



Tackling the Climate Emergency - Net Zero Carbon City Region

Energy Strategy and Delivery Plan

- Adopted a Leeds City Region Energy Strategy and Delivery Plan in December 2018.
- Aim - 'become a zero carbon energy economy'
- 5 priority areas:
 - Resource-efficient businesses and industry
 - New energy generation
 - Energy efficiency and empowering consumers
 - Smart grid systems integration
 - Efficient and integrated transport

Climate Emergency

- In line with most of the region's local authorities, the Combined Authority and LEP declared a climate emergency (27 June 2019).
- Strengthened the City Region's target:

Become net-zero carbon by 2038, with significant progress made by 2030.

Scale of the challenge

- The City Region emitted 15.6 Megatonnes of Carbon Dioxide (MtCO₂) in 2017
- Or 15,600,000 blue balloons



Source: WordPress.Com

Scale of the challenge

- To meet the target rapid action is needed over the next 10 years.
- We need emissions to reduce by 14.5% every year.
- By early 2030 carbon emissions need to be around 2 Megatonnes, with final savings made by 2038.
- To keep within the target we have established a carbon budget, quantifying how much carbon we can emit whilst still meeting our targets.
- Keeping within the budget is essential, as slow progress in the early years will require substantial savings later (likely at substantial cost).
- This budget will be used up in 7.6 years if urgent action is not taken.
- All sectors will need to play a role.

Recent Activity

- Sector specific workshops
- Leeds City Region Climate Coalition
- Project development support for 15 low carbon projects
- 1000 homes in 2019/20 benefitted from energy efficiency improvements
- 88 EV charging points installed
- £1.7m of natural flood management schemes funded
- Domestic energy efficiency programmes being developed
- Clean Growth Audit – identification of energy / carbon intensive industry
- Resources Ask to tackle the Climate Emergency made to the Government



Practical support available – Businesses

Resource Efficiency Fund (+Re-Biz)

- Support on how to reduce energy, carbon, water and waste in SMEs
- Increase in productivity, turnover and profit + help reduce environmental impacts
- [REF video](#)
- Free resource efficiency assessments
- hands-on business support
- up to 50% capital grant funding of up to £10,000 to help you save money and resources
- NEW Re-Biz – Circular economy support starting in 2020.

Energy Accelerator

- A new **project development support service**
- **Remove Barriers** (e.g. Funding, Expertise) preventing investment in **Low Carbon** and Energy Efficiency projects
- Public and private organisationsSupport provided across four focus areas:
 - Street lighting
 - District heat networks
 - Energy efficiency and renewables
 - Residential



Meeting the target - Emission Reduction Pathway Study



Power



Buildings



Transport



Industry



Land use

Overview

The project will focus on the five sectors outlined above and produce four emission reduction pathways setting out a range of options for how the region could reach net zero.

Emission Reduction Pathway

Tasks

1. Develop emission reduction pathways that demonstrate how the net zero carbon target could be met (*think of these as options*).
2. Produce an implementation roadmap for the Leeds City Region's preferred pathways (*when it needs to happen*).
3. Produce policy recommendations and an action plan for the Leeds City Region to deliver.
 - Extensive stakeholder engagement to be carried out March – Summer 2020 to determine the preferred pathways to be chosen.
 - Results will feed into the new Tackling the Climate Emergency Delivery Plan (replacing the ESDP).
 - Seek endorsement of the LEP by Autumn 2020.

West Yorkshire Combined Authority & LEP

Corporate Tackling the Climate Emergency Programme

- Play a leading role in the City Region
- Embed actions across our organisation
- New Policy and set of principles
- New Corporate Action Plan
- Strengthened balanced decision making



1. Reduce our energy and carbon emissions - installing efficiency measures, renewable energy sources and changing the ways we work in our offices and bus stations.



2. Minimise waste and water consumption - phasing out single use plastic, diverting all redundant office equipment from landfill and encouraging staff and customers to recycle even more.



3. Tackle air quality and improve health - replacing our operational vans with electric alternatives, adopting a new sustainable travel policy and increasing the number of pool bikes for staff.



4. Use sustainable resources – sourcing all our energy from 100% renewable sources, using only eco-friendly cleaning products and ensuring all paper is from sustainable sources.



5. Enhance our natural environment – integrating climate resilience into our work where possible and mapping out where new trees can be planted on our land by staff volunteers.



6. Integrate clean growth decision making – strengthening our Assurance Framework and other decision making processes in regards to climate impacts and developing a robust methodology for assessing future carbon emissions.



7. Measure and report our performance – creating a Combined Authority Carbon Footprint, publishing our performance annually and setting year-on-year carbon reduction targets.

North & West Yorkshire Emission Reduction Pathways

Introduction

Background

In December 2018 the Combined Authority adopted the Leeds City Region Energy Strategy and Delivery Plan with the aim to become a zero-carbon energy economy.

It set out five priority areas where activity to achieve the aim should be focussed:

- Resource efficient business and industry
- New energy generation
- Energy efficiency and empowering consumers
- Smart grid systems integration
- Efficient and integrated transport

The work identified 36 potential measures that should be implemented to facilitate the transition to a zero-carbon energy economy.

Climate Emergency

In line with the majority of local authorities in the City Region the Combined Authority declared a climate emergency in 2019.

As part of the declaration the emission reduction target for the City Region was strengthened to 'net-zero carbon by 2038, with significant progress made by 2030.

Scale of the Challenge

To meet the target, rapid action is needed over the next ten years. This requires emission reductions of 14.5% every year and to halve total emissions every five years.

By early 2030 City Region emissions will need to be around 2 MtCO₂, down from 15.6 MtCO₂ in 2017.

To assist with meeting the target and complying with the Paris Climate Change Agreement a carbon budget for the City Region has been produced. This quantifies maximum amount of emissions that can be emitted if the target is to be achieved.

Keeping within the carbon budget is essential as slow progress in early years will require substantial savings later and at greater cost.

At current emission rates the carbon budget will be used up in 7.6 years unless urgent action is taken. As a result all sectors and areas of society need to contribute to reducing emissions.

North & West Yorkshire Emission Reduction Pathways

Context

Purpose

The project, to be delivered by Element Energy, will develop emission reduction pathways that enable Leeds City Region and North Yorkshire to meet their respective emission reduction targets and remain within their carbon budgets that comply with the Paris Climate Change Agreement.

The project will also look to influence the future direction of the region e.g. investments, infrastructure provision, business support mechanisms, to deliver against the climate emergency commitments.

Tasks

The project is made up of three tasks:

1. Develop emission reduction pathways that demonstrate how each area can deliver / comply with its emission reduction target and carbon budget
2. Produce an implementation roadmap for the Leeds City Region, West and North Yorkshire based on the outputs of Task 1.
3. Produce policy recommendations and an action plan for the Leeds City Region, West and North Yorkshire to deliver the activity identified in Task 2

Benefits

- Resource to develop regional response to the climate emergency
- Clarity on the actions that should be the focus of early delivery
- Informs future policies, strategies, programmes and projects.
- Provides an evidence base to call on for future Combined Authority and local authority work.

North & West Yorkshire Emission Reduction Pathways

Sectors



Power



Buildings



Transport



Industry



Land use

Overview

The project will focus on the five sectors outlined above and produce four emission reduction pathways setting out a range of visions of how the region can reach net zero. The sectors are consistent with those underpinning the analysis undertaken at a national level by the Committee on Climate Change to inform the Government's 'net zero by 2050' ambition.

North & West Yorkshire Emission Reduction Pathways

Scenario Characteristics

Business As Usual

Represents the likely outcome with current policies. Assumes relatively low uptake of most technologies beyond 2025 in the absence of new policies, incentives and regulations.

Max Ambition 2030

Assesses the technology and policy requirements to reach a very ambitious net zero 2030 target. It involves significant electrification of heat, transport and industry, supported by enabling technologies such as demand-side response and energy storage. Significant increases in low carbon power generation, with accelerated negative emission technologies and strong land use policies are required. Relates to target set for North Yorkshire.

High Hydrogen 2038

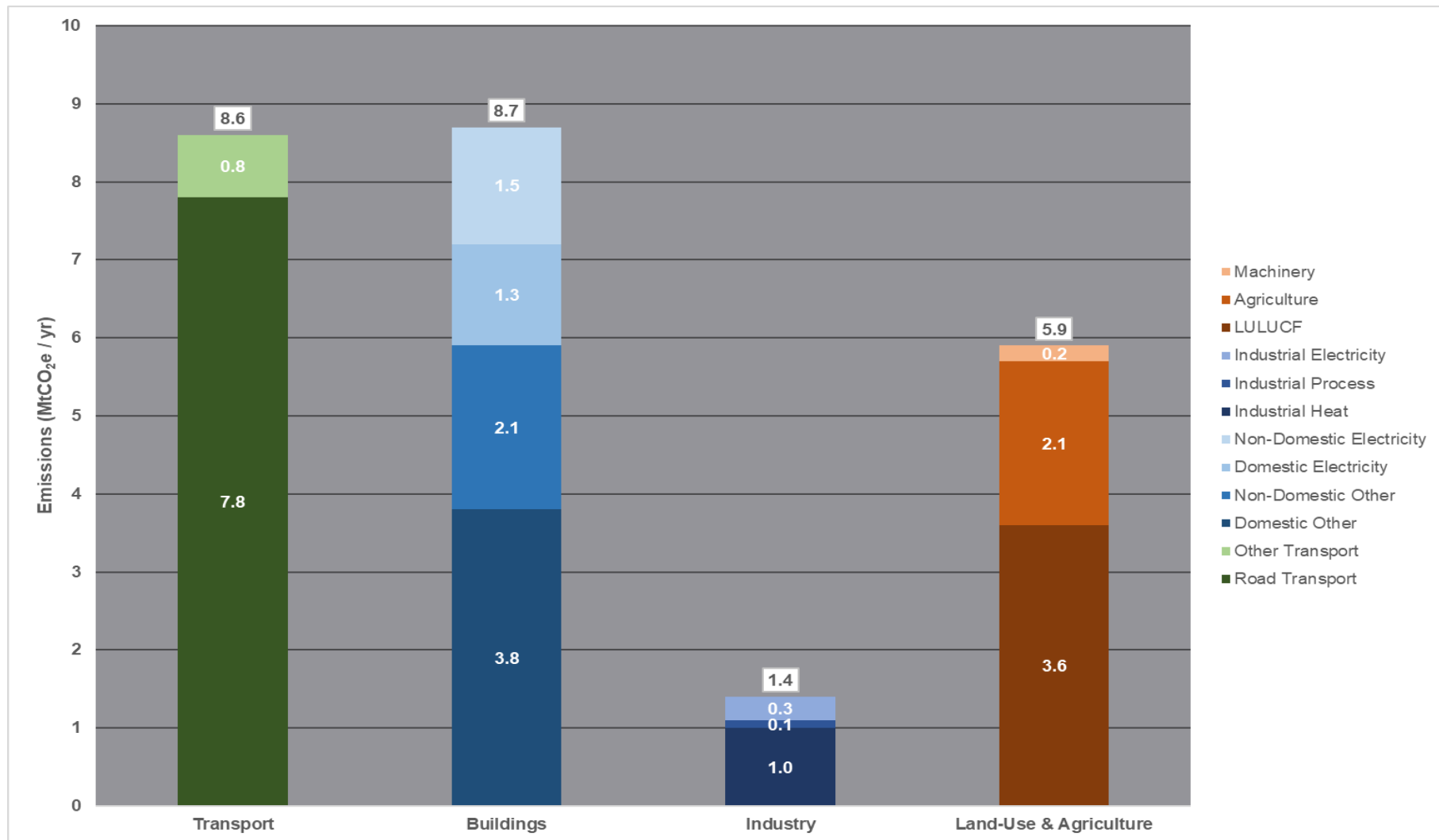
Promotes large-scale hydrogen and carbon capture and storage roll out. Areas of the gas network would be repurposed for hydrogen. This is supported by land use measures such as afforestation and bioenergy production enabling significant hydrogen use in buildings, heat generation, industry, power and transport. Lower electricity system changes (production, distribution and storage) are required.

Balanced 2038

The Balanced scenario encompasses a balanced technology mix across sectors, with contributions from hydrogen, electrification, bioenergy, carbon capture and storage and decentralised energy production. Represents how technologies are deployed in parallel, with differing factors impacting their adoption, from location to price or consumer comfort.

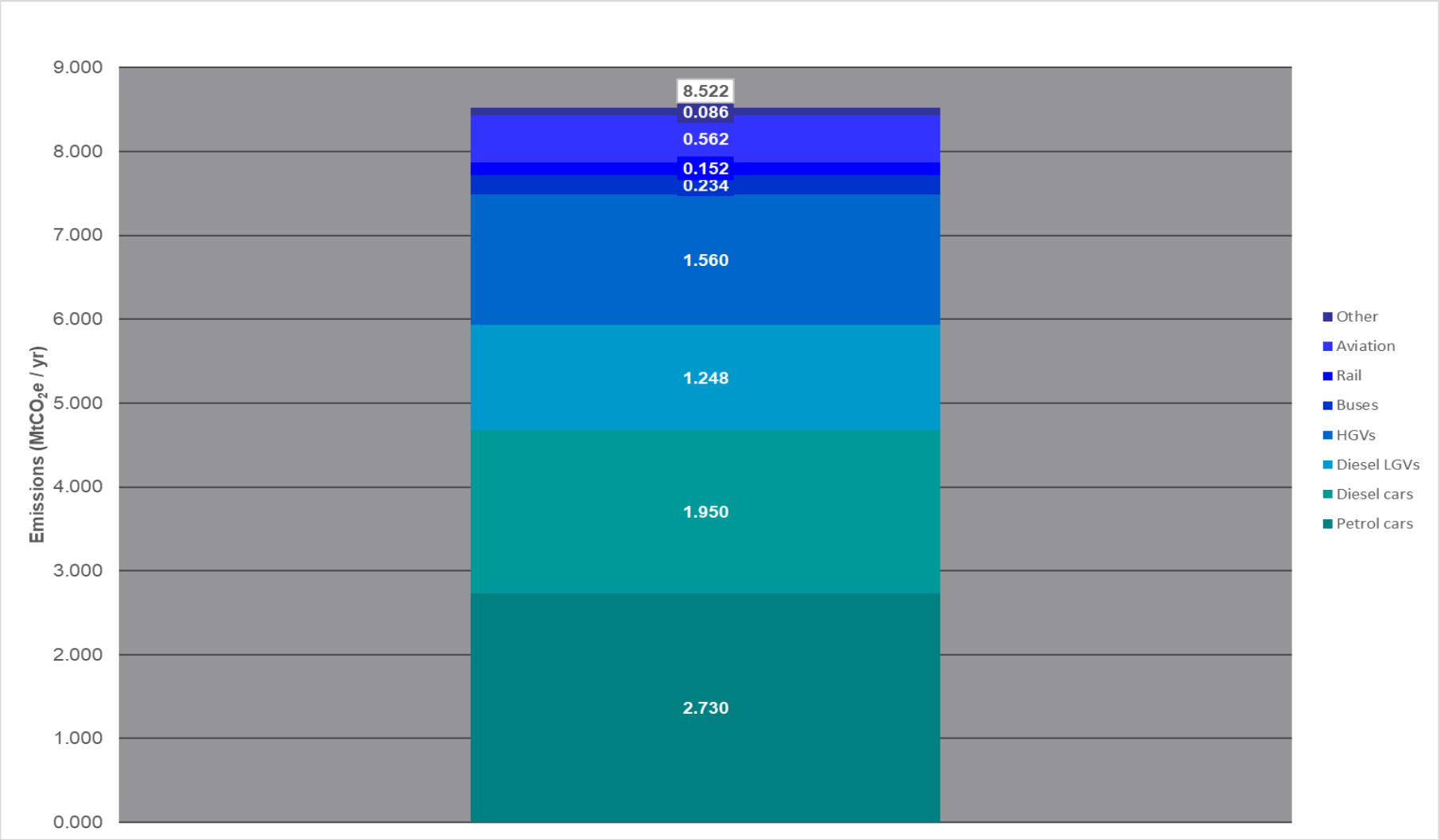
North & West Yorkshire Emission Reduction Pathways

Current Situation – All Sectors



North & West Yorkshire Emission Reduction Pathways

Current Situation – Transport Sector



North & West Yorkshire Emission Reduction Pathways

Current Sectoral Situation

Power

Emissions from power generation are captured in the totals for industry, buildings and transport.

Bioenergy dominates the production of electricity in the region. This is due to Drax Power Station which provides 78% of all electricity generation in the region.

Other low carbon and renewable electricity generation plants produce a much smaller proportion of electricity generation in the region.

Industry

In 2017 the heavy industry sector contributed 1.4 MtCO₂ or 5.7% of regional emissions.

Much smaller emissions footprint than the other sectors dominated by a few key sectors – glass, chemicals and food and drink.

The use of natural gas by the glass sector is the single largest emitter for the heavy industry sector in the region.

Land-Use & Agriculture

In 2017 the land-use and agriculture sector contributed 5.7 MtCO₂ or 24% of regional emissions.

Land-use represent the largest source of emissions for the sector and covers emissions from peat, vegetation, timber and non-agricultural land management.

Agriculture is also a large source of emissions within the sector and covers emissions from livestock, manure and fertiliser use

Buildings

In 2017 the buildings sector contributed 8.7 MtCO₂ or 35.4% of regional emissions.

Domestic emissions are the highest emitting area of the buildings sector. The use of natural gas for heating is the single largest emitter in the buildings sector.

From a non-domestic buildings perspective the use of natural gas for heating and electricity for heating and other power demands are the joint highest emitters.

Transport

In 2017 the transport sector contributed 8.6 MtCO₂ or 35% of regional emissions.

Road transport contributes over 90% of transport emissions. The next largest source of emissions is aviation.

Cars and vans are the principle source of emissions from road transport with 76% of road transport emissions. HGVs contribute 20% of emissions and buses 3%.