severe these risks (and potential opportunities) will be for the region. It is important that we understand how these impacts will affect our businesses and communities, and those most vulnerable to more frequent and intense weather like the elderly and young people. The measures we all need to put in place to mitigate and adapt to the most disruptive effects.

This theme is focussed on the activity that we will undertake over the next three years to start being prepared for the impacts of a changing climate and start managing the health impacts (physical and mental) and disruption to the economy and society.

CR01 Climate Ready Strategy

We will produce a Climate Ready Strategy for the region, covering climate adaptation and resilience and identifying the risks and opportunities to the region of a changing climate.

We will do this by:

- Produce a regional version of the UK Climate Change Committee's (CCCs) Climate Risk Independent Assessment (CRIA) identifying the risks and opportunities that a changing climate will create and creating an evidence base on which robust decision making can be based.
- Producing, in partnership, a regional strategy and action plan.
- Integrating the findings of the CRIA into our decision-making and investment processes and encouraging our partners to do the same.

Working with local government public health and Public Health England to better understand and act on climate and linked population health threats.

CR02 Embedding Climate Readiness

We will ensure that climate readiness is embedded across the activity of this plan and Combined Authority operations and encourage our partners to follow and lead.

We will do this by:

- Reviewing our policies and strategies in relation to the outputs of the CRIA referred to in CR01 and implementing necessary changes.
- Considering how our Assurance Framework could be updated to better reflect climate readiness.

CR03 Flood Risk and Drainage

Flood risk does not respect administrative boundaries and can occur across all parts of West Yorkshire. The Aire and Calder River catchments flow through our region, with the upland elements of these catchments stretching into North Yorkshire and providing opportunities to 'slow the flow' of water through natural flood management techniques to provide more protection downstream.

Many of our communities are now under threat from flooding, with some areas under severe and constant threat from flooding, particularly in the wetter autumn and winter months.

We will work with the Yorkshire Regional Flood and Coastal Committee (YRFCC), the Environment Agency and other partners to deliver enhanced flood protection, incorporating natural flood management, and climate resilience to communities, homes and businesses across West Yorkshire.

We will do this by:

- Working in partnership with the YRFCC, Environment Agency, Risk Management Authorities, and other partners to deliver the six-year West Yorkshire capital flood risk management programme. This programme includes planned investment of £255m to better protect almost 7,000 homes across West Yorkshire and deliver benefits of over £2.5bn.
- Engaging with Government to outline the case for greater and accelerated delivery of flood risk management infrastructure to realise our ambition for a climate and resilient region. This will include identifying up to £120m of further investment to support the Combined Authority's Priority Flood Programme to provide enhanced flood protection to our communities and natural flood management.
- Continue to work with partners to deliver the recommendations of the Leeds City Region Flood Review and ensuring the Review's outputs align to the Climate and Environment Plan.
- Supporting the development of improved land-use activities relating to drainage and flooding, utilising the proposed Zero Emission Infrastructure Investment Framework and White Rose Forest Landscapes for Water Programme
- Improving the infrastructure, resilience and level of preparedness of existing development in flood zone areas, with a focus on investigating methods of making business areas more resilient to future flooding events and able to access suitable flood insurance

Roles

This Plan will guide the actions of the mayor, Combined Authority and West Yorkshire local authorities to deliver our commitment to sustainable development, tackling the climate and environment emergency and achieve a net zero economy by 2038. We cannot do this alone and we will need the power of our partnerships and the people of West Yorkshire to do this together.

This section provides actions that can help deliver this Plan. It is by no means an exhaustive list and is meant as a starter-for-ten of the types of activity people could consider. We have highlighted the types of roles that can be played by five groups: the mayor; West Yorkshire Councils; national government; West Yorkshire businesses; and the people of West Yorkshire.

More information on stakeholder roles will be developed as further work is undertaken on each of the actions in this plan.

The Mayor of West Yorkshire

In helping to deliver this Plan the mayor will:

- Lead by example by committing the Combined Authority to net zero emissions by 2038 and having a positive impact on the environment and nature throughout work, investment, and funding.
- Convene business leaders to collaborate on tackling the climate and environment emergency, sustainable development and enhance existing partnerships to deliver the mayor's pledge.
- Call on national government for statutory local net zero powers, funding, and incentives.
- Chair a Better Homes Yorkshire Hub that champions a new way for healthy, warm, affordable, and low carbon homes for all.
- Release a 'Fund for Nature' focussed on communities, green spaces, local seasonal and healthy food providing a doorstep 'natural' health service.
- Launch a 'Renewables West Yorkshire' scheme with attractive offers and low-cost finance for renewable energy technologies.
- Launch a Better Neighbourhoods Competition, bringing people together for greatest impact.
- Provide grants and free advice for SMEs worst hit by the pandemic to recover and grow their business with energy efficient and circular business applications.
- Secure funding for flood risk management priorities and engage with government to invest more in our region.

- Use devolved powers to require electric vehicle charging points and/or hydrogen refuelling to be installed in large refuelling stations across West Yorkshire.
- Work to divest West Yorkshire Pension Fund and any West Yorkshire Combined Authority assets from fossil fuel activities and companies and switch investments to climate and nature solutions.

West Yorkshire Councils

In helping to deliver this Plan West Yorkshire Councils will:

- Continue to invest in sustainable development, clean growth and community regeneration and resilience.
- Produce and extend climate and environment roadmaps and action plans following climate and ecological emergency declarations.
- Align Local Plan policies to further sustainable development, decarbonisation, net zero and nature recovery plans and outcomes.
- Demonstrate leadership in carbon reduction and transitioning away from fossil fuels in operations, buildings, procurement and partnership working.
- Ensure new buildings contribute to sustainable development in design, construction and whole life performance.
- Collect and use carbon offset funds from new development to drive climate action across the local authority area.
- Work with the mayor and Combined Authority on the rollout of a network of electric vehicle chargers and the delivery of better neighbourhoods.
- Accelerate home and workplace retrofit and improvements.
- Rollout solar PV, storage, heat pump and heat networks across building stock and land assets.
- Work with businesses, developers and investors to make West Yorkshire the location for business models, practices and delivery that achieve sustainable development and improve resilience.
- Work with the West Yorkshire Pension Fund and other investors to divest from fossil fuel activities and companies and switch investments to climate and nature solutions.

National Government

In helping to deliver this Plan national government must:

- Provide new powers and multi-year sustainable funding and incentives for achieving net zero and nature recovery at regional and local levels, without these freedoms and flexibilities local areas will find it increasingly difficult to deliver against their locally defined targets.

- Increase powers and funding to give greater regional control over rail that facilitates the electrification of existing routes and progression of new rail schemes.
- Produce a national decarbonisation strategy for aviation and introduce a frequent flyer levy.
- Open the Channel Tunnel to enable the expansion of rail services from the north to mainland Europe (sleeper services) as an alternative to air travel.
- Provide a clear policy direction on the future of heat decarbonisation.
- Design a more ambitious successor to the Renewable Heat Incentive from 2022.
- Revise Minimum Energy Efficiency Standards for the private rented sector.
- Implement regulation of the district heat network industry.
- Enable greater local influencing over the targeting of the Energy Company Obligation funding.
- Decouple generation and storage components when dealing with National Significant Infrastructure Projects so local planning has larger influence over medium size projects.
- Support early deployment of carbon capture, utilisation and storage infrastructure in Yorkshire and the Humber as an attractive location and critical for UK decarbonisation.
- Develop business models for supporting carbon capture, utilisation and storage and hydrogen electricity generation.
- Commission large-scale research on hydrogen for electricity generation and storage.
- Provide long-term funding for tree and hedgerow planting, agro-forestry, and peatland restoration either nationally and/or as part of nature recovery strategies.
- Ensure that the new Environmental Land Management Scheme (ELMS) adequately supported measures targeted for delivering net zero and nature recovery in West Yorkshire.
- Streamline the application process for afforestation.

Businesses

In helping to deliver this Plan businesses could:

- Work with their local authorities and supply chains to explore options to alter business models, products, services or operations to unlock value, contribute to sustainable development and clean growth.
- Measure and report their greenhouse gas emissions and set long-term emission reduction targets.

- Ensure buildings are as energy efficient as possible and include measures to reduce cooling needs.
- Look to connect buildings to low carbon heat networks or install heat pumps to meet heating requirements, replacing old fossil fuel boilers.
- Optimise fleet movements and switch vehicles to electric or other low carbon fuels.
- Use commissioning and procurement to encourage decarbonisation, sustainable development and minimise waste, such as switching to green energy tariffs.
- Work with staff to support behavioural changes that help reduce businesses emissions such as travelling less.

People of West Yorkshire

In helping to deliver this Plan the people of West Yorkshire could, depending on individual circumstances:

- Get an Energy Performance Certificate (EPC) assessment to see how best to improve the energy performance of their home.
- Explore whether your home is suitable for solar (PV and thermal) and/or electricity storage installations, matched with a smart energy tariff.
- Look to install low carbon heating technologies that benefit from financial incentives.
- Apply the waste reduction hierarchy of reduce, reuse, and recycle.
- Only purchase energy efficient appliances when needing to replace old end of life versions.
- Walk, cycle, or use public transport more often.
- Use car clubs, if the use of a car is necessary, selecting those whose service is provided through electric vehicles.
- Switch energy supplier to a green tariff.
- Consider flying less.
- Reducing the amount of meat within your diet and consider moving to a more plant-based diet.

Measuring and Monitoring

We will measure, monitor, and report on our progress as part of our annual State of the Region publication. We will also report against a set of indicators, including the implications for equality, diversity and inclusion (for example access to nature and green spaces by protected characteristic) - for both the region and Combined Authority operations, which could include (but not be limited to):

- tonnes of carbon dioxide emissions from Combined Authority operations;
- regional tonnes of carbon dioxide emissions;
- per capita tonnes of carbon dioxide emissions;
- percentage transport mode share;
- number of domestic gas and oil boilers, heat pumps and heat network connections;
- solar PV and storage installed capacity;
- fuel poverty;
- number of premises with enhanced flood resilience measures;
- number of jobs and businesses protected from flooding;
- number of jobs sustained and created by the net zero and environment economy; and
- percentage of the population with access to nature and green spaces.

Schemes considered for West Yorkshire Combined Authority funding will use our new Carbon Impact Toolkit to assess and mitigate their carbon and environmental impact as part of the Authority's Assurance Framework for funding and investment

Our research and intelligence capabilities, processes and data will evolve over time, and we will keep indicators and datasets that we are measuring progress against under review to ensure our accounting, monitoring, and reporting is, and continues to be, high quality.

Find out more

westyorks-ca.gov.uk

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All information correct at time of writing.