
Report to: Transport and Infrastructure Scrutiny Committee

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Subject: **Decarbonisation**

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1. Purpose of this Report

- 1.1. The purpose of this report is to update Transport and Infrastructure Scrutiny Committee on the Combined Authority's decarbonisation programme, including an overview of the carbon impact assessment work.

2. Information

Background

- 2.1. West Yorkshire Combined Authority declared a climate emergency in 2019 and established an emission reduction target for West Yorkshire, committing the region to achieving net-zero carbon by 2038.
- 2.2. This ambition and commitment has been reinforced through the Mayoral pledges to tackle the climate emergency, create 1,000 green jobs and build 5,000 sustainable and affordable homes and the adoption of the [West Yorkshire Climate and Environment Plan](#) in autumn 2021.
- 2.3. Alongside dedicated carbon reduction interventions, it is vital that carbon impact considerations are a fundamental part of decision making across all the work undertaken by the Combined Authority if we are to meet our zero carbon emissions. This report focuses on two areas of the Combined Authority decarbonisation work: the Carbon Impact Assessment and delivery of our Climate and Environment Plan.

Climate and Environment Plan

- 2.4. The Combined Authority commissioned the [Carbon Emissions Reduction Pathways](#) study to identify different pathways and interventions that could be implemented to meet net-zero carbon by 2038. The research identified three

different pathways (maximum ambition, hydrogen, balanced) that would result in an emission reduction of between 73% and 82% by 2038. To fully meet the ambition, the region would need to be even more ambitious with behaviour change activity, technology deployment, and support for innovative solutions than the three pathway presented.

- 2.5. A particular pathway has not been selected at this stage due to the levels of uncertainty associated with different technologies (e.g. hydrogen). The Combined Authority will continually review technology readiness and at a stage where there is greater confidence will select a pathway for the region to follow.
- 2.6. The [West Yorkshire Climate and Environment Plan 2021-2024](#) (CEP) was agreed by the Combined Authority in October 2021 and is the Mayor's and Combined Authority response to tackling the climate emergency, protecting the environment and achieving a net zero West Yorkshire.
- 2.7. The Carbon Emissions Reduction Pathways report provided the framework on which the CEP is based. The Plan sets out the critical actions for the next three years to cut emissions, support nature recovery and be ready for the impacts of a changing climate. These actions will be delivered in partnership and are focussed across eight priority themes:
 - **Leadership:** what the mayor and Combined Authority will do to reduce emissions from its operations and the pipeline of projects under its control.
 - **Cross-cutting:** strategic considerations rather than individual theme or sector level (e.g. skills, innovation, research, and development).
 - **Transport:** reduce private vehicle use, increase active travel and public transport use, and decarbonise transport.
 - **Homes:** reduce emissions and the improve the energy efficiency and affordability of the region's homes.
 - **Business and industry:** support and expertise that businesses need to decarbonise and flourish in the region.
 - **Energy generation, supply, and flexibility:** accelerate the deployment of low carbon energy technologies (e.g. heat pumps, solar, smart energy solutions)
 - **Natural environment:** focussing on reducing emissions through land-based action and measures to reverse declines in nature.
 - **Climate ready:** action to ensure preparedness for the impacts of a changing climate.
- 2.8. The CEP identifies the actions which West Yorkshire can influence and deliver. It does not include those actions which are the gift of government to implement e.g. phase-out of gas boilers, aviation policy. While the Combined Authority owns the CEP due to the wider range nature of the sectors and activities concerned, it is not within the remit of Combined Authority alone to

deliver. Delivering the CEP and meeting the net-zero carbon target will require action from all part of the economy and society in West Yorkshire.

Funding Position

- 2.9. The Combined Authority allocated an indicative £40m of Gainshare funding in February 2022 to support the delivery of the CEP and the West Yorkshire Investment Strategy Priority 4: Tackling the Climate Emergency. Delivering the full spectrum of actions outlined in the CEP would require funding in excess of £40m. As a result, the Climate, Energy and Environment Committee (CEEC) approved the prioritisation of 15 of the 39 CEP actions across three development waves.
- 2.10. These 15 interventions were prioritised because of their strategic fit with the West Yorkshire Investment Strategy (WYIS), Mayoral pledges, the pathways work, and the overarching priority of carbon emissions reduction. They were also prioritised according to their deliverability (existing strength of pipeline; funding availability; scalability, resource availability; co-benefits, delivery of inclusive growth and equality, diversity and inclusion).
- 2.11. This Gainshare allocation complements other funding sources that are being used to address the climate emergency and progress the CEP, such as the City Region Sustainable Transport Settlement (CRSTS) and Zero Emission Bus Region Area (ZEBRA) fund to achieve transport objectives, and other government funding, such as for the production of a Local Nature Recovery Strategy (LNRS) for West Yorkshire. Multiple proposals are also being taken forward with use of existing resource including exploring our approach to biodiversity net gain and the opportunity for hydrogen in West Yorkshire.
- 2.12. Additional funding is also being sought to accelerate delivery of the CEP in collaboration with our District Partners, such as the Local Electric Vehicle Infrastructure Fund (further details below).

CEP Delivery

- 2.13. A first wave of programmes has been under development since April 2022 progressing through the Combined Authority's Assurance Framework. These programmes comprise of:
- Better Homes Hub
 - Better Neighbourhoods
 - Business Sustainability
 - Communications, Engagement and Marketing
 - Flooding and Drainage
 - Green Skills and Training
 - Solar PV and Battery Storage
- 2.14. A Strategic Assessment covering the seven programmes above was considered by the Combined Authority's internal assurance in June 2022. The outcome was for the seven programmes as a collective to progress to the next

stage of internal assurance. At its July meeting the Combined Authority approved development funding of £836,000 to be drawn down from gainshare to support further programme development activities.

- 2.15. Further development funding (£1,507,868) was allocated to the first wave of programmes by the Combined Authority at its October 2022 meeting.
- 2.16. Details of the programmes covered by the first wave are contained at the following [link](#).

Carbon Impact Assessment

- 2.17. The aims of the carbon impact assessment project were to:
 - Develop methodologies for assessing the carbon impact of proposals at the different stages of the assurance process
 - Incorporate these methodologies onto the assurance process so that decision makers are informed about the carbon impact of proposals.
 - Use these methodologies to carry out an assessment of the carbon impact of a selection of existing projects which are currently going through the assurance process
- 2.18. The first two of these aims have been achieved and a carbon impact assessment is now a required part of the submissions that scheme promoters make at both Stage 1 and Stage 2 of the assurance process. This will allow decision makers to take the carbon impact of a proposal into account as part of a balanced decision-making approach.
- 2.19. The third aim of the carbon impact assessment project was to assess the carbon impact of a selection of schemes currently being developed. These assessments were carried out both to understand the carbon impact of these schemes, but also to help in the development of the methodologies mentioned above. A substantial amount has been learnt about the practical challenges of assessing the carbon impact of schemes and the importance of reporting both the numbers and the inevitable assumptions and estimations that have had to be made in carrying out the carbon impact assessment.
- 2.20. The report on the assessments of existing schemes includes a general discussion of the assessments in the main text of the report, together with summary results (Appendix B) and detailed results in the form of proformas covering every scheme assessed (Appendix C). Note that the report and the work to prepare the assessments included in the report were independently prepared by the consultants engaged for the carbon impact assessment project (Mott MacDonald and Ricardos).
- 2.21. The report was discussed at a meeting of the Combined Authority on 22 July 2022 after it had been made publicly available. A covering paper gave a background to the carbon impact assessment project and discussed the results in the report. An additional note was prepared from submissions by delivery partners following discussions on the process and the carbon impact

assessments of their schemes. This note was an appendix to the paper to the Combined Authority.

General comments

- 2.22. The assessments of existing schemes were based upon existing information in submissions made by scheme promoters, usually in the form of business cases. These were submitted to the Combined Authority in connexion with the various decision points in the assurance process. It is important to note that these business cases were not developed with a focus on the carbon impact of the scheme and carbon impact assessment was not a requirement at the time they were submitted or scrutinised by PMA. There were therefore inevitable gaps and omissions in the data and supporting information provided which was relevant to carbon impact assessment. Information had to be simply extracted and interpreted because it was not possible to commission extra analyses or model runs. In most cases it was possible to carry out assessments of the likely capital carbon emissions, but these often had to be crude estimates based on scheme cost because of a lack of more detailed data. It was not possible to assess how transport schemes might perform under a 'low carbon' scenario consistent with a pathway to address the 'net zero by 2038' target.
- 2.23. Given the uncertainty in the assessments and the fact they only cover carbon impact, it would not be appropriate to see these as giving any indication of the benefits of the scheme in general. It was never the intention for these assessments to be used in decision making on any scheme. Even when carbon impact assessment is fully incorporated into the assurance process, carbon impact will only be one factor that will be taken into account in such decisions.
- 2.24. In many cases the consultants felt they had 'low' confidence in the carbon impact assessment results. The reasons for this are varied and are spelt out in the detailed proformas in the report. They included concerns about the availability of underlying data, the appropriateness of modelling for carbon impact assessment and the inevitable omissions and approximations of carbon impact that had to be made in the assessments.

General comments about transport schemes

- 2.25. Thirty of the forty-one assessments are of transport schemes. For these types of schemes, those which have a direct impact on general traffic have the greatest carbon impact (positive or negative). This is because most of the carbon emissions come from general traffic. If the efficiency of the network is improved for general traffic (for instance by increases in link or junction capacity) and an assumption is made that the scheme will not cause an increase in traffic, then this results in carbon benefits. If general traffic is forced to reroute or becomes more congested, then this results in carbon disbenefits. In the transport schemes assessed, 'induced' or extra traffic caused by reductions in journey times (and traffic reductions caused by increases in travel times) was largely ignored. It follows that many traditional road schemes

appear to provide a carbon benefit whereas the picture for schemes which involve roadspace reallocation is more mixed. While a crude method of calculating the 'induced' effects was available, the consultants only felt able to use this for a small minority of schemes, so this is omitted from most assessments.

- 2.26. In order to have a beneficial carbon impact, a public transport or active mode scheme needs both uplift in use and also substitution of car trips. This means that such a scheme, on its own, is less likely to have a significant impact in carbon terms and it is more difficult to assess what this impact might be.
- 2.27. Background assumptions about future traffic growth and the pace of the electrification of the vehicle fleet can make a significant difference to the assessed carbon impact. If traffic is forecast to grow, impacts on general traffic will be magnified into the future. Conversely, if it is assumed that the vehicle fleet will electrify more quickly, future carbon impacts will be less. The 'low carbon' scenario should help in understanding the effect of such assumptions on future schemes.

How these assessments have informed the development of the methodology

- 2.28. The assessments of existing schemes have resulted in an extra focus on the importance of explaining how the assessment has been carried and what assumptions have been made. This should allow carbon impact to be reported in a more coherent, comprehensive and structured way and it has shaped the development of the reporting requirements and the proforma. These specify what aspects of the assessment need to be spelled out by the promoter of the scheme alongside the detailed carbon figures. These include:
- Clarity over the 'with scheme' and 'without scheme' cases, given that the net carbon impact of an intervention is the difference between the two. This is especially true for a proposal such as a flood prevention scheme where the 'without scheme' case may involve an increased risk of flooding (with carbon consequences)
 - Clarity over the background assumptions used and a requirement to test how the scheme performs under the 'low carbon' scenario (a very different set of background assumptions) in addition to the 'core' assessment.
 - Clarity over any modelling assumptions used, in particular, whether any 'induced' effects have been taken account of.
 - Clarity over the detailed carbon calculation methodology, which will inevitably involve a degree of averaging or estimation.
- 2.29. This information is important in helping decision makers understand and interpret the carbon impact assessment so that it can be given an appropriate weight in decision making.

Transport Decarbonisation

- 2.30. Transport is the highest emitting sector in the region, accounting for 44% of all CO2 emitted. These emissions are dominated by road transport which accounts for 89% of transport related emissions in West Yorkshire.
- 2.31. Work has commenced on the Mayor's West Yorkshire Local Transport Plan, set for adoption in early 2024. The new Local Transport Plan will deliver on the Mayor's ambition for transport across West Yorkshire, as well as help deliver on the Mayoral pledge to tackle the climate emergency and protect the environment. The new plan will facilitate the scale of change needed to decarbonise the transport sector and deliver the ambition contained within the West Yorkshire Climate and Environment Plan, the Bus Service Improvement Plan (BSIP), and our Mass Transit Vision.
- 2.32. The new Local Transport Plans are anticipated to become the focus of engagement between central and local government about future funding decisions. Updating our LTP will set out the scale of change and investment needed to decarbonise transport across the West Yorkshire in a way which is fair and inclusive, supporting West Yorkshire's consistent call on government to address the historical underinvestment in transport across the North, and level up the United Kingdom.

Public Transport

- 2.33. The Combined Authority submitted its Bus Service Improvement Plan to the Department for Transport (DfT) in October 2021. The development of the Bus Service Improvement Plan, which sets out our ambitious vision and plan for improving local bus services, was a requirement of the 'Bus Back Better: The National Bus Strategy for England' (2021).
- 2.34. On the 8th August 2022 the Combined Authority received a letter setting out that the £69,974,070 of funding over 3 financial years to 2024/25 was confirmed subject to a successful statutory consultation on the Bus Service Improvement Plan Enhanced Partnership scheme, which is due to conclude at the end of October 2022. The Combined Authority approved the Enhanced Partnership scheme for consultation at its meeting in July 2022.
- 2.35. Along with modal shift to public transport, a green, zero-emission bus system is a core element of the Combined Authority's long-term vision for buses - the Bus Services Improvement Plan sets out our ambition to have a fully zero emission fleet by 2036. The scale of this ambition is significant, with only around 2% of the current West Yorkshire bus fleet zero emission. A number of electric buses projects have already been delivered, including the all-electric Stourton Park and Ride scheme.
- 2.36. The Zero Emission Bus Programme currently in delivery will help to increase this to closer to between 14% and 19%. This programme includes:
- Phase 1: £56.2million project to introduce 111 zero emission buses and charging on routes in Bradford, Leeds, and Wakefield districts funded through Department for Transport's Zero Emission Bus Regional Area funding.

- Phase 2: £4 million project to introduce 8 zero emission buses and charging to routes in Calderdale and Kirklees funded through Gain Share, with a focus on exploring the impact of hilly landscape on the running of electric buses, and how the Combined Authority can work with smaller operators running tendered services to encourage a switch to zero emission buses.
- Phase 3: £21million project to introduce between 60 and 126 zero emission buses and charging (number of vehicles subject to delivery model). This will be funded through City Region Sustainable Transport Settlement (CRSTS).

Work is underway to plan for transition the remaining fleet to zero emission vehicles, looking at delivery models and funding approaches alongside our franchising work.

- 2.37. On rail and its role in achieving decarbonisation, we have developed a set of high-level principles as part of the development of a West Yorkshire-wide Rail Strategy. We are calling for a rolling programme of electrification across the City Region rail network which reduces the long-term costs of operating the railway, allows the efficient operation of high frequency services, and provides rail infrastructure which is suitable for a low carbon future. In addition, electrification of existing and new rail freight depots will enable the region to fast track the decarbonisation of its logistics networks and supply chains.
- 2.38. As part of the development of the strategy we will continue to undertake analytical work to support our own vision for the railway, but also to show that to fully realise the modal shift to rail required to support decarbonisation, the infrastructure and investment required in West Yorkshire will need to be much higher than currently proposed in the Integrated Rail Plan.

Walking & Cycling

- 2.39. A large number of workstreams are ongoing in order to help progress both the Combined Authority and District Partners' ambitions for active travel. Active Travel Fund Tranche 2 and Tranche 3 schemes are in delivery, including School Streets, new protected cycle infrastructure on key corridors and several proposed low traffic neighbourhoods. All of these are being developed in close co-operation with Active Travel England, who are inspecting schemes to ensure compliance with the new Local Transport Note 1/20 standards for cycle infrastructure design, now required to meet the Government's ambitious Gear Change policy for 50% of all journeys in urban areas to be walked or cycled by 2030.
- 2.40. Active Travel England have ranked the Combined Authority as a one of the best in the country, based on the strong political commitment to active travel, the track record of delivery and the well-developed nature and ambition of our active travel network. The Combined Authority is one of five tier three authorities in the country, and this recognition will inform future funding awards for both capital projects such as scheme delivery (including Active Travel Fund Tranche 4), and revenue projects such as scheme development and

behaviour change work (including the Local Authority Capability and Ambition Fund 2022/23).

- 2.41. Work is ongoing to develop Local Cycling and Walking Infrastructure Plans for all five districts, including a Community Engagement toolkit to enable district partners to ensure that local stakeholders are appropriately involved in the development of interventions in their area. This theme is also at the centre of the developing Walking and Cycling Strategy which is being progressed as part of the wider work on Local Transport Plan 4.
- 2.42. Our infrastructure schemes are supported and complemented by our comprehensive behaviour change programme, which has twelve workstreams of which nine incorporate active travel elements. These include programmes such as adult, school and inclusive cycle training, the development of community hubs, walking to school projects and business support to enable more walking and cycling commutes. Our success in these areas is demonstrated by two of the eleven new “social prescribing pilots” being funded nationally by the DfT being located in West Yorkshire, building on and complementing our existing “Cycle 4 Health” programme.
- 2.43. A bid has been made to the Local Authority Capability and Ambition fund which will support development of the region-wide network and help progress schemes so that they are developed ready for construction (decision expected in November).
- 2.44. All together this package of work creates a coherent pipeline of infrastructure to be developed and delivered, a comprehensive, supportive policy environment to prioritise walking and cycling interventions and appropriate measures to activate and stimulate active travel behaviours across the district.

Zero Emission Vehicles

- 2.45. A zero-emission vehicle strategy is in development setting out the actions we will need to take to decarbonise vehicles in West Yorkshire. This document considers the need to decarbonise all vehicles on our roads, include private and shared cars, taxis, public transport and freight, and considers the technology options available to do so (e.g. electrification, hydrogen).
- 2.46. A set of policy documents and action plans will sit beneath this, including a West Yorkshire Electric Vehicle Chargepoint Strategy. The UK Electric Vehicle Infrastructure Strategy, published in March 2022, sets out a requirement for combined authorities to develop local chargepoint strategies, setting out policies to remove charging infrastructure barriers and accelerate the pace of adoption.
- 2.47. The West Yorkshire strategy is being developed in collaboration with District Partners and will establish the objectives for public electric vehicle infrastructure roll out as well as principles for investment and action plan for accelerating deployment. The purpose of the document is to guide investment decisions for future funding opportunities as well as provide design guidance

for chargepoints to ensure provision meets the needs of those who live and work in West Yorkshire, and ensure equity of access across region.

- 2.48. A number of workstreams support the work of a West Yorkshire strategy:
- A **technical study** on the potential for EV charging infrastructure was commissioned by the West Yorkshire Low Emission Strategy Delivery Group. This study focused on demand forecasting, strategic investment priorities and early infrastructure deliverables.
 - Transport for the North have developed an **Electric Vehicle Charging Infrastructure Framework** which includes an evidence base and visualisation tool for use by TfN and partners to assess electric vehicle charging infrastructure requirements.
 - **City Region Sustainable Transport Settlement (CRSTS)** contains funding for a number of EV infrastructure schemes, including charging points in residential areas, charging at mobility hubs, and electrification of the West Yorkshire car clubs.
- 2.49. This work compliments other workstreams by the Combined Authority and district partners to advance sustainable vehicle uptake. A range of public EV charging infrastructure schemes have already been delivered, including the ULEV taxi scheme, delivering over 100 charging points for taxis and public use, alongside additional schemes to deliver public charging at sites across the region such as council owned car parks.
- 2.50. In June 2022, a West Yorkshire bid was submitted to the Local Electric Vehicle Infrastructure (LEVI) Pilot fund to accelerate the rollout of electric vehicle charging for residents without access to off-street parking. Unfortunately, the West Yorkshire bid was not successful, however positive feedback was received from funders and further rounds of funding are expected in 2023. We are also exploring opportunities for private investment chargepoints in West Yorkshire.

3. **Tackling the Climate Emergency Implications**

- 3.1. The West Yorkshire Climate and Environment Plan and the actions highlighted within it will all contribute to tackling the climate emergency and meeting the net-zero carbon by 2038 target. It translates the findings of the West Yorkshire Carbon Emission Reduction Pathways into the tangible actions that need to be implemented to ensure the region is on a pathway to reaching its climate goals. The Carbon Impact Assessment is designed to ensure all schemes developed and delivered by the Combined Authority and our partners full consider the climate implications.

4. **Inclusive Growth Implications**

- 4.1. In the transition to a net zero carbon economy there are important considerations to be made to ensure that decarbonisation does not reinforce existing social inequalities but rather enhances social equity for the residents of our region. The CEP looks to foster inclusive growth addressing the

interconnected nature of decarbonisation and deprivation to ensure that the actions and solutions outlined in this report leave no one behind.

5. Equality and Diversity Implications

- 5.1. Meeting net-zero carbon and transitioning to a net-zero carbon economy should be equitable and not be at the expense of any groups or communities. To that extent, equality and diversity implications and solutions will be cross-cutting and integrated across the activity outlined in this report to ensure no one is adversely affected.

6. Financial Implications

- 6.1. There are no financial implications directly arising from this report.

7. Legal Implications

- 7.1. There are no legal implications directly arising from this report.

8. Staffing Implications

- 8.1. There are no staffing implications directly arising from this report.

9. External Consultees

- 9.1. No external consultations have been undertaken.

10. Recommendations

- 10.1. That the Transport and Infrastructure Scrutiny Committee note the update on the Carbon Impact Assessment and the wider workstreams on decarbonisation

11. Background Documents

None.

12. Appendices

None.