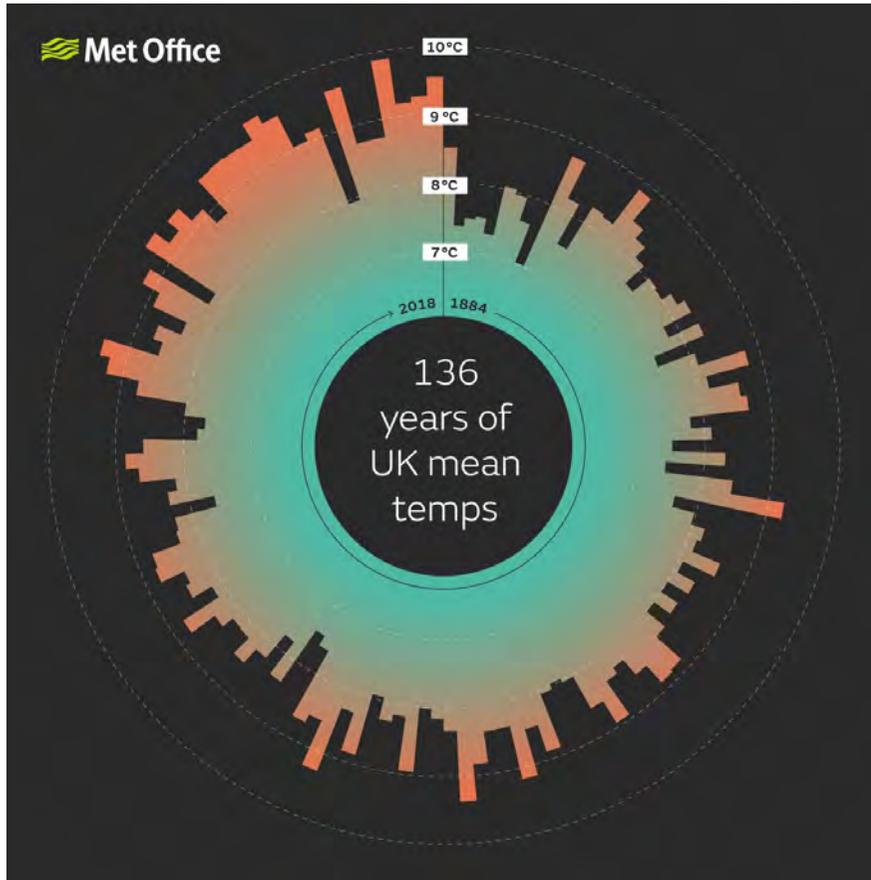


Written evidence for the North Yorkshire Rural Commission from Zero Carbon Harrogate



Photo S. Verity

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Foreword



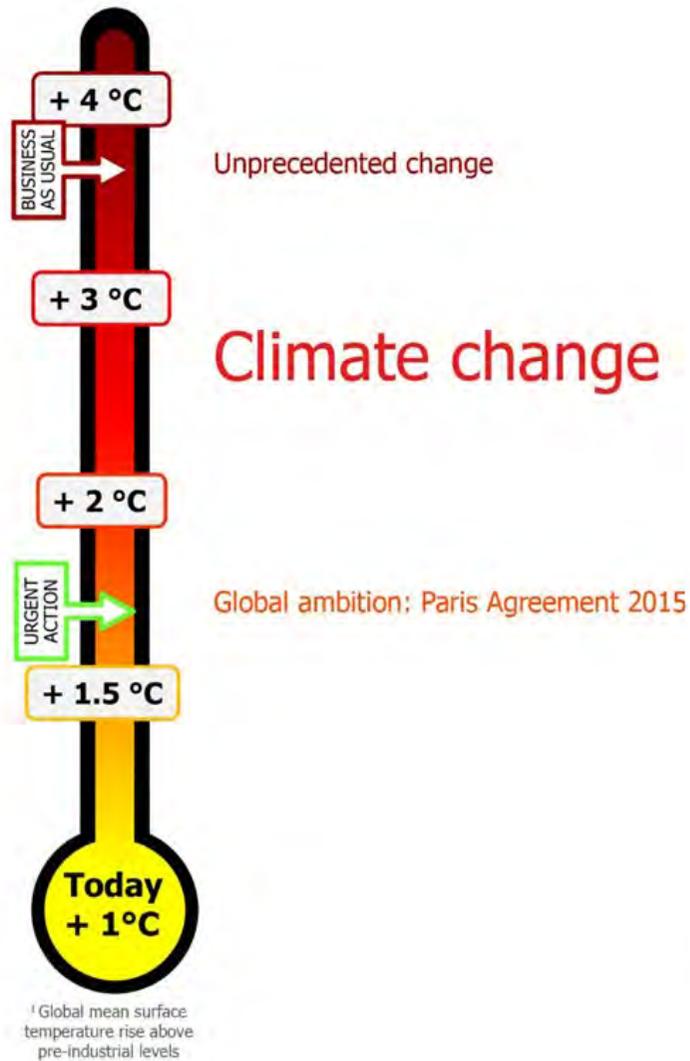
Piers Forster

President of Zero Carbon Harrogate
Director of the Priestley International Centre for Climate
Professor of Physical Climate Change, University of Leeds

The Covid-19 crisis has put the world's focus back on farming and food supply chains. We will rely on our rural communities more than ever before to grow our food and deliver the important environmental benefits to prepare properly for the climate crisis. In turn the government needs to provide these communities with the low-carbon transport infrastructure and 5G broadband to enable them to thrive, living low-carbon lifestyles out of the EU.

With every crisis there are opportunities for learning. For example, we can reconsider some of the land-use protections that limit farmers pursuing changes to land use that could bring both environmental and food production benefits. This way we can build back better and make the UK more resilient to future shocks, to our health, to our food production and to the climate.

Executive summary



In response to the scientific evidence of global climate change,^{1 2} the UK Government has passed legislation for Net Zero Green House Gas emissions by 2050.³

Zero Carbon Harrogate works locally in Harrogate District, within North Yorkshire, to help transition the area to a sustainable low carbon economy.

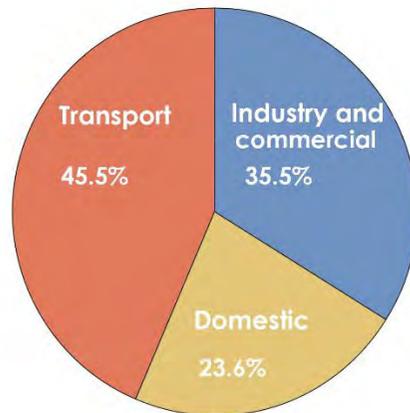
Societal, economic and land-use change is required to become a low carbon economy, but this transition must be fair to farmers, and all those whose livelihoods depend on working in the rural economy.

Landscapes are always evolving, but are also culturally sensitive, as a result of generations of traditional activities. Changes in rural lifestyles and livelihoods can be challenging but the transition to a low carbon economy can bring many benefits and opportunities for individuals and communities.

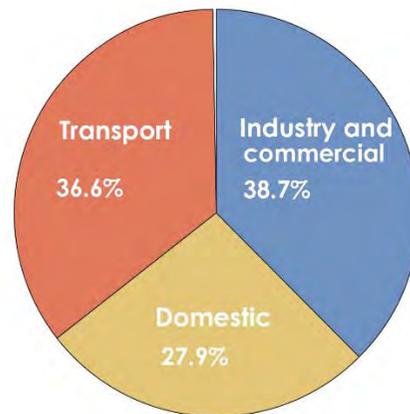
Figure 1. Global average temperature change by 2100 (P. Trascasa Castro and A, Gugin)

Executive summary

North Yorkshire's carbon dioxide emissions (%) 2017



National carbon dioxide emissions (%) 2017



North Yorkshire has specific decarbonisation challenges, with per capita carbon emissions higher than the national average at 7.4 tonnes CO₂ per person compared to 5.3 tonnes for the UK.⁴

In a geographically large county with a very limited public transport network, emissions from road transport form a large portion of the county's 4524 Kilo tonnes of annual emissions. Domestic emissions are below average, but with a greater proportion of homes reliant on carbon dense fuels such as oil. While agricultural emissions are higher than average, carbon capture from land use is also above average.

Figure 2. Carbon emissions kt CO₂ (%) by sector. North Yorkshire compared to national figures for 2017.⁴

Executive summary

1. Using existing resources	2. Land-use change	3. Connectivity	4. Economy
1.1. Need for action to mitigate and adapt to climate change	2.1 Adapt and plan for changes to agriculture	3.1 Enhance rural networks	4.1 Introduce a Yorkshire pound
1.2. Use existing research	2.2 Lock more carbon into soils	3.2 Consistent messages about priorities	4.2 Create a Yorkshire brand for local produce promotion.
1.3. Listen to custodians of the land.	2.3 Restore and protect peatland	3.3. Accelerate access to high speed digital networks	4.3 Build micro-grids for energy generation
1.4. Work with existing support groups	2.4 Expand agroforestry	3.4 Regular and reliable rural bus services	4.4 Reduce fuel poverty
1.5. Be proactive with Environmental Land Management Schemes (ELMS) trials, tests and pilots	2.5 Protect existing woodland	3.5 Community car share schemes	4.5 Retrofit old housing
	2.6 Investigate income from woodland creation	3.6 Village car charging points	4.6 Create training opportunities for new skills
	2.7 Right tree, right place	3.7 Invest in road quality not quantity	4.7 Support the expansion of forestry supply chain
	2.8 Consider biodiversity		
	2.9 Work with urban local authorities		

Table 1. Four key areas for a transition to a low carbon economy

Zero Carbon Harrogate



Zero Carbon Harrogate's Jemima Parker asks Harrogate District residents about their transport ideas and challenges. (A.Gugan)

Zero Carbon Harrogate (ZCH) is a not for profit organisation which brings together a group of residents from the Harrogate District in order to support the development of a low carbon sustainable economy, which will improve the quality of life for Harrogate District residents.

The reasons for submitting evidence are simple. We care about the future, our children, the people and places that make up our district. Local people, culture and landscapes matter to us.

The twin environmental challenges of climate change and biodiversity loss, the political and economic changes of the UK leaving the European Union and the economic impacts of the Covid-19 pandemic present an opportunity for positive change.

Net zero emissions require locking up carbon in peatlands, soils and woodland. Rural communities have an increasingly critical role to play as facilitators of natural climate solutions.

This is our vision for a transition to a sustainable low carbon economy in rural North Yorkshire.

www.zerocarbonharrogate.org.uk

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1. Using existing resources



Flooding in Reeth from surface water from the hills and the river, following extreme rainfall in July 2019 (I.Dawson)

- 1.1. There is a need for timely intervention, with UK carbon emission targets to be halved by 2030 and net zero by 2050.²
- 1.2. To speed up action on climate change, use existing research²⁵ such as the *Our Future in the Land*⁶ report. There are many resources which provide relevant information for the rural economy of North Yorkshire.
- 1.3. Listen to the custodians of the land: the farmers, landowners, foresters and all those whose livelihoods depend on the rural economy. Their expertise can translate national aims to locally relevant policies.
- 1.4. Work with existing support groups, such as the National Farmers Union, the Country Landowners and Business Association (CLA) and Forestry England, to ensure there is a reliable source of information in a time of uncertainty.
- 1.5. Be proactive with DEFRA's Environmental Land Management Schemes (ELMS)⁷. Support the trials, test and pilots and encourage a speedy transition to successful and locally relevant schemes.

2. Land-use changes



Zero Carbon Harrogate volunteers tree planting in Darley, March 2020 (A. Guban)

2.1 Adapt and plan ahead for the changing demands on the land, as a result of altered agricultural funding⁷ and changing diets.

2.2 Support farming techniques that maintain and increase the carbon stored in the soil. Find ways to give this monetary value.

2.3 Restore and protect peatland.⁸ Support the efforts to establish a peatland carbon code.⁹

2.4 Expand agroforestry which is farming that combines trees, woodlands, shrubs and hedgerows with agricultural crops or livestock.¹⁰

2.5 Protect existing woodlands, and trees.¹¹

2.6 Investigate viable income streams from woodland creation from the complex range of schemes.¹² ¹³ Plan and budget for the employment costs of long-term maintenance and for potential leisure opportunities provided by woodland.

2.7 Use regionally appropriate natives and non-natives¹⁴ trees, with awareness of the 'right tree, right place' mantra.

2.8 Consider bio-diversity impacts and benefits to land-use change.

2.9 Partner with urban local authorities in the region. Find ways in which they can support tree planting in rural areas to ameliorate for their carbon emissions.

3. Connectivity



Transdev's low emission electric buses (Transdev)

3.1 Enhance rural networks and trusted resources within the rural economy to support isolated rural communities with information and support at a time of change. Build on the community networks created in the Covid-19 pandemic with funding and support.

3.2 Provide consistent messages about the priorities for transitioning to a low carbon economy.

3.3 Continue and accelerate North Yorkshire County Council's high-speed digital networks to rural parts of North Yorkshire.

3.4 Explore creative ways of providing rural public transport and encourage active travel.

3.5 Develop local car clubs and community car share schemes

3.6 Provide grant funding for electric car charging points in every village.

3.7 Invest in road quality not quantity. Good road surfaces reduce fuel consumption, but more road space leads to an increase in traffic and carbon emissions.

4. Economy



Solar Panel Installation (K. Buus¹⁵)

4.1 Introduce a 'Yorkshire Pound' or 'Beetroot Bond' ⁶ to keep income in the area and build a strong local economy.

4.2 Work with the main supermarkets to process and stock local produce and develop a Yorkshire Eco or Bio brand.

4.3 Support local micro grids for energy generation, whereby rural homes and businesses generate electricity and heat which are locally interconnected.

4.4 Reduce rural fuel poverty¹⁶ with all new buildings built to zero carbon emissions standards.

4.5 Provide grants for retrofitting old housing stock, particularly for insulation and the transition from oil to air and ground source heating, supported by solar energy.

4.6 Providing training opportunities for the new skills required, e.g. renewable heating engineers require specific training, which is a blend of plumbing and electrical skills.¹⁷

4.7 Support the expansion of the forestry supply chain, particularly tree nurseries, to meet the rise in demand.¹⁸

Conclusion



(S. Verity¹⁹)

North Yorkshire is called *God's Own Country* for a reason. Rural communities benefit from a variety of 'goods' that are not accounted for when the blunt instrument of GDP is the dominant metric for progress.

There is no single solution to the complex issues facing our rural communities and landscapes. Many voices need to be heard to develop lasting and sustainable ways forward.

Zero Carbon Harrogate offer our services to the Commission to be part of this conversation.

In this time of uncertainty and adversity there is the potential to develop a vibrant, low carbon economy which draws on the strengths of the local community and which gives climate and community resilience.

Appendix

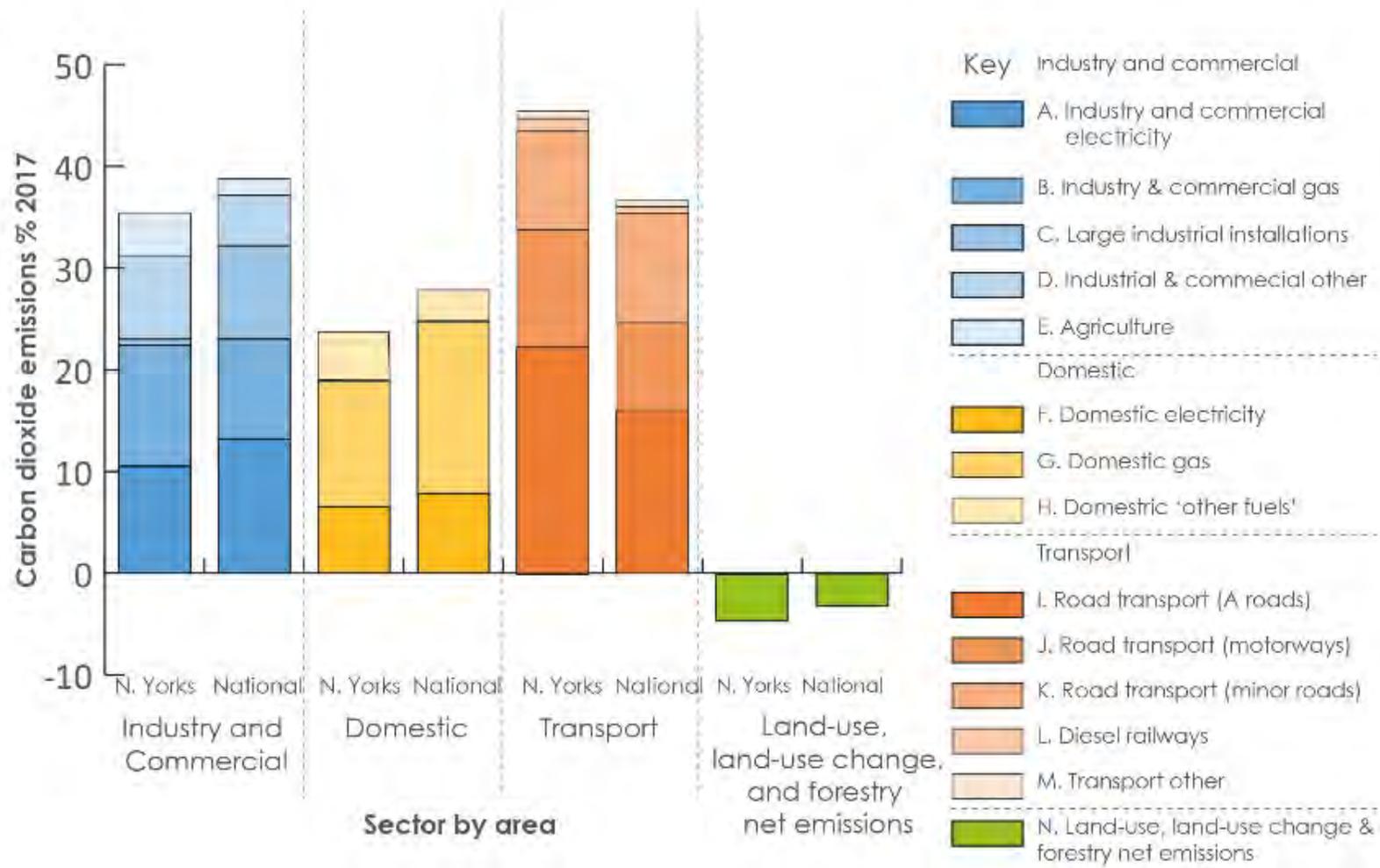


Figure 3. CO₂ emissions for North Yorkshire compared to national emissions by sector⁴

Appendix

Sector	kt CO	N. Yorks. %	National %
A. Industry and Commercial Electricity	476.1	10.5	13.2
B. Industry and Commercial Gas	537.3	11.9	9.8
C. Large Industrial Installations	29.1	0.6	9.2
D. Industrial and Commercial Other Fuels	370.8	8.2	4.9
E. Agriculture	191.6	4.2	1.6
Industry and Commercial Total	1604.9	35.5	38.7
F. Domestic Electricity	292.8	6.5	7.8
G. Domestic Gas	559.5	12.4	17.0
H. Domestic 'Other Fuels'	217.5	4.8	3.0
Domestic Total	1069.8	23.6	27.9
I. Road Transport (A roads)	1005.5	22.2	16.0
J. Road Transport (Motorways)	519.4	11.5	8.6
K. Road Transport (Minor roads)	440.7	9.7	10.8
L. Diesel Railways	57.8	1.3	0.6
M. Transport Other	33.2	0.7	0.6
Transport Total	2056.7	45.5	36.6
N. Land-use, land-use change, and forestry Net Emissions	-207.2	-4.6	-3.2
Land-use Total	-207.2	-4.6	-3.2
Grand Total	4524.2		

Table 2. CO₂ emissions for North Yorkshire compared to national emissions by sector.⁴

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- ¹⁹ All farm photos courtesy of Sallie, Sarah and David Verity.



Photo S. Verity