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**Report to:** Place Panel

**Date:** 28 July 2020

**Subject:** **Emission Reduction Pathways**

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## **1. Purpose of this report**

- 1.1. To provide an update on the West Yorkshire Carbon Emission Reduction Pathways (CERP) study, which will inform future decisions about how to tackle the climate emergency and become a net-zero carbon Leeds City Region. The paper addresses the role the Panel can play in tackling the climate emergency.

## **2. Background**

### **Man-made climate change**

- 2.1 There is scientific consensus that currently observed global warming is overwhelmingly a result of human influence, being significantly over and above the warming caused by natural factors alone<sup>1</sup>. Indeed, ice core records suggest concentrations of greenhouse gases in the atmosphere are at their highest for at least the last 800,000 years.
- 2.2 Warming of approximately 1.0°C above pre-industrial levels is estimated to have been caused by human activities and is likely to reach 1.5°C between 2030 and 2052 if current rates of temperature increase continue<sup>2</sup>.
- 2.3 Human and natural systems are already being impacted by climate change with flooding, droughts, heatwaves and crop yield reductions all being experienced more frequently. West Yorkshire has suffered the impacts of

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<sup>1</sup> IPCC (2014) Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

<sup>2</sup> IPCC (2018) Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emissions pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

climate change having experienced catastrophic flood events over the last 10 years, causing damage to residents, communities and businesses. Further warming will make these types of event even more common.

- 2.4 There is a clear and compelling rationale to mitigate and adapt to a changing climate, which is why addressing the climate emergency is one of the Combined Authority's and West Yorkshire councils' key priorities.
- 2.5 The Combined Authority declared a climate emergency and strengthened the West Yorkshire emission reduction target in July 2019. The strengthened target commits the region to be net-zero carbon by 2038, with significant progress by 2030. The task is challenging and will require significant and swift action to decarbonise all sectors. Further background was outlined to this Panel in January. See item 10 [here](#).

### **Carbon Emission Reduction Pathways (CERP)**

- 2.6 The West Yorkshire CERP study was commissioned to demonstrate the different ways in which the climate emergency could be addressed, and the strengthened target met. It was also commissioned to provide guidance to West Yorkshire councils and businesses on the ways they could address their own climate emergency declarations and targets.
- 2.7 The CERP focusses on the transport, buildings, power, industry, and land-use and agriculture sectors and consists of three main tasks: to develop three emission reduction pathways, to set out the timescales for decision-making and deployment, and identify the policies and actions that need to be implemented. More information on the scope of the study is included in a paper to the Combined Authority on 27 July 2020 – see [item 11](#).
- 2.8 The findings outlined below are the outcomes of the first part of the study and will be built on in the subsequent tasks of the study. What follows is not intended to replace locally designated targets and actions and should be seen as complementary rather than an alternative to local activity.

### **Key findings**

- 2.9 The key findings are informed by a comprehensive and detailed technical analysis underpinned by nationally credible expertise and robust data and assumptions<sup>3</sup>; these have been distilled into a number of key messages:
  - West Yorkshire could meet its target by:
    - Achieving emissions savings of between 73 and 82 percent by 2038 through the measures that have been modelled across the three future emissions reduction pathways. **Appendix 1** illustrates what would need to be deployed to achieve the most ambitious pathway.
    - Reducing remaining emissions through a combination of increased ambition in the deployment of certain measures (e.g. tree planting, renewable electricity generation, maintaining COVID-19 levels of

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<sup>3</sup> The technical report underpinning the study can be found at <insert link>

remote working) and/or applying innovative emission reduction technologies (e.g. capturing carbon dioxide directly from the air and either using it for a specific purpose or storing it underground).

- Achieving the levels of emission reduction modelled will require us to call on government to provide funding support and policy change e.g. heat decarbonisation, aviation and domestic retrofit.
- Highly ambitious leadership and policy at all levels will be needed to deliver the emission reductions identified.
- Several key challenges will need to be overcome to achieve the target e.g. misalignment with government policy making.
- Businesses, the public sector, and communities will need to work together to deliver the measures outlined in the study.

A presentation on the results will be presented to Panel at the meeting.

**Appendix 1** is a full summary of the results.

- 2.10 The key findings of the study allow us to start on a pathway towards net-zero carbon by 2038 and to focus, in the short-term, on those common actions which are identified in all the pathways. These include:
- Reducing the demand for travel by private car and increasing the levels of walking, cycling, bus and train travel, and remote working.
  - Retrofitting energy efficiency measures to nearly 700,000 homes and installing heat pumps in over 300,000 dwellings.
  - Generating enough electricity from onshore wind and solar PV to cover the electricity demand of over 162,000 homes.
  - Investigating how carbon capture and storage technology can be applied to energy from waste, glass and chemicals facilities.
  - Increasing the area of woodland / forest coverage by 170 hectares.
- 2.11 **Appendix 2** provides an overview of some actions that are common to all the pathways and what they could mean for residents, communities, and businesses in the region.
- 2.12 We cannot commit to a single modelled pathway at this stage due to the uncertainty that exists around the deployment of specific measures identified. To fully commit to a pathway, we need government to make decisions on certain issues, including the preferred approach for heat decarbonisation in homes and buildings, support for carbon capture and storage and a national policy on reducing emissions from aviation. A full set of asks of Government will be developed as part of Tasks 2 and 3 of this work.
- 2.13 For further details on the results of the Emission Reduction Pathways please see the 27 July Combined Authority paper - [item 11](#). The technical report underpinning the study can be found at <https://www.westyorksca.gov.uk/media/4232/wy-cerp-technical-report-v6.pdf>
- 2.14 The Green Economy Panel have been involved throughout the development of the study and provided a recommendation at their 7 July 2020 meeting that the Combined Authority endorse the findings of the study to date.

- 2.15 The LEP Board reviewed and endorsed the findings at their meeting on 14 July 2020. The Combined Authority will review the findings at their meeting on 27 July 2020.

### **Engagement**

- 2.16 Significant engagement has taken place to build an understanding of, and gather feedback on, the findings of the study both internally and with West Yorkshire councils, including Leaders and Chief Executives.
- 2.17 The next steps on engagement will be to consult with a wider stakeholder audience on the findings of the study and to gain their input into the development of the policies and actions that need to be implemented. Documents for engaging with stakeholders are outlined in the 27 July Combined Authority paper – [item 11](#).
- 2.18 A public consultation will also be run in the autumn to gauge the appetite for the measures identified and inform the prioritisation of future activity to address the climate emergency in West Yorkshire.

### **Next steps**

- 2.19 Subject to approval by the Combined Authority, work will begin on the next phases of the study in late July 2020.
- 2.20 The next stages of the study, with the input of stakeholders, represents the opportunity to shape how ambitious West Yorkshire can be in meeting its net-zero carbon ambition, building on and going beyond the significant emission reductions already identified in the study.
- 2.21 The next steps will also explore how this work can support the West Yorkshire Economic Recovery Plan. The transition towards a net-zero carbon economy will unlock significant economic benefits, jobs, skills and opportunities. Indeed, the LGA<sup>4</sup> have estimated that 42,000 jobs (over 70,000 by 2050) could be delivered in low carbon sectors in West Yorkshire by 2030. That is why tackling the climate emergency and environmental sustainability are embedded across the Economic Recovery Plan and represent an opportunity as we recover from the COVID-19 crisis. This study and its findings will feed into the embedding process.
- 2.22 Furthermore a key part of the Economic Recovery Plan will be the development of a low carbon pipeline and funding proposition to government to unlock these benefits. The proposition is crucial in ensuring that as the region rebuilds after COVID-19, the recovery accelerates the transition to low carbon activities and improves our climate resilience. The CERP outcomes will help to shape the initial pipeline of projects the proposition aims to develop.

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<sup>4</sup> Ecuity Consulting (2020) Local green jobs – accelerating a sustainable economic recovery. A report for the Local Government Association (LGA)

- 2.23 Further information on how carbon reduction is at the heart of the recovery can be found in the paper on the Economic Recovery Plan that is also being discussed at the 27 July 2020 Combined Authority meeting.

### **Potential roles for the Place Panel to play**

- 2.24 The Panel received a report on the Tackling the climate emergency in January 2020. Since then, in June 2020, a [report](#) has been endorsed by the LEP Board, recommending that all Panels develop actions to play their part in tackling the Climate Emergency and nominate a Champion to support this work. This report identified a range of potential areas that this panel could consider (see a non-exhaustive list below).
- 2.25 Decarbonising our communities will require a range of actions, including spatial planning that encourages low / zero carbon living and working, building new homes and retrofitting existing homes so they are energy efficiency, low carbon, cheap to run and healthy.
- 2.26 Nature needs to play a greater role in tackling the climate emergency including restoring our peatlands and planting trees, which can help store carbon. Currently peatlands are not acting as stores, as they are badly damaged and are actually emitting greenhouse gases. The role of quality green space and access to it is also vital for wellbeing and health, as demonstrated during the COVID-19 pandemic.
- 2.27 In addition, the impacts of a changing climate and ensuring communities are resilient to current and future changes in climate, including increasing flood resilience across the City Region's towns and cities is needed. Nature based solutions, such as upper catchment tree planting, are a very effective in helping to reduce the impacts of flooding and can help build resilience for downstream businesses and communities.
- 2.28 In addition, climate change and extreme weather cause inequalities in health and wellbeing and, if unchecked, will exacerbate them. This needs further consideration as policy responses to climate change can place additional burdens on people and communities who are already vulnerable. The extent of these burdens is not always obvious. People in communities worst affected may be the least likely to speak or to be heard in decisions. Therefore, local authorities, LEPs and their partners in service provision need to take a socially just approach to building more resilient communities.
- 2.29 Therefore, there is a range of opportunities for the Panel to consider exploring and, in conjunction with other LEP Panels, focussing on ensuring a just transition for communities.

## **3. Clean Growth Implications**

- 3.1. The work described in this report is central to ensuring that the City Region understands how it can decarbonise key sectors by 2038 and make significant progress by 2030. Results of the study will be fed into a refreshed Tackling the

Climate Emergency Action Plan for the City Region, to the Combined Authority's connectivity strategy work to develop a pipeline of future transport interventions and the COVID-19 recovery plan.

#### **4. Financial Implications**

- 4.1. The study is funded through contributions from the Combined Authority's economic and transport policy sections, the North East Yorkshire and Humber Energy Hub and York and North Yorkshire LEP.
- 4.2. Technical and policy costs associated with the study will be calculated as part of Tasks 2 and 3. This will provide a high-level indication of the funding that will be required to deliver the measures and policies identified.

#### **5. Legal Implications**

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

#### **6. Staffing Implications**

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

#### **7. External Consultees**

- 7.1. A wide range of stakeholders have been engaged in shaping the commission. These include regional organisations such as Northern Powergrid, Northern Gas Networks, Drax and Yorkshire Water, local authorities and civic society including Leeds Living Streets, Friends of the Earth and the Leeds Climate Commission.

#### **8. Recommendations**

- 8.1. That the Panel notes the importance of Emissions Pathways study in determining how the City Region can meet its net zero carbon ambitions.
- 8.2. That the Panel endorses playing a role in tackling the climate emergency and considers the contents of this report and other opportunities and outlines, within the next six months, what they will explore / influence.
- 8.3. The Panel to nominate a Tackling the Climate Emergency Champion to support this work.

#### **9. Background Documents**

- 9.1. None

#### **10. Appendices**

**Appendix 1.** CERP Results - Summary

**Appendix 2.** Common Actions and what the pathways mean in 2038 for communities, residents and businesses